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**MEDICAL EDUCATION, PROFESSIONAL
LEARNING AND ACTION RESEARCH IN THE
HEALTH SERVICE:**

**ASSESSMENT, INTERVENTIONS
AND FUTURE MODELS
FOR
GENERAL PRACTICE
VOCATIONAL TRAINING
OF SENIOR HOUSE OFFICERS**

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ABSTRACT

The education of hospital doctors has been criticised because of its large service commitment and poor educational structure, and this particularly applies to the hospital Senior House Officer (SHO) component of general practice vocational training.

This study set out to assess the effect of local interventions to improve SHO education. This required the design and application of a system to assess SHO educational posts, a classification of interventions and the use of a local research cycle to determine the effect of interventions applied.

The study involved 80 doctors training for general practice, working in 137 SHO posts, at two district general hospitals in Southern England between 1993 and 1999. Established principles of the action research cycle were applied. These linked quantitative and qualitative research on the local problems in SHO education, with design of interventions to resolve these problems, the action of applying an intervention and then further research to determine if the problems had resolved.

Quantitative research involved the design, piloting and assessment of an SHO Educational Audit Project (SEAP) questionnaire applied six monthly. Qualitative methods involved monthly focus groups, interviews and a field diary.

Interventions included letters, feedback, facilitated group discussion, interviews, and external visits. Changes were seen in rates of appraisal, teaching, attendance, and contact with GP mentors. An intervention to increase the amount of induction to SHO posts was ineffective.

The number of completed action research cycles applied (seven) and duration of the study (six years) exceeded those seen within the existing literature on action research. This study was also the first description of action research in the setting of medical education for SHOs. It was concluded that the action research cycle was a framework in which acknowledged research methods were placed and should not be seen as a method in its own right. The action

research cycle links the disciplines of research, learning theory and organizational development. It is a cycle that can contribute to the individual learning of a professional because it gathers evidence of change using research methods rather than intuition and an assumption of change. Action research can be seen as an improved model for professional learning because it provides focused information and feedback.

A model for future general practice training at SHO level was also identified from the study results. This was an “elective” style period where the doctor selected several specialities to work within an outpatient or community setting. The model included induction, appraisal and day-to-day supervision, along with regular contact with general practice and the general practice trainer. Other theory generated by this study related to thresholds for behaviour change, achieving enduring change, the three components that contribute to change (setting, intervention and follow up), the types of educational supervisor and an apprentice cycle for learning.

The system for assessing the standards of SHO education, the range of interventions and the action research model used in this study are applicable to other similar settings. The outcomes in other settings will depend on local circumstances and have to be determined by further local research with an action research framework.

Since completion of this study, new posts for GP education have been piloted and financed by the Director of Postgraduate General Practice Education throughout the Wessex region. Course organisers specifically for SHO education have been appointed for every vocational training scheme in Wessex and have been able to apply the principles of action research using the monitoring system outlined in this study.

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PREFACE

My background as a medical student and hospital doctor was based in the traditional constructs of the discipline of medical education, where physical and social phenomena were broken down into a series of rules that could be tested and generalised as principles of an orderly world. This approach has been described as positivism and usually uses quantitative research methods to break data down into numbers and patterns. Where rules could be constructed this was a useful approach, but there are many areas in medicine where rules cannot be applied and uncertainty exists.

I became a general practitioner and took a post in general practice education. Here the emphasis was on continuing one-to-one relationships where numbers and rules were less helpful. Each individual presented a unique combination of physical and social problems and required a tailored plan of management. The results of quantitative methods were applied but did not always lead to the outcome predicted by the research. For each individual there was an element of rule application and an element of intuition. This has been described as the science and the art of medicine.

There are two broad options when dealing with this situation of uncertainty. One is to continue along the line of positivism and attempt to break every physical and social phenomena into precise and generalisable rules. The other option is to take an interpretive approach and accept that rules cannot be constructed for every phenomena; an approach which suggests that rules are dependant on the perspective of the individual and will break down when viewed from the perspective of a different individual.

The interpretive approach often uses qualitative methods to determine the perspective of the social group under study. Qualitative methods have been broadly defined as the analysis of words within unstructured observations in the natural setting and this is in contrast to the numbers and structured settings of quantitative research. Within the discipline of medicine the conflict between the

positivist and the interpretive approach is often seen as the conflict between quantitative and qualitative research methods.

In 1993 the cultural background within the discipline of medicine favoured quantitative research and viewed qualitative research with some suspicion. I was fortunate to be writing at a time when there was increasing acceptance of qualitative research. I viewed this as a natural progression. Others viewed this as a battlefield and defended their opposing method to the hilt. This thesis was written and completed within the positivist culture of medicine using methodology from the interpretivist discipline of sociology and teacher education. There remains a risk that the interpretation of data will alienate readers from one or perhaps all disciplines. I hope this risk is outweighed by the potential benefit of a cross fertilization of ideas between the disciplines.

The language used in positivist, quantitative work and in interpretive, qualitative work differs. Quantitative is structured and brief, qualitative is more open and discursive. This thesis has to find a path between the two. My background will influence this and, coming from a quantitative culture, I have chosen what I hope is an explicit language. This may be perceived as simplistic, but I hope it is clear to the first time reader.

Within the discipline of medical education there has been less research than in the discipline of medicine itself. Both quantitative and qualitative methods have been under-utilised and there has been an emphasis on experience. The methods used in this study have developed from the existing systems that were in place and the opportunities for collecting information that already existed. These included feedback from learners and other teachers both when they were met as individuals and as a group. The development that took place was in the use of more rigorous methods to collect and standardise the information and bring these together as a research project. The principles that evolved followed the pattern of action research, which had been applied in the related settings of nursing education and school based education, and were now applied in the new setting of medical education.

A PhD, as a doctorate in philosophy, should be a critique of the research and research methods employed. It should also be an education in research methods and the individual should show development in this area. I hope to have shown this through the study itself and specifically in the results chapter "Participant researcher" (chapter 13). In addition to the development of the researcher, this chapter covers two other aspects. One is the researcher as the course organiser who was developing the senior house officer (SHO) training. The other aspect is the researcher as a general practitioner faced by the time pressures of a busy general practice. These elements are included as they are pertinent to the background and perspective of the researcher. They also constitute one "intervention" in the study that was a key part of the other interventions that took place, namely the presence of the researcher as a participant.

A PhD has also been described as a narrative account of what took place, a story that progresses and opens up as it is read. I wish to emphasise this, as it is part of the reflexive qualitative component of the thesis and part of the setting. I hope that the reader will gain an awareness of how the senior house officer (SHO) training at Portsmouth evolved from a hospital orientated training to a more integrated course with training shared by both hospital and general practice. At the start of the project there was minimal general practice input to training for SHOs. By the end of the project SHOs were meeting regularly to discuss general practice with the course organisers and their trainers.

A PhD should be original. Originality can be present in several different areas. No other researcher will go along this same path of personal and research skill development and this alone makes each thesis original. In the context of a medical culture reliant on quantitative research, this thesis is original because it is part of the introduction of qualitative research, and specifically action research, into the discipline of medicine. Within the discipline of medical education, where there is wide use of instinct and experience, it introduces the

concept of applying more rigorous research and assessment of what has been done in practice.

This thesis is about producing change as applied to the setting of the NHS and education of hospital doctors. It is from the perspective of an observer who has some involvement in and influence on the local processes. As part of the study of change, this thesis has generated a list of interventions that may lead to change, theoretical models on achieving change, and a discussion of a future model for training of doctors. Above all this, however, this thesis is an example of the use of action research as part of the change process in medical education.

The structure of the thesis is as follows:

The first chapter gives background information on the context of the research within health care and medical education in the United Kingdom. This includes the educational and career structure for doctors in the National Health Service and the changes occurring in the National Health Service over six years of the study.

The next chapters (2-5) cover the methods used with emphasis on the qualitative aspects, the quantitative aspects and the overlap between them in action research.

Subsequent results chapters (6-13) cover the specific problems identified during the study and how these were addressed within the action research cycles. Chapter 6 gives an overview of the study results, the questionnaire results and range of interventions. Chapters 7 to 11 describe specific interventions that were applied as part of action research cycles. The results section also includes survey information relating future models for medical training (chapter 12). The chapter on the researcher as a participant (chapter 13) is based here.

The final discussion chapter (14) draws together the findings and considers principles that may be transferable to similar setting. References are in Harvard

form referred to by author and date. These are listed before the appendices, which contain copies of documents employed during the study. The thesis ends with recommendations for the education of hospital doctors (appendix 11).

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To
Brenda MacLachlan 1937-2003

and

those doctors
who care for others, yet die or become unable to work as
a result of stress, depression or mental illness.

DISSEMINATION

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AUTHOR'S DECLARATION

I certify that the work on which this dissertation is based is my own independent work, except where I have received help, as stated in the acknowledgements and text. All quotations and summaries of the work of others have been acknowledged.

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or institute of learning.

INTRODUCTION

CHAPTER 1

BACKGROUND AND LITERATURE

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SUMMARY

HISTORICAL CHANGES IN DOCTORS' TRAINING

Healing and people who hold knowledge about healing have always been features of human society, but it was in the 1500s that the first licenses to practice medicine were issued in Britain by the trade guilds in London. In 1518 King Henry VIII granted the charter for the foundation of the Royal College of Physicians, and the Worshipful Society of Apothecaries was later founded in 1617. It was in 1628 that Harvey published his study of the human circulation. Knowledge about healing was passed on to an apprentice on an individual basis and this became more formalised with the introduction of these licences to practice medicine. The Barber Surgeons Company had the monopoly of licensing surgeons in London from 1540 to 1745 and required an apprenticeship of seven years followed by an examination. Students first attended St Bartholomew's hospital in London in 1662 and medical schools were well established by the 1700s. In 1815 an Act was passed that made the

Society of Apothecaries the examining and licensing body for training in medicine. It was the Medical Act of 1858 that gave physicians and surgeons a hospital base and general practitioners a community base. It created the right of referral and established the pattern of general practice with lifelong care. Within the hospitals it reinforced the consultant as a deliverer of intermittent care and encouraged specialisation.

Foundation of the National Health Service

Each individual patient usually paid the doctor for a consultation and there were a range of charitable institutions that provided hospital based care. It was the Beveridge report in 1942, in the midst of World War 2, that recommended,

"comprehensive health and rehabilitation services for the prevention and cure of disease and restoration of the capacity for work, available to all members of the community" (Beveridge 1942).

This was the foundation of the National Health Service (NHS). At the same time a committee under the chairmanship of Sir William Goodenough was founded to review the education of doctors and this reported in 1944. The report was remarkable in that it summarised educational objectives that remain at the forefront of discussion in the 1990s (Ministry of Health 1944). That they are still relevant today suggests that these objectives have not yet been established in full. The Goodenough report stated that,

"the interests of both the patients and students are served if the two functions of a teaching hospital, namely the care of patients and the furtherance of teaching and research, receive equal emphasis, being regarded as complimentary and mutually reinforcing" (Ministry of Health 1944).

The report recommended the introduction of pre registration house officer posts, which were six months in medicine and six months in surgery immediately after qualification as a doctor (Ministry of Health 1944). Trainees "were to have adequate time for thought, for further study, and for the personal

investigation of the social and environmental conditions of the patient", but, crucially, the report also stated that there was a

"common practice to make excessive use of the younger men and women in routine work, often to the detriment of their development" (Ministry of Health 1944).

Before the war, about half the graduates, often the least able ones, went straight into (general) practice on completing their (undergraduate) course. There was no postgraduate training for practice in the community, whereas hospital based doctors continued an apprenticeship.

In the early 1900s the lifestyle of the doctors in postgraduate training was structured and almost regimental. Doctors were expected to live at the hospital and be on call for the majority of time. They worked under the supervision of a hospital consultant. The workload was not seen as excessive as most patients had long periods of convalescence and few medical interventions. A heart attack patient might spend six weeks in hospital with no specific treatments, whereas by the end of the 1990s this period had become ten days with a large range of interventions being applied including urgent heart surgery. Within hospitals the social support for doctors included set dinners, which all were expected to attend, and a hotel standard of care, which included housekeeping and personal laundry, but this pattern also changed after the 1940s with increasing cost pressures.

Since its foundation, public opinion consistently placed the NHS high on the list of what people regard as most important and it has been subject to almost constant review (Warden 1997). It is the biggest employer of people in the United Kingdom and in 1997 spending on the NHS was £43 billion compared with a defence budget of £22 billion. However, the NHS takes up the lowest Gross Domestic Product of any country in the European Union and has been widely criticised as under-funded. Successive Health Secretaries have attempted to improve the provision of care but the majority of the changes have involved the management structure (table 1). Changes in the direct care of

patients have instead been fuelled by rapid changes in technology and medical knowledge. These changes in technology increased the workload of doctors, in particular those training within the hospital system.

Reform	Health Secretary
Middle tier management (Area Health Authority) abolished	Patrick Jenkin
Local General Managers introduced	Roy Griffiths
Internal market of health purchasers and providers Fundholders and Trusts (1991-1996)	Kenneth Clarke
Lower tier management (Primary Care Groups) established (1997-2002)	Frank Dobson
Middle tier management (Primary Care Trusts) established (1999 onward)	Stephen Dorrell
Higher tier management (Regional) reduced to Strategic Health Authorities (2002 onward)	Alan Milburn

Table 1 Reforms introduced by Health Secretaries 1979-2002

Between 1979 and 1997 the number of hospital treatments increased by four million, infant mortality was halved, and life expectancy became four years longer (Warden 1997). Educational opportunities were overwhelmed by increased workload and this fuelled demand for better educational structures within or alongside the changes that were occurring in NHS management.

NHS TRAINING OF HOSPITAL BASED DOCTORS

The senior house officer (SHO) and registrar grades of hospital based training were established in the 1960s. A doctor could enter the SHO grade immediately after their year as a house officer. The subsequent registrar grade was usually in the doctor’s future chosen medical speciality and preceded the final hospital

consultant post. The amount of time spent in the SHO or registrar grade was not fixed and a community based doctor (general practitioner) could set up practice immediately after completing their house officer post. These grades were overseen by a Postgraduate Dean of Medical Education.

Concerns were raised at the time by Sir Robert Platt, chairman of a government joint working party, about the standards of training for junior doctors in these newly created SHO and registrar grades (Mabin 1999). The Pickering report in 1963 recommended that within each district the provision of postgraduate medical education should be supervised on behalf of the postgraduate dean by a clinical tutor, who was usually chosen from among the consultants (Mabin 1999).

Supervision of training

The Merrison Committee of Inquiry into the Regulation of the Medical Profession in the 1970s again recommended close supervision of trainees and said the General Medical Council (GMC) should be responsible for standards of specialist education. The GMC delegated the monitoring of these national training standards and accreditation to the Royal Colleges of each speciality and to the Joint Committees of Postgraduate Training (JCPT) for the Royal Colleges, rather than postgraduate deans who acted at a more local level. This was enshrined in the Medical Act of 1978 and led to the formation of separate college tutors in health districts and the inspection of posts by colleges (Mabin 1999). In 1990 the Health Secretary, Kenneth Clarke, empowered postgraduate deans by making them responsible for the funding of postgraduate medical education for trainees, and charged them to monitor the delivery and standard of such education at a local level. By 1992 postgraduate deans held 50% of the funding for each educational post at house officer, SHO or registrar level (Dott 1992).

The specialist registrar grade

However, it was joining the European Economic Community (EEC) that had a greater impact on the training of doctors in the NHS. Doctors in all countries were expected to have equivalent standards of training that would allow movement between posts within the EEC. Training in the United Kingdom took longer. Other countries were able to demonstrate completion of training after five years, which led to the development of a similar model in the United Kingdom. This was intended to consist of two years training as a hospital SHO and three years training as a career specialist registrar (SpR), after which the trainee would receive a CSST or Certificate of Satisfactory Specialist Training and then be able to work as a consultant. The new specialist registrar grade, (which was also initially referred to as the Calman registrar after Sir Kenneth Calman, the Chief Medical Officer at the time) encompassed 12,000 higher specialist trainees in 52 different hospital based specialities across the United Kingdom (Calman 1997).

It was intended that each specialist registrar would have structured training courses encompassing flexibility, choice, competition and regular assessment of progress. Progress would be measured against published training programmes and trainees would know exactly when they could expect to complete their specialist training (Calman 1997). Over the period of this study (1997-1999) these changes did take place as planned. A structured "Record of In Training Assessment" (RITA) was introduced with an external visiting panel meeting the specialist registrar each year (Bache 1999).

The development of a new specialist registrar grade did not address what happened before and after the grade or what happened to those doctors who were not fortunate enough to enter the grade. Those who could not decide on their chosen career or who did not make it into the specialist registrar grade had to spend longer in the SHO grade or accept a sub consultant post known as the staff grade. At the other end of specialist registrar training, the number of consultant posts had to match the number of specialist registrars completing

their training. The consultant grades were slowly being expanded to do this. However, if this expansion did not take place, there was a risk that a pool of doctors certified as trained for consultancy, but with no prospect of a consultant post, would develop.

The house officer grade

In the 1990s changes also took place in undergraduate training (“Tomorrows’ Doctor”) and in the pre-registration house officer year (“The New Doctor”), which preceded the SHO grade (General Medical Council 1993, General Medical Council 1997, Kershaw 1997). Medical schools were changing from a didactic approach, with fact accumulation and regurgitation, to a more problem orientated, patient centred pattern of learning. For example, instead of learning about the detailed physiology of the human in isolation from other body sciences, students would learn about all aspects of one body system in the practical context of a patient’s illness (Kershaw 1997). Increased structure was introduced into the house officer year, with teaching sessions provided for all doctors together in the grade, along with induction and appraisal (General Medical Council 1997). This left the SHO grade as the poor relation in the middle. As Paice said in her editorial, there was a

“lack of clarity about the purpose of the (senior house officer) grade. Sandwiched between two grades that have undergone educational reform, it has become the workhorse grade” (Paice and Leaver 1999: 1022).

THE LOST TRIBE OF SENIOR HOUSE OFFICERS

The SHO grade remained a “no man’s land” between the educational responsibility of the medical schools for student and house officer training and the educational responsibility of the Royal Colleges of each speciality for specialist registrar training. There was no representative body specifically for this nomadic group of SHOs until they committed themselves to a speciality choice of career. In 1993 Louise Dillner (1993), sub editor of the BMJ,

described the term "Lost Tribes" when reporting on a conference about the SHO grades, and Paice and West (1994) later used this term as a title. SHOs worked long hours with poor supervision, often in posts with little or no structured education (Council for Postgraduate Medical Education in England and Wales 1987). Only 3% of juniors' working time, in 1987, was spent on training, guidelines on education were not being followed and there was a lack of systematic approach to training (Baker 1993). And yet all doctors passed through this grade. In England almost half of all doctors in training were SHOs (Donaldson 2002). In the year 2001 they constituted 15,384 doctors (45.8%) out of a total of 33,600 in training grades (Donaldson 2002).

"After consultants, SHOs are the second largest group of hospital doctors. They are in the front line of patient care and so the quality of their training directly affects the quality of service provided by the National Service" (General Medical Council 1999: i).

Paice and West (1994: 124) stated "SHOs should not normally be forced to cope with problems beyond their competence and experience" and "they should have easy access to senior support and supervision", yet a quarter of 303 SHOs interviewed felt that supervision was inadequate: "25% felt overworked to the point of stress and inability to offer their patients proper care" (Paice and West 1994: 123). In a survey in the North Western Region 85% of SHOs had less than two hours formal training a week and nearly one third had no informal or formal training (Reeve and Bowman 1989). Some Trusts and even some Deaneries were flagrantly flouting the terms and conditions of service regarding study leave, budgets were patently inadequate and many courses were of low quality (BMA 1998). Many doctors did not even know of their current entitlement to study leave (BMA 1998). Articles throughout the 1980s and 1990s repeated this same overall description of SHO training (Council for Postgraduate Medical Education in England and Wales 1987, Grant et al. 1990, Kearley 1990, SCOPME 1991, Ruscoe 1991, Little 1994, Baker and Sprackling 1994, Academy of Royal Colleges 1996, Baldwin et al. 1997, Harris and Ferriera 1997, Richards 1997, Rickenbach et al. 1997, Carnell 1998, Donaldson 2002).

Media portrayal

The problem of junior doctor training was also illustrated by television programmes of the 1990s. Most of these dramatised the issue by looking at the life of each individual rather than giving an historical overview. One programme "Cardiac Arrest" was screened in 1994 and portrayed junior doctors as working long hours, stressed and unsupported. To determine if this was a realistic picture, a survey of 45 GP registrars (87% response rate) was carried out in Southampton. The results supported the hypothesis that it was a realistic portrayal of life as a junior doctor in 1994 (Rickenbach 1994b). On a six point scale 26 respondents scored it at the completely realistic end of the scale. The limitations of this survey included the relatively small number of doctors who participated and the selection of a specific cohort of doctors who had just completed their SHO posts. A British Medical Journal editorial also described the programme as "frightening realism" (Dillner 1994). The perception was that SHOs were "Junior – not know much", "clumsy", "tired", "useless", "hard pressed", "need direction", "party". These statements came from a group of ten researchers outside the field of medicine when asked by the author (MR) in 1999 about their reaction to the term SHO.

This image of SHOs under stress was supported by Birch (1998) who carried out a questionnaire survey on 114 hospital doctors. Ninety responses were analysed giving a 79% response rate. They used the hospital anxiety and depression scale and 21% of men and 45% women scored more than 8, which is the cut off score for pathological anxiety. 60% exceeded the existing national safe limit of alcohol. 11% smoked cannabis regularly. 35% of men currently smoked cannabis and this figure was 19% for women. LSD, nitrates, cocaine or amphetamines were used by 13% of men and 10% of women. These figures predominantly included house officers rather than SHOs and another criticism of this study was the absence of a comparative age group or professional group. The hospital anxiety and depression scale was designed for patients and

may not apply to doctors whose responses may be altered by their professional knowledge. However, concern about anxiety and depression amongst doctors and the lack of facilities for supporting doctors with mental illness has been reported by others (Chambers and Maxwell 1996).

Hours, pay and work intensity

Over the period of the study the total hours worked were reduced, as intended by the “New Deal” (NHS Management Executive 1991). The NHS Management Executive restated in 1998, “No junior doctor should be on duty for more than an average of 72 hours a week on an on-call rota, 64 hours on a partial shift or 56 hours on a full shift” (NHS Executive 1998). The actual hours worked did fall but still remained above the intended limit (Moss 1999, Hooke 2000). The workload during these hours intensified suggesting that the same amount of work was being done in the shorter time (Paice and West 1994). There was also increased turn over of patients with more day case procedures and shorter stays for inpatients (Moss 1999). Technologies continued to develop so that the management of those patients having a shorter stay was becoming more complex and the expectations of patients was higher. The reduction in hours had not solved the problems faced by junior doctors and in 1999 “junior doctors’ representatives in the United Kingdom voted unanimously to ballot on industrial action” (Moss 1999: 1639), what Fiona Moss (1999: 1639) described as a “serious preliminary step” considering “the last industrial action by junior doctors was 25 years ago”. Morale was said to be “in a critical state, with pay and conditions the stated problem” (Moss 1999: 1639). The government had secretly signed an agreement that exempted junior doctors from the European Working Time Directive, which limits workers to a 48-hour week (Smith 1999). In June of 1999 on the television news reports, in newspapers and medical journals a doctor appeared holding a toilet brush in one hand and a stethoscope in the other (Beecham 1999). The message was that doctors would be paid more to clean toilets than work out of hours. The pay at £4.02 an hour

was just above the minimum wage. It was "50% of the standard hourly rate after the first 40 hours work" (Beecham 1999). The editor of the British Medical Journal pointed out that "junior doctors were the cheapest labour in the hospital out of hours, meaning that managers had a financial incentive to get them to do the work of porters and others" (Smith 1999). But pay alone was not the whole problem and again there was a cry to improve the "organisational aspects of work" with "time for reflection", "better motivated teams", "appraisal support and feedback from consultants" (Moss 1999: 1640). In September 1999 the government offered a new working contract, which did away with overtime and paid four salary bands according to intensity of work (Smith 1999).

To comply with the reduction in hours of work that took place many hospital Trusts introduced shift or partial shift systems. The introduction of partial shifts in many posts resulted in a lack of continuity of patient care, whereby it was difficult to follow a patient through their illness (Kapur and House 1997). Shift systems seemed to have adverse effects on psychological well-being, job satisfaction, and quality of training as well as being unpopular (Kapur 1997). A questionnaire to 52 junior doctors, 19 consultants, and 14 managers in 1995 showed that managers believed reduced hours had been beneficial, but consultants and juniors were equivocal (Dilworth and Mitchell 1998). Managers were in favour of shifts but only 10% of juniors were in favour. More than 90% of doctors noted persistence of non-clinical tasks such as form filling, blood taking, medical record collection, and X-Ray collection (Dilworth and Mitchell 1998). Managers ranked shorter hours as most important, but doctors all ranked better training and fewer non-medical tasks as most important (Dilworth and Mitchell 1998).

GENERAL PRACTICE TRAINING

By the end of the 1970s the SHO grade had become the route to all speciality training including general practice. It was still possible to enter general practice directly from house officer posts, but Vocational Training Schemes for general

practice, which included SHO posts, were evolving. In 1979 the Joint Committee of Postgraduate Training for General Practice, known as the JCPTGP, was appointed by the Secretary of State for Health as the body responsible for administering new NHS regulations for general practice ('Vocational Training') that were to come into operation later in 1981. These regulations stated that doctors training for general practice had to undergo a three year training programme of which at least one year was to be as an SHO in hospital posts and one year in an approved training practice with a personal general practice trainer (GP trainer) (Carter 1998). Sufficient funding was only provided for a year in general practice so the arrangement became two years as an SHO and one year in general practice.

Supervision of GP training

The Joint Committee of Postgraduate Training for General Practice (JCPTGP) was set up by the Royal College of General Practitioners and the General Practitioners Committee of the British Medical Association in 1976, as an independent body representative of the profession. Its remit was to set the standards for general practice training throughout the United Kingdom and the Armed Services (JCPTGP 1998). This included the approval of SHO posts and GP trainers, as well as the supervision of training and the monitoring of deaneries in providing training programmes, both in hospital and in general practice surgeries. The JCPTGP also issued certificates of prescribed and equivalent experience to doctors who satisfactorily completed the required training for general practice. A JCPTGP certificate was a licence to practice as a GP in the United Kingdom.

The JCPTGP had 28 members drawn from its two parent bodies and also included representatives from the Postgraduate Directors of General Practice Education, the Conference of Postgraduate Medical Deans, the Association of University Departments of General Practice, and the Joint Consultants' Committee. In 1999 it appointed two lay members nominated by the General

Medical Council (GMC). There were three GP representatives on the JCPTGP who represented trainees' views and three practicing GPs on this committee with a team of non-medical staff based in London. Most of the work of committee members was by letter or telephone (Carter 1998).

Another organisation with input into hospital training was the Standing Committee of Postgraduate Medical and Dental Education (SCOPME). This was founded in 1988 to advise the Secretary of State for Health on the delivery of postgraduate medical and dental education. SCOPME was later abolished in 1999 after a review by the Welsh Chief Medical Officer, Deirdre Hind, although the review body findings were "not released to the public domain" (Carnell 1999). SCOPME produced several documents over the 1980s and 1990s, which promoted ways of improving training (SCOPME 1991, SCOPME 1993, SCOPME 1994, SCOPME 1996, SCOPME 1999). It appeared as a unifying focus for the standard of training, a role that the General Medical Council has taken on instead (General Medical Council 1997, Working Group on SHO Training 1999).

Duration of GP training

Within general practice training the laws of the EEC and new specialist registrar grade in 1997 had also highlighted the issue of the length of vocational training and the terms used to describe the equivalent training grade in general practice. The College of General Practitioners, in evidence to the Royal Commission on Medical Education, had actually proposed five years of post-qualification training, two of which should be in general practice. Despite this the duration of general practice training has remained as the combination of two years in SHO posts and one year in general practice as it does in Australia and Holland (Zwanenberg et al. 2001). Training for general practice in the EEC varies from two years in Iceland, Belgium and Italy, up to five years in Norway (four within general practice), Finland and Sweden (Zwanenberg et al. 2001).

Terminology and inequality

However, the introduction of the new specialist registrar grade in hospitals, in 1997, was associated with a change in terminology for general practice training. In 1995 those in their first year of training in general practice were called "General Practice Trainees". Since 1997 they have been called "registrars in General Practice". This started to address issues of inequality. A GP trainee was perceived by some as inferior to a hospital registrar despite the fact that they could both have had the same number of years training (Reeve and Bowman 1989). A general practitioner was also perceived as inferior to a hospital consultant despite similar years of experience (Kearley 1990). General practice was not recognised as a speciality in the European Council Directive 93/16 (Zwanenberg et al. 2001). The term general practice registrar suggested some equality and implied that general practitioners were equivalent to the next grade above registrars, which was the consultant grade. The term "Consultant in Family Medicine" has been used to reflect this.

Between 40% and 50% of all SHOs chose a career in general practice in surveys of 3713 doctors completed in 1988 and 1990 (Lambert and Goldacre 1998). The criticisms about SHO training in hospital specialities also arose in vocational training for general practice. In addition the SHO posts were not always seen as relevant to the chronic care generalist approach of general practice. The acute hospital specialities provided concentrated experience with specific groups of diseases, which would take many years to be seen within general practice, but there continued to be extensive criticism of the SHO years (table 2 and 3).

Problems in SHO training	References
Poor supervision	Baker and Sprackling 1994, Paice and West 1994, Styles 1994, Baldwin et al. 1997, Kearley 1990,
Lack of education	Baker and Sprackling 1994, Reeve and Bowman 1989, 1989, Styles 1994, Paice and West 1994, Kearley 1990, Crawley and Levin 1990
Teaching not related to career choice (GP)	Crawley and Levin 1990, Kearley 1990, Little 1994
Difficulty attending teaching	Styles 1994, Paice and West 1994, Crawley and Levin 1990
Lack of study leave	Little 1994, Baker and Sprackling 1994, Reeve and Bowman 1989, Kearley 1990
Poor induction	Baker and Sprackling 1994, Paice and West 1994
Lack of feedback/appraisal	Baker and Sprackling 1994, Baldwin et al. 1997, Crawley and Levin 1990
Non-clinical tasks	Dilworth and Mitchell 1998, Paice and West 1994
Stress	Birch et al. 1998, Baldwin et al. 1997, Paice and West 1994
Pressure of work	Styles 1994, Paice and West 1994
Long hours	Baldwin et al. 1997

Table 2 Problems identified in SHO training from the literature

Authors	Year	Location	Grade	Cohort size
Reeve and Bowman 1989	1989	North Western Region	SHO	125 (=75% response) Questionnaire
Kearley 1990	1990	Mersey Region	SHO Consultant GP	52 (=96% response) Interview
Crawley and Levin 1990	1980, 1989	United Kingdom	SHO GP registrar	1657 (=73% response) Questionnaire
Baker and Sprackling 1994	1994	Trent Region	GP registrar Consultant	136 Questionnaire
Little 1994	1994	Wessex Region	GP registrar GP trainer	260 (=86% response) Questionnaire
Paice and West 1994, Paice et al. 1997	1994, 1997	North East Thames	SHO	303/361 Interviews and Questionnaire
Styles 1994	1992	United Kingdom	SHO	507 (=69% response) Questionnaire
Baldwin et al. 1997	1995	Scotland	SHO	437 (=58% response) Questionnaire
Dilworth and Mitchell 1998	1998	London	Junior doctor Consultant Manager	41 (=79% response) Questionnaire
Birch et al 1998	1998	North East England	House officer	90 (79% response) Questionnaire

Table 3 Summary of surveys in the literature on SHO training

(Cohort size given is the actual number of respondents. Response rate is given when stated in paper.)

Innovative schemes

It was possible to undertake a training placement of 24 months in general practice and only 12 months in a hospital post, but finance was put forward as a reason why this did not occur initially (Carter 1998). There was also concern that the reduction in hospital service work would harm service provision in hospitals because SHOs training for general practice constituted almost half of all SHOs (Carter 1998). Reducing their training in hospital by half would remove a quarter of the United Kingdom workforce from hospitals (Carter 1998). Where financial constraints did relax some vocational training schemes in South London, Yorkshire and Northamptonshire subsequently reduced the time spent in SHO posts and increased the time spent in general practice training posts. In the face of a national recruitment crisis the schemes won health authority funding for additional posts. In Kettering, the final GP registrar year had been split into six months before and six months after the four, six month hospital posts (Cooper 1998). With the advent of additional examinations they could not fit all the objectives into the last six months. The health authority agreed to fund an additional six months at the end of the rotation in general practice, with a reduction of six months in hospital posts. Also, each GP registrar took one week of study leave in each six month post for GP orientated education, planned with the GP trainer. They proposed mentoring and integrated records of training throughout the hospital component of their scheme. The extra six months was set as time for higher learning. It was an “elective” based in general practice. These six months were focused on communication objectives, patient care, management and personal or professional growth. For the February posts they appointed seven GP registrars from 27 applicants to a rotation with 18 months in hospital posts and 18 months in general practice. Kettering achieved its aim of increased recruitment at a time of reduced national recruitment.

DIY schemes

These issues related to vocational training schemes, but not all general practitioners were on schemes. In the region of Wessex in 1999 only 47% of GP registrars came from a formal vocational training scheme. The remainder of GP registrars had made up their own schemes by putting together a series of SHO posts of their own choice. These self-constructed rotations were termed “DIY” or “Do it Yourself” rotations. The doctors in these self made rotations were also described as “closet” general practitioners, because they often did not declare themselves as having a career in general practice. If they professed to be choosing the speciality of that post as a career it was felt they had a higher chance of being appointed to that post.

Doctors on vocational training scheme rotations had the benefit of job security, but had to accept a post if it was of lower standard and part of their rotation.

They were also more committed to continuing in the rotation if they subsequently decided against a career in general practice. In 1990 there were no other clear advantages to being on a vocational training scheme (Reeve and Bowman 1989, Crawley and Levin 1990).

Summative assessment

The next change in general practice vocational training came into force on the 30th January 1998 and was published in The National Health Service (Vocational Training for General Medical Practice) Regulations of 1997.

Doctors entering unsupervised general practice henceforth had to have successfully undertaken an exit point examination. Called “summative assessment” this examination was organised by the United Kingdom Regional Advisers in General Practice and was criterion referenced as it compared the candidate to an expected minimum standard of competence. It had a 95% pass rate. Those who failed had the right to appeal and have a further six months additional training in which to retake it.

The Royal College of General Practitioners put forward the Membership of the Royal College of General Practitioners (MRCGP) as the exit point exam for general practice. This examination was peer referenced with an 85% pass rate. It assessed a higher standard of competence. By 1999 all general practitioners took summative assessment and there were shared components of the exam common to both summative assessment and the MRCGP.

However, issues remained and these were summarised by David Sowden, Director of GP Education in Nottingham:

"The current system of vocational training for general practice is primarily predicated on the service demands of secondary care, and not the educational requirements for general practice or the doctors in training. The programme is time based, not skills, competency or performance based and until recently comprised a strict envelope of three years regardless of educational need" (Sowden 2001: 2).

THE EDUCATIONAL STRUCTURE OF GP TRAINING

The Regional Postgraduate Deans had overall responsibility for medical training and supervised Directors of Postgraduate General Practice Education who managed the system of GP vocational training across Britain (figure 1).

They were supported by associate directors, who represented the postgraduate deanery in each local area and supervised a team of course organisers and GP trainers (figure 1). Course organisers provided the half-day release course for GP registrars, and general practice trainers (GP trainers) were responsible for the education of GP registrars during their one year general practice placement. The GP trainer had been through a training programme and their practice had been approved by the deanery as a suitable educational environment.

In 1998 there were 600 course organisers in the United Kingdom, of which 413 were members of the Association of Course Organisers. Course organisers initially concentrated on the GP registrar year, but by the early 1990s they started to invest time in general practice education for the SHO years. Due to the time commitment this involved, some course organisers in the Wessex region moved away from GP registrar training and devoted all their time to just

SHO training. These course organisers became known as scheme organisers. The first scheme organiser (MR) was appointed to Portsmouth in 1993.

University links

From 1996 onward, the postgraduate educational structure drifted away from vocational training into the NHS Management Executive and civil service. The Directors of Postgraduate General Practice Education remained experienced general practitioners, but by 1998 usually had joint appointments between civil service and a university (Field 2000). Postgraduate Deans were becoming professors within the university structure rather than part of postgraduate education. This potentially took them away from the workplace setting, but also introduced the educational components of a university setting. Vocational training schemes became linked with universities and moved towards the modules and structure of taught university courses with a CAT rating, rather than purely learning for the individual.

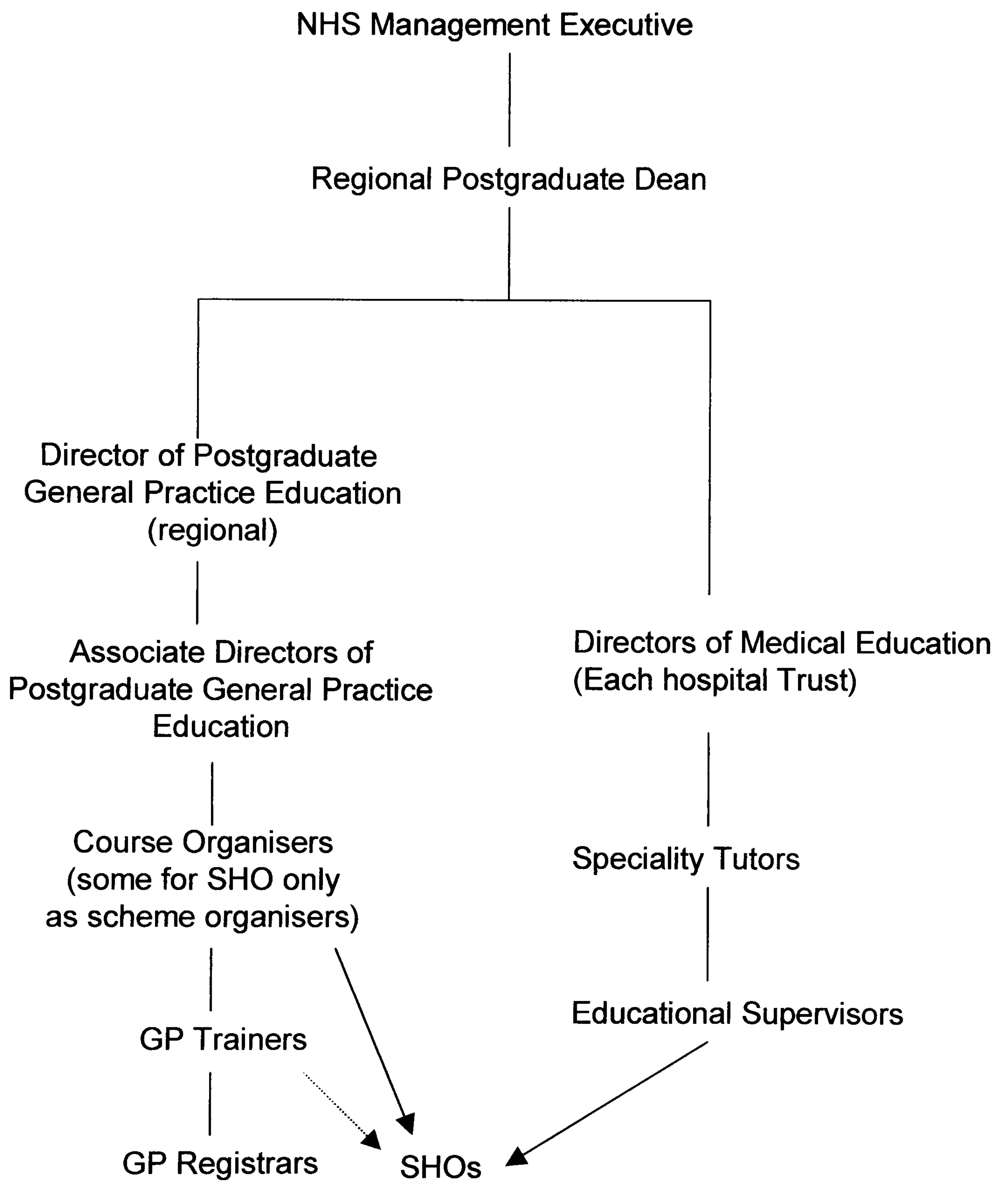


Figure 1 The management structure for SHO education
The Wessex Region in 1997

EDUCATIONAL PRINCIPLES

In the 1990s papers relating to medical education pointed out the problems of existing teaching approaches and factual overload (Styles 1993, Silver and Glicken 1990, Coombs et al 1990). These problems had been discussed as early as 1944, when the Goodenough report stated that the main emphasis in medical education should be "on the inculcation of fundamental principles and methods rather than on the implanting of purely factual knowledge" (Ministry of Health 1944). Issues included the content of teaching (facts or principles), the style of teaching (didactic or learner centred), and the setting of teaching (classroom or practice).

Didactic abuse or adult learning

Silver (1990: 530) described medical student education as "medical student abuse" involving "verbal attack with insulting, harsh, humiliating or unjust statements". Teaching was didactic and factual with an emphasis on questioning in front of peers and overt criticism of incorrect answers. This approach persisted through the house officer and SHO years. Coombs (1990: 579) stated that the result was an emotionally aloof, distant and unapproachable professional with "a defensive facade of calm, self assured achievements; the mask of relaxed brilliance". Students learnt to look as if they knew the answers and to avoid asking questions if they were at risk of looking foolish.

Other branches of education were facing similar dilemmas over content, style and setting of teaching. Within nursing and allied professions there was a shift towards more structured courses and then a return to more practice based training. For school teachers, INSET (in service education and training) days were introduced. For schoolchildren in the 1980s, there was a move away from rote learning and factual regurgitation towards experiential learning. GCSE exams were more practice and course work based.

These changes in education were fueled by the work of Kolb, Schön and Eraut, which emphasised learning in practice and the importance of reflection on practice (Schön 1983, Kolb 1984, Schön 1987, Eraut 1994). Kolb (1984) in his book "Experiential Learning" stated the roots of learning from practice arose in the 1940s from the psychologist Jean Piaget with his work on children, the American social psychologist Kurt Lewin with his work on group dynamics in action research, and from the theories of John Dewey. The move was towards adult "learning methods that combine work and study, theory and practice" (Kolb 1984). Learning was enhanced by reflection on practice and the term "reflective practitioner" was coined (Schön 1983). Schön criticised the "technical rationality" approach to professional knowledge that factual knowledge was sufficient to deal with all problems faced in practice (Schön 1983). Schön pointed out that professionals relied on intuitive artistry to deal with day-to-day problems and that these problems were resolved by reflection on the action not technical knowledge (Schön 1983). Following criticism of medical education, changes did subsequently take place in medical schools over the 1990s so that there was greater contact with patients earlier in training and learning was based on whole systems. The emphasis on factual knowledge learnt in the classroom was reduced. This was paralleled in general practice with an increasing emphasis on "adult learning" or addressing the needs of the learner and learning in practice (Greenhalgh 2000, Kemple 2000). The educational approach and support structures developed in the GP registrar were seen as more advanced than in the hospital setting (Reeve and Bowman 1989, Kearley 1990, Crawley and Levin 1990). The GP trainer had a one-to-one relationship with the GP registrar and was able to tailor education to the needs of the GP registrar. A day each week was set aside for education of all GP registrars in the local area supervised by course organisers. Crawley and Levin (1990) in their survey of 1657 GP registrars stated:

"Trainees were more satisfied with their study release course in 1989 than they had been in 1980. This may be because in 1989 more trainees were being

taught through small group work and were choosing a quarter or more of the subjects for study. These factors and role play were highly significantly associated with satisfaction with the study release course" (Crawley and Levin 1990: 914).

Practice based learning

Medical student and GP registrar education had changed, but hospital based education was similar to before. Education within hospital had been based on the approach of "see one, do one, teach one" and there continued to be resistance to change. Stewart Petersen, Professor of Medical Education at Leicester stated in the "British Medical Journal" in 1999, "Few surgeons would claim that surviving a surgical procedure qualifies a patient to perform it on another, yet how often do we hear, 'There was none of this gobbledegook in my day, yet I learnt medicine well. I know about medical education. I'm not going to change'" (Petersen 1999: 1223).

As this study progressed there was encouragement of more experience based, practical learning as shown by the 1998 publication by the Chief Medical Officer Kenneth Calman (Calman 1998). This emphasised the need for learning related to practice and "personal learning plans". Both this publication and other government initiatives did however give mixed messages. At the same time as emphasising individual learning there were directives to link learning needs to NHS organisations. Within general practice, personal learning had to be related to the local primary care team objectives by the development of a "Practice Professional Development Plan" (Calman 1998). In 1999 there were more directives relating to consultant and general practitioner standards of knowledge (Dixon and Preker 1999, Ham 1999). A National Institute of Clinical Excellence was founded to provide national standards and a Commission for Health Improvement was introduced to provide independent scrutiny of the standards of care. Clinical governance was introduced as a means of monitoring and enhancing standards. There was an increasing emphasis on audit and the margins between central control and independent learning

became more vague. In December 1999 a consultation paper entitled "Supporting doctors, protecting patients" was published (NHS Executive 1999). It stated:

"appraisal and assessment of performance will be made comprehensive and compulsory for doctors working in the NHS and will become an important component of the systems required by the General Medical Council for revalidation" (NHS Management Executive 1999).

The scene was set for potential conflict between formative appraisal to encourage a doctor's own reflection and true learning, and summative assessment to ensure a doctor met predetermined standards to allow them to continue in practice.

Training or education

This was an issue that was simply illustrated by the term vocational training. SHOs in general practice were on vocational training schemes, but the term training had connotations within the educational establishment (Playdon 1999). Training was preparing for a specific task and implied repeated actions until the action was perfected. Playdon defines training as having three components a) specifiable performance b) practice required for mastery c) little emphasis placed on understanding rationale (Playdon 1999). Teaching "implies there is a rationale to be grasped behind the skill or body of knowledge". Training implies imposition of structure, whereas education implies learning from within (Fish and Coles 1998). Playdon (1999) says that "with the words 'always' and 'only' then I know I am in a training environment".

The balance between individual learning or education and imposed training reaches to the core of the professional role of medicine. Building on the work of Dewey and Schön it has been described as the "technical rational approach versus the professional artist approach" (Fish and Twin 1997: 181). Fish and Twin (1997) described the quality professional as someone who reflects on their own practice and develops a deeper insight into it and then changes their practice. The danger Fish and Twin (1997) outlined was that this professional

role may be sacrificed on time spent on measurement of practice and demonstration of practice.

EDUCATIONAL AIMS OF THE NHS FOR SHOS

The Standing Committee on Medical Education (SCOPME), the Joint Committee on Postgraduate Education (JCPT), the Royal Colleges and the General Medical Council have all published objectives for improving SHO education (SCOPME 1991, SCOPME 1993a, SCOPME 1993b, SCOPME 1994, SCOPME 1996, SCOPME 1999, JCPTGP 1998, General Medical Council 1997, General Medical Council 1999, RCGP 1993, RCGP 1997). In 1999 the GMC published "The Early Years" which was a comprehensive description of the expected standard for SHO training (General Medical Council 1999). It covered education, supervision and welfare provision for doctors.

Educational contracts were proposed in addition to contracts relating to working conditions for doctors and these were introduced in the region of the NHS Executive South and West on the 1st April 1996 (NHSME 1996). This was the first such document in Portsmouth describing some of the requirements for a training post for all junior hospital doctors. For SHOs it specified that by the end of 1996/97 all SHOs should be:

- i) receiving an induction course, in protected time, on the day of taking up their appointment;
- ii) receiving the name of their educational supervisor on the day they take up their appointment and have it written in their contract;
- iii) Having an initial assessment in the first fortnight in the post;
- iv) Having an appraisal at two months and four or five months in protected time;
- v) Receiving a minimum of one formal career counselling session per annum;
- vi) Having 30 sessions per annum of in-house training in protected time, each session being 3.5 hours. This being half of the study leave allowance of 30 days (60 sessions) a year, with attendance at 70% or more of teaching sessions;

- vii) Having training aligned with the requirements of the Royal College of General Practice and the college representing the relevant speciality;
- viii) Receiving training in clinical audit and participating in audit.

These documents outlined the objectives that had been set in Portsmouth for SHO education in 1993 (figure 2, figure 3) and that were covered in a questionnaire designed to assess SHO posts in 1993.

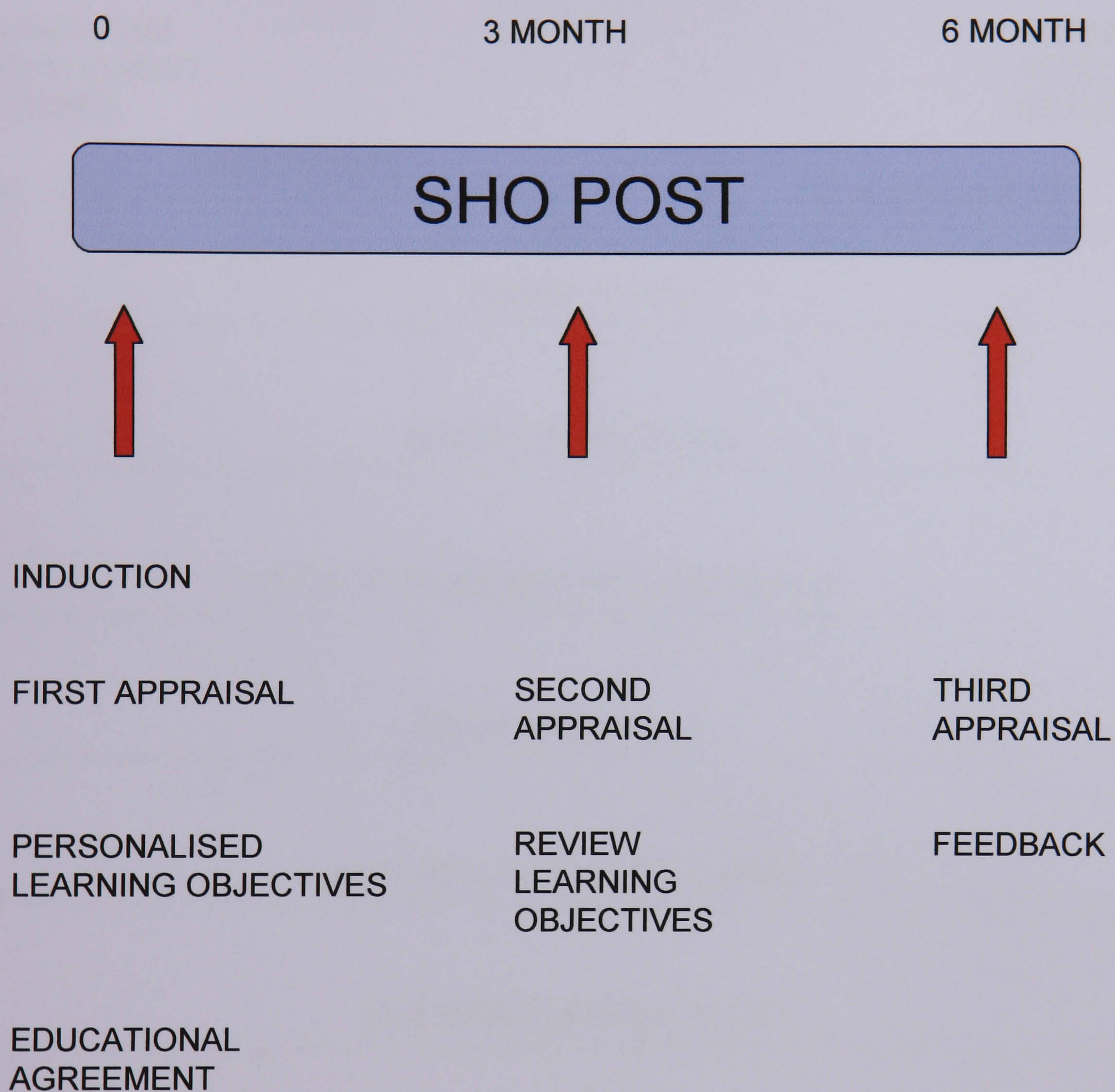


Figure 2 The ideal educational structure for an SHO post in 1997
(For SHO posts that are three months long the second appraisal is omitted)

3 YEAR ROTATION AND DO-IT-YOURSELF SCHEMES

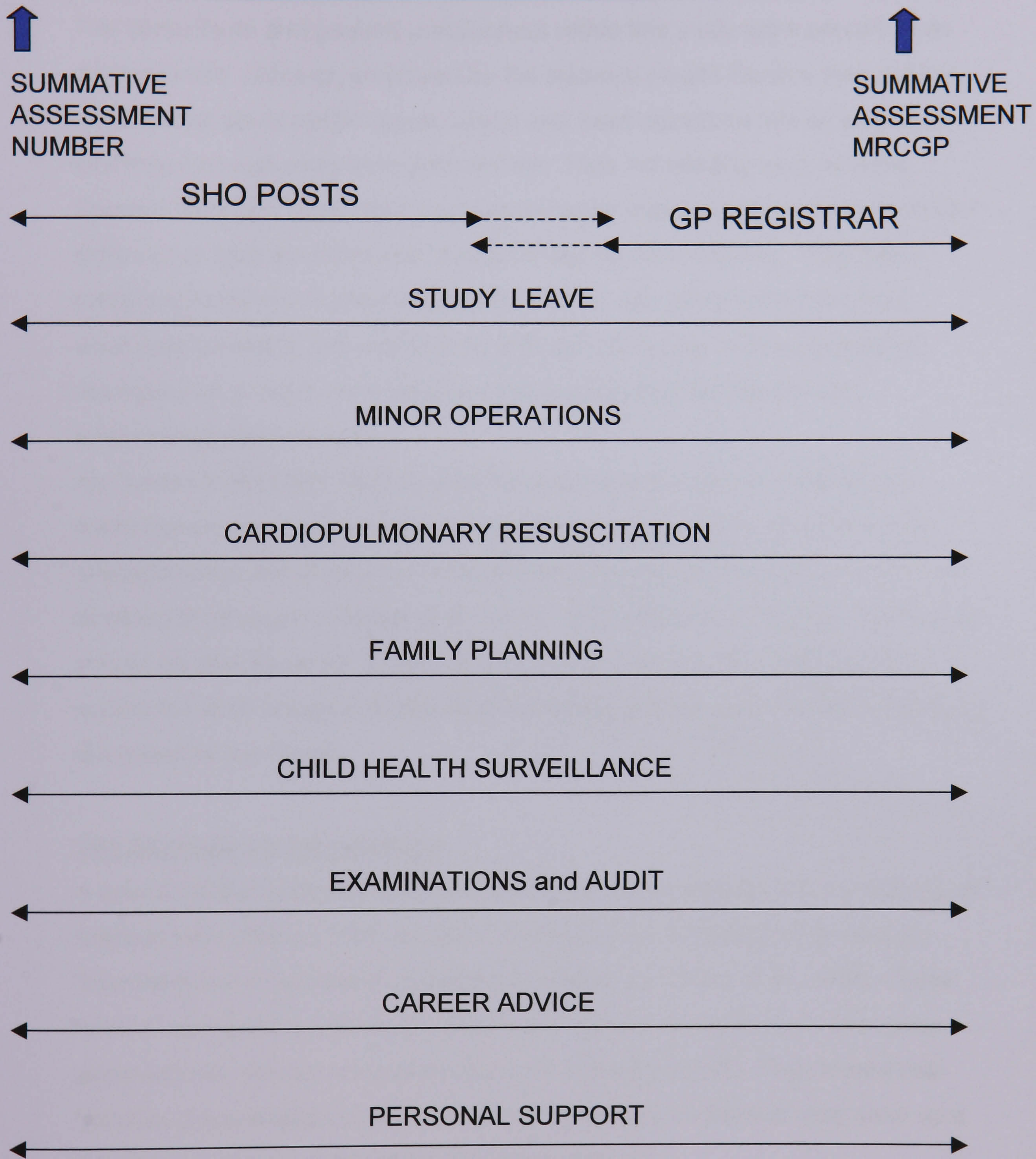


Figure 3 The ideal content of a general practice training scheme in 1997

INTERVENTIONS IN PROFESSIONAL PERFORMANCE

The consultants and general practitioners within this study were perceived as professionals. Although employed by the National Health Service they did not have a strict set of performance criteria and fixed objectives like an employee, and they had autonomy over their actions. Their accrediting body was the General Medical Council and their accreditation was dependent on their clinical skills rather than the education they provided for other doctors. They had to make decisions about patient care and doctors' education within the finite resources available. Interventions to alter the behaviour of those providing education for doctors were therefore those that would be used to alter professional performance.

As Oxman et al (1995: 1427) stated "interventions to improve professional performance are complex" and "require disentangling of the variation in the characteristics of the targeted professionals, the interventions studied, and the targeted behaviours". Oxman et al. (1995: 1427) suggested "a broad framework should be developed for designing and selecting appropriate interventions across the wide range of professional activities in which gaps between evidence and practice are found".

The literature on interventions

A search by the Cochrane Effective Practice and Organisation of Care Group of Medline from 1966 to 1995 revealed 1139 references relating to reviews on "interventions to improve professional performance" (Bero et al. 1998). These related mainly to the setting of patient care rather than education. The group assessed the reviews and scored them for scientific quality. They stated that "passive dissemination of information was generally ineffective" and drew up a list of interventions and their effectiveness (table 4).

Consistently effective interventions Educational outreach clinics Reminders Multifaceted interventions (Audit, feedback, local consensus, marketing)
Interventions of variable effectiveness Audit and feedback Use of local opinion leaders Local consensus processes Patient mediated interventions
Interventions with little or no effect Educational materials Didactic educational meetings

Table 4 Interventions to promote behavioural change among health professionals. Adapted from the Cochrane Group (Bero et al. 1998)

The Cochrane group categorised interventions as consistently effective or with little or no effect (table 4). In practice, the effectiveness of an intervention will depend on the setting of the study, so it was difficult to draw such definitive conclusions on effectiveness. The review also noted that the studies on "behavioural changes were difficult to identify because they are poorly indexed and scattered across generalist and specialist journals" (Bero et al. 1998: 466). It was noted that there were "relatively few studies of individual interventions to effect behavioural change", that "few compared the relative effectiveness of different strategies" and they were often conducted by "limited numbers of researchers in specific settings" (Bero et al. 1998: 467). The group described this as a "paucity of evidence" (Bero et al. 1998: 467).

In addition the criticisms applying to this Cochrane group report are those of any review. They are a merger of opinion and statistics from studies in different settings and with different individual biases. The conclusions in table 4 are therefore a broad brushstroke picture that gives an average direction for change. As Greenhalgh warned when results of studies are pooled there is a "promise of a level of objectivity, power and precision that goes beyond that achieved in the individual component trials" (Greenhalgh 1998). Reviews cannot be taken as being better than the original research studies.

Educational material – Recommendations, guidelines, both written, audiovisual, and electronic
Conferences – Lectures, conferences, workshops, traineeships outside the practice setting
Outreach visits – Trained person providing information in the practice setting to the provider of care
Local opinion leaders – Opinions of people nominated by their colleagues to be "educationally influential"
Patient mediated interventions – Information given to patients by mailing or counselling
Audit and feedback – Summary of clinical performance over a specified period with or without recommendations for action. From medical records, databases or observation
Reminders – Manual or computerised prompt to perform a clinical action
Marketing – Personal interviewing, group discussion or a survey to identify barriers to change and help design an intervention

Table 5 Classification of interventions aimed at improving professional practice (Oxman et al. 1995)

Oxman was a co-author in the Cochrane group review, and a member of the Health Services Research Unit in Oslo, Norway. He was also involved in a literature review based in Canada and looking at the period 1970 to 1993 (Oxman et al. 1995). Oxman (1995) concluded that there was no one simple intervention that was consistently effective but there were a range of interventions which could lead to improvements (table 5). His paper was entitled "No magic bullets" (Oxman 1995).

Oxman and his team searched for trials in educational interventions for health care professionals from 1970 to 1993 on MEDLINE, SCISEARCH and CINAHL. Studies were selected if they provided objective measurements of health professional performance or health outcomes and employed random or quasi random allocation methods. One hundred and two trials met inclusion criteria. Most covered patient management, and it is of note that none specifically covered education of professionals. Dissemination only strategies such as conferences (including lectures and workshops), and unsolicited mailing, demonstrated little or no change when used alone. Outreach visits (a trained person providing information in the practice setting) and local opinion leaders ranged from ineffective to highly effective. Those interventions involving personal contact were said to have more effect than those covering many individuals at once. For some interventions Oxman stated there was no effect, but it was more appropriate to state that there was no detectable effect on the outcomes measured. Often only one outcome was measured yet it was possible for many different changes to take place or for individuals to become more likely to change after a period of time. Also the studies did not take into account the cost benefit relationship. A simple intervention that can be applied to many people at once with little cost may produce several small changes, which together constitute a large effect. This may be more beneficial than a larger change affecting a few individuals produced at a higher cost.

Systematic analysis of this type can suffer from selection bias. Conclusions of relative effectiveness depend on a number of positive and negative studies

identified for each intervention. This is dependent more on what was chosen to be studied and published rather than a random selection of interventions. As Davis et al. (1995) pointed out, the degree of needs analysis varied in the studies reviewed in this metanalysis. Identifying a need ('gap analysis') may make an intervention more effective. A well executed lecture targeted to the educational needs of the individual may be more effective than a poorly executed visit from an expert.

Davis et al. (1995: 703) also pointed out that most studies "did not describe in replicable detail the exact nature of the educational intervention". The detail and method of application of an intervention may be more important than the type of intervention in determining its effectiveness. The studies also described positive (statistically significant change) and negative (no important change despite power to detect it) outcomes and inconclusive outcomes (insufficient power to detect change), but they did not address the issue of reverse change (Davies et al. 1995). It is possible these did not actually occur but publication selection may have hidden these.

Organisational development

Interventions to produce change have also been described as "organisation development" (French and Bell 1973). This is a method of improving organisations through "planned, systematic" long-range efforts focused on the organisation's culture and its "human and social processes" (French and Bell 1973: 1), as well as a "means of examining the organisational culture and keeping the good things, modifying some and eliminating others" (French and Bell 1973). French and Bell also describe action research as underlying most organisational development and define action research as " the process of systematically collecting research data about an ongoing system relative to some objective, goal, or need of that system; feeding data back into that system; taking action by altering selected variables within the system based both on the data and hypothesis; and evaluating the results of actions by

collecting more data" (French and Bell 1973: 138). This process of action research is fundamental to this study and is discussed in more detail in the methods section and chapter 3.

French and Bell provide several typologies for interventions. They provide a more sociological approach, which focuses more on the behavioural effect of the intervention than on the process of the intervention. One that relates most closely to the current project is a five category model shown in table 6 (French and Bell 1973).

Feedback which refers to learning new data about oneself, others, group processes or organisational dynamics
Awareness of changing sociocultural norms which refers to a modification of behaviour, attitudes or values following awareness of changes in social norms. Examples include team building and intergroup meetings
Increased interaction and communication between individuals or groups which changes attitudes or behaviour. "Increased communication allows a check on perceptions to see if they are socially validated and shared"
Confrontation which refers to "addressing differences in beliefs, feelings, attitudes, values or norms to remove obstacles to effective interaction" Examples include third party peacemaking and counselling individuals
Education which refers to "activities designed to upgrade i) knowledge and concepts ii)outmoded beliefs and attitudes iii) skills"

Table 6 The five category typology for interventions in behaviour (French and Bell 1973)

One problem with the typology provided by French and Bell is the overlap between the categories. For example, intergroup sessions fall into all categories except education and all categories could be said to be forms of education. This structure helps us consider the behavioural processes but serves to complicate

the allocation of interventions to a problem. When faced by the choice of what intervention to use, a task specific typology may be more useful.

However, French and Bell's approach does serve to bring out specific facets of interventions. They separate intergroup activities from intragroup activities, which they define as team building. They describe "technostructural activities" where the structure of an organisation is altered to emphasise specific tasks. French and Bell (1973) also break down interventions into several types. "Process consultation activities" where insight into the human processes in organisations is given and skills are taught in diagnosing and managing them; "third party peacemaking activities" where help is given to enable two members of the organisation to manage their interpersonal conflict; "coaching and counselling activities" where help is given to learn new modes of behaviour which will lead to achieving their goals.

General practitioner behaviour

Further information on interventions in the medical setting was provided by Wensing and Grol (1994) who looked at care provided by general practitioners. They carried out a keyword Medline search, scanning specific journals and checking of references cited in articles retrieved ("daisy chaining") over the period 1980 to 1992. They found 75 studies based in primary medical care of which one third had elements of randomisation and use of controls. They found it "impossible to pool results statistically" because "the differences between studies were too large with regard to subject under investigation, the setting of the study and the type of effects studied" (Wensing and Grol 1994). As in other surveys, individual instruction was thought to be a more effective strategy (Oxman et al. 1995). Feedback and reminders were also the more effective strategies (Wensing and Grol 1994). One study described "cost feedback" and "peer comparison feedback" suggesting that cost feedback was more effective (Berwick and Coltin 1986). This was, however, in an American Health Maintenance Organisation and the cultural values regarding money may differ

from Britain. The issue of the effect of feedback and reminders being lost when they were stopped was also raised in this review. Few studies were found relating to the use of incentives, rules and obligations, and certain combinations such as individual instruction with peer review were rarely studied (Wensing and Grol 1994). Educational materials alone were felt to be ineffective (Wensing and Grol 1994). The taxonomy applied in this review was developed by Grol and it provides a branching classification that is both practical and behavioural (table7) (Wensing and Grol 1994).

Voluntary	Internal motivation	Competence oriented	a) Educational materials b) Group education c) Individual instruction
		Performance/behaviour oriented	d) Feedback e) Reminders
	External motivation	Social influence	f) Peer review
		Physical support	g) Practice support h) Incentives
Non-voluntary			i) Rules, obligations

Table 7 Taxonomy of interventions from Wensing and Grol 1994

Carrots and sticks

Muir Gray in his book "Evidence Based Healthcare" suggested that the performance of the individual is "directly related to the level of motivation and the competence of the individual and inversely related to the barriers the individual has to overcome" (Muir Gray 1997: 7). He proposed the equation $P = C \times M / B$ where P=Performance, C=Competence, M=Motivation and B=Barriers (Muir Gray 1997: 7). An intervention to improve performance can improve competence (for example education), enhance motivation (for example increase awareness) or remove barriers to improvement. This approach did not put forward the range of interventions but pointed out the three key areas to be considered when planning an intervention (Muir Gray 1997). Muir Gray (1997: 217) also stated that there were two schools of thought: "those who believe in incentives (the carrot) and those who believe in disincentives (the stick)". He did point out that the third option was to "hit people with the carrot" and that it is hard to define what was an incentive and what was a disincentive (Muir Gray 1997: 217). Financial incentives have shown benefit in cervical screening for example, but the incentive payments may be seen as a carrot or the threat of a drop in income can be seen as a stick (Muir Gray 1997). He rounded off by stating it is "much more effective to stimulate professionals to grow their own carrots than to force them into behaving like donkeys, enticed by a carrot dangling in front and threatened by a stick held behind" (Muir Gray 1997: 219). Allery looked at interventions from the perspective of those receiving the intervention (Allery et al. 1997). Fifty general practitioners and 50 consultants interviewed were asked to describe a change they had made and the reasons for the change. A critical incident technique was applied which involved looking at "factual accounts of actual events" and then "focusing on the reasons for actions and behaviours". Allery found there was an average of three reasons for any change. The three commonest reasons cited in 361 changes were organisational factors, education and contact with professionals. Education accounted for one sixth of reasons for change. Consultants were more

influenced by journals and conferences, while general practitioners were more influenced by medical newspapers and postgraduate meetings (Allery et al. 1997).

Most of the interventions discussed here have related to the activities of professionals delivering medical care rather than the activities of those involved in the education of professional doctors. This is mainly because of the limited literature relating to this subject. As an editorial by Professor Stewart Petersen in a 1999 issue of the BMJ stated:

"It is hard for clinical teachers to learn about medical education research, partly because there is not that much of it. In the United Kingdom a new doctor costs twice as much as a Rolls Royce car, and at least £1bn a year is spent on medical education, yet the funds available for research and development of medical education are tiny, amounting in total to little more than a couple of decent grants in molecular biology....

An electronic search using keywords 'education' or 'medical education' over most high profile, general journals yields little other than book reviews....

If medical education research is to inform more teachers it must become accessible, comprehensible, convincing, and demonstratably related to the real issues faced by medical teachers at the bedside or clinic.

It is up to medical educationalists to present ideas in clear jargon free format; to show that research methods are designed for the task and competently carried out" (Petersen 1999: 1224).

It was the aim at the start of this study to look at interventions to improve the setting of education in the real world of a district general hospital and to meet at least some of these objectives subsequently proposed by Professor Peterson.

SUMMARY

Over the 60 years since the NHS was founded there have been several changes in medical education with the introduction and development of hospital and community based structures for education. Developments in medical knowledge, technology and expectations have increased pressure on the system of medical care and the pressure on those working within the NHS.

There has been an evolution of the registrar and house officer grades within medical education, but this left the SHO grade as the “lost tribe” or “workhorse grade” with no specific representative body. Objectives have been set for SHO education by the General Medical Council, but the problems faced by SHOs persisted. Contrary to the principles of learner centred education, the SHO suffered from excess service commitment and relatively less time to reflect on and build upon learning experience. In addition, within general practice training, the SHO grade concentrated on secondary care rather than the future career needs of the primary care doctor. All this was happening against a background of a National Health Service that was moving towards increased guidance, control and adherence to protocols in an attempt to maximise use of limited funds.

After 1990, general practice course organisers in Wessex (known as scheme organisers) were appointed to concentrate on developing the SHO grade within general practice vocational training. Little was known about interventions that they could apply to improve the education of hospital doctors, but these scheme organisers were attempting to achieve change within SHO posts.

The questions that arose at this stage, and formed the starting point of this study, included: what interventions were available to produce change? was change actually occurring with local interventions? could the SHO grade be improved using scheme organisers as local facilitators of change? and what was the ideal model for SHO training within general practice training schemes?

Within the local setting of a cash limited National Health Service:
What interventions were available to produce change?
What evidence was available that change was actually occurring with local interventions?
Could the SHO grade be improved using scheme organisers as local facilitators of change?
What was the ideal model for SHO training within general practice training schemes?
Could a local feedback system, such as action research, assist scheme organiser learning and implementation of changes in SHO training?

Table 8 Research questions identified in 1993

Determining some of these answers required a system of local monitoring that could detect and provide feedback on change, a system that could be flexible enough to allow the organiser to develop their role and their approach to problems identified, and one that fitted with principles of adult learning already put forward by educational theorists. The next chapter discusses the background to one such system used to monitor, plan and assess the effect of interventions to produce change – a cycle of observation, planning and action that has been called action research (Lewin 1946).

INTRODUCTION

CHAPTER 2

ACTION RESEARCH IN EDUCATION

Contents:

WHY ACTION RESEARCH WAS APPROPRIATE

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Cycles of action and learning

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Action research and education

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Single patients

THE CYCLE OF ACTION RESEARCH IN SHO EDUCATION

RESULTS STRUCTURE FOR ACTION RESEARCH

SUMMARY

WHY ACTION RESEARCH WAS APPROPRIATE

In 1993 the Associate Director of GP education for Portsmouth, Dr Michael Mead (who died in 1998), decided to invest resources in supervision of hospital SHO training for general practice. Up to this point attention had been directed at the third year of training, which was in general practice, rather than the first two hospital years. A course organiser was funded to oversee the training of SHOs during the hospital component of their general practice vocational training scheme. This post was given the title of "scheme organiser". The person appointed would be able to stand back and look at the overall objectives of the vocational training scheme as well as introduce career specific education. They would be an external facilitator of the scheme and also participate in the scheme providing general practice training. The author was appointed as the first scheme organiser at Portsmouth in September 1993 and the role of research into SHO training was discussed at this time.

The research questions that first arose included:

- "what interventions could be used to improve training?"
- "which were the most effective interventions?"

A resource had been set aside to use these interventions and this presented an opportunity to study their introduction and impact.

Problems of controlled trials

Various models of research were considered in 1993 and factors that played a part in the choice of research approach included cost, time and ethics. One such model of research discussed was a comparison of two groups of SHOs at

Portsmouth. The control or contrast group would undergo no changes in training. The active group would receive a series of interventions intended to improve their standard of training and working conditions, including regular sessions with the course organiser.

There were several problems with this approach. Firstly, it could be seen as unethical to deprive SHOs of potential improvements to their training, for which they had just been funded. Their hospital training would end before the results would be known and it would be difficult to make up any lost training after they left.

Secondly, it would be difficult to prevent contamination of the control group. The group would not be blind to the interventions as SHOs would be discussing and comparing their training (Machin 1997). They might drift from one group to the other through their wish to obtain or avoid the changes in training.

Thirdly, it would be difficult to produce two similar groups of SHOs either by randomisation or matching, because only a small number of SHOs could be studied at one vocational training centre. Bias would arise because of differences in enthusiasm to take up the training, different starting times, and different order of doing the training posts. As Campbell later stated, in educational research it is "difficult to control the many factors that can influence learning, including differences of subject content, teaching objectives, learning activities, instructional content, learning styles" (Campbell and Johnson 1999: 1273). The use of a control group in another hospital was also considered to increase the numbers, but it was beyond the resources available, and it would remain difficult to match groups (Machin 1997).

Randomised controlled trials represent "optimal circumstances provided in teaching centres" with "volunteer physicians performing at or near optimum levels, giving small changes" (Davis et al. 1995: 703). A randomised control trial would have been high in costs, was likely to take a long time to complete and could be addressing a question for which the answer might be "no change".

Alternative models were available which could detect change, or an absence of

change, at lower cost in a shorter time. The key factor, however, was that the setting could not be tightly controlled and, if it was, the results might not be relevant to the actual setting of practice. As Davis et al. (1995) stated with respect to interventions to alter physician behaviour, "to a great extent trials do not represent actual physician educational experiences and settings".

Real world research

In summary, the local interventions applied in this setting of GP education could not be confined to one sub group of SHOs. The interventions were likely to be small scale and their effect would overlap in time. They would be occurring in the context of an evolving National Health Service – not in a controlled laboratory setting but in the real world of a district general hospital. The scheme organiser, as part of the educational structure, was in a position to bring about these changes and as a recent SHO, who would now be meeting the SHOs on a regular basis, was in a position to observe the effect of any changes.

This was the setting for action research, defined by Halsey (1972) as "a small-scale intervention in the functioning of the real world followed by a close examination of the effects that such an intervention might have". The real world referred to the fact that the setting for research is the same as the setting of everyday practice. The finding could, therefore, be immediately relevant to everyday practice.

Action research links identification of a local problem by research, with theory on ways to resolve that problem, followed by local action taken to resolve the problem and then further research to determine if the problem has resolved.

This forms a cycle of theory, research and action, which can be repeated until the initial problem has been resolved (Lewin 1946, Greenwood 1994, Hart and Bond 1995, Carr 1995, Wilson-Thomas 1997, Rolfe et al. 2001, Waterman et al. 2001). Action research had the potential to generate information on several interventions at low cost over a relatively shorter period of time. The conclusions on action research outcomes could only apply to the local setting

and would be subject to local biases, but the model of action research could be transferable to other settings.

If the action research showed no evidence of benefit then it suggested that either further similar interventions would not help locally or a small positive result had been missed. If action research generated reasons why there was no evidence of benefit then these reasons could be explored before further interventions took place. There was potential to save time, effort and other resources.

A randomised study may have answered the question “does this intervention produce a change within the carefully prepared setting of a study?” but action research would answer the question of whether the intervention produced a change in the actual, local setting. The randomised trial may provide a theoretical result in a controlled setting, but action research builds on this to give the local, practical result.

THE NATURE OF ACTION RESEARCH

As Lewin (1946) stated, action research bridges the gap between theory, practice and research. The conclusions drawn from the research are fed into changes in everyday practice. This could be said to be the aim of any research, but in the 1990s the gap between research and practice was evident within medicine and fuelled a drive towards more “evidence based” decisions. This period saw the birth of the Journal for Evidence Based Medicine, Bandolier, the National Institute of Clinical Effectiveness and the process of Clinical Governance (Meyer 2000). All these were attempts to close the gap between research and practice, which predominantly aimed at rigidly applying results of carefully controlled large-scale studies into the everyday setting of patient care. In action research the research and changes in practice are more closely linked. They share the same setting and the same population, which makes the conclusions from the research of much greater relevance to that population (Slawson and Shaughnessy 1997).

The cycle of action research

Research can identify problems in the setting and help design changes in practice. Research can also assess the effect of the changes in practice. This starts to set up a cycle with research generating conclusions about changes in practice, further changes being made in practice and the further research assessing the effect of the changes. It was Lewin (1946) who first described this as the "action research cycle" and it is fundamental to the model of action research.

This cycle between research and practice could represent a "holy grail" for researchers, but has not been widely used in the context of health service educational, managerial or medical research, except in the field of nursing (Waterman et al. 2001). This may be because there remain several prerequisites for action research to take place.

Action research requires observation over time. There has to be sufficient time to collect and process the initial data, develop an intervention, put the intervention into practice and then collect data about the effect of the intervention. This is likely to take several years depending on the problem under study (Waterman et al. 2001). As the time period extends there is more likelihood of the research being interrupted. The study population can alter, the setting of the study might be disrupted and outside interventions may blur the impact of the research intervention. On a more practical note funding might end, the researcher may change, or the impetus for the project could be lost.

As the action research cycle progresses those involved will be thinking about or "reflecting" on the research, the research conclusions, the intervention and the effect of the intervention. This reflection will lead to modification of the research and of the intervention. Reflection is acknowledged as an integral part of the action research cycle (Wilson-Thomas 1997, Rolfe et al. 2001). It is a continuous process, but its main impact is in the design stages of the research and the intervention.

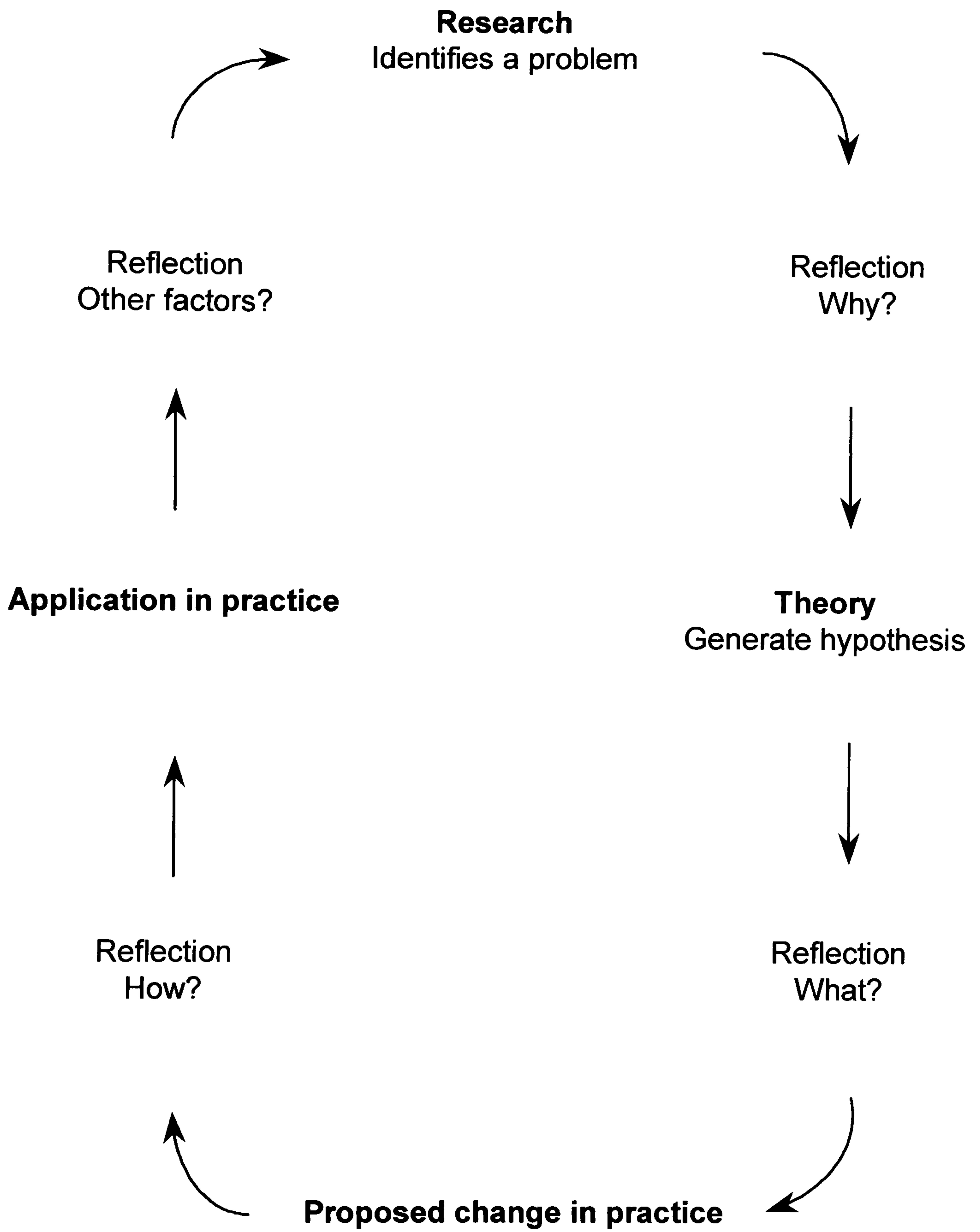


Figure 4 The action research cycle

Research, theory and practice have been described as a “triadic relationship” of action research (Wilson-Thomas 1997: 568). Theory provides a common language to discuss thought. It enables a stepwise development of thought, or scaffolding upon which one or several people can further develop their thoughts. Theories are described by Alderson (1998: 1007) as "working models and frameworks of thinking about reality". The development of theory is the third component of action research (figure 4).

Cycles of action and learning

Action research might, from this figure, appear as a dry theoretical structure yet it is similar to the day-to-day processes used by everyone. Each individual will consider a problem that faces them and how best to resolve that problem. After following a course of action they will consider if the problem has been resolved. If not resolved they will then either give up or take a further alternative course of action.

Models of experiential learning also have similarities. As an example, the Kolb learning cycle is a link between doing (practice) and thinking (theory) discussed in the book "Experiential Learning" (figure 5) (Kolb 1984).

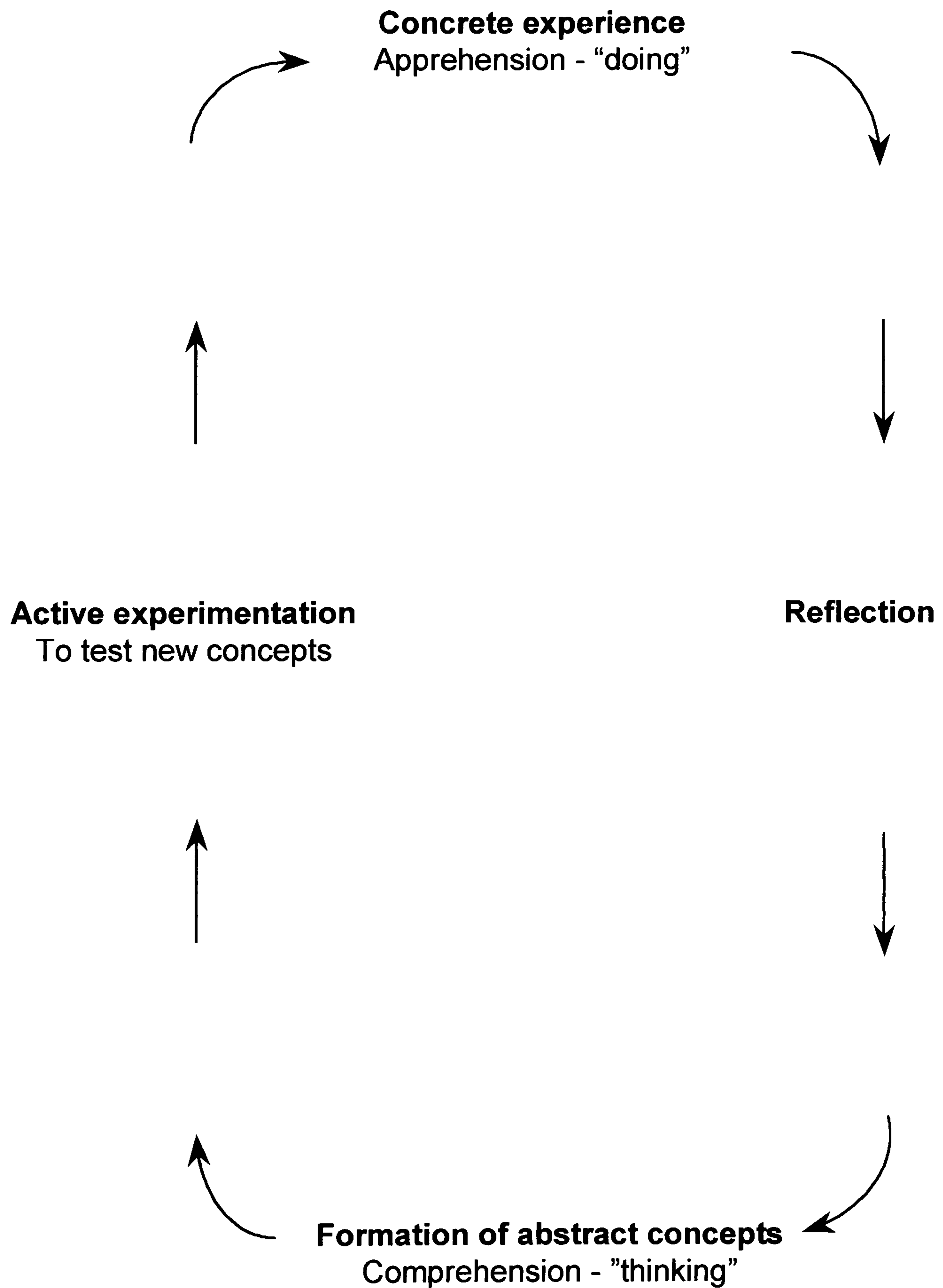


Figure 5 The Kolb learning cycle (Kolb 1984)

Another parallel that can be drawn is the process of audit. Audit has been widely used in management and has been increasingly used in medical care over the last ten years. The audit cycle involves setting a standard for practice, collection of data to determine how close practice is to the standard, use of an intervention to bring practice closer to the standard and collection of data to determine if practice has become closer to the standard (figure 6). The audit cycle is more rigid than action research. The standard is fixed by external sources, usually expert guidelines based on research carried out by others. The intervention is usually one that has been used by previous auditors. The audit cycle can be selected from a range of published cycles on offer that have been tried and tested by others. Action research could simplistically be viewed as the original cycle, which would then be adopted for use in audit. Unlike audit the intervention in action research evolves from the research that demonstrated the problem and from data about why that problem has arisen. The cycle design in action research changes as it proceeds, whereas in audit the standards and interventions are relatively fixed. In audit the intervention is repeated each cycle until the standard is reached. In action research the intervention evolves and develops as the cycle is repeated. It is cumulative, with each modification building on the next (Lewin 1952). When an identical cycle is repeated it becomes audit. Audit is generalisable and applied to different settings whilst action research relates to the specific setting of the research and is transferable to similar settings. Audit uses an intervention of proven benefit. In action research the intervention is of unproven benefit and data is collected to give evidence of benefit. Research is concerned with finding out what is the right thing to do, whilst audit is about making sure that the right thing is being done.

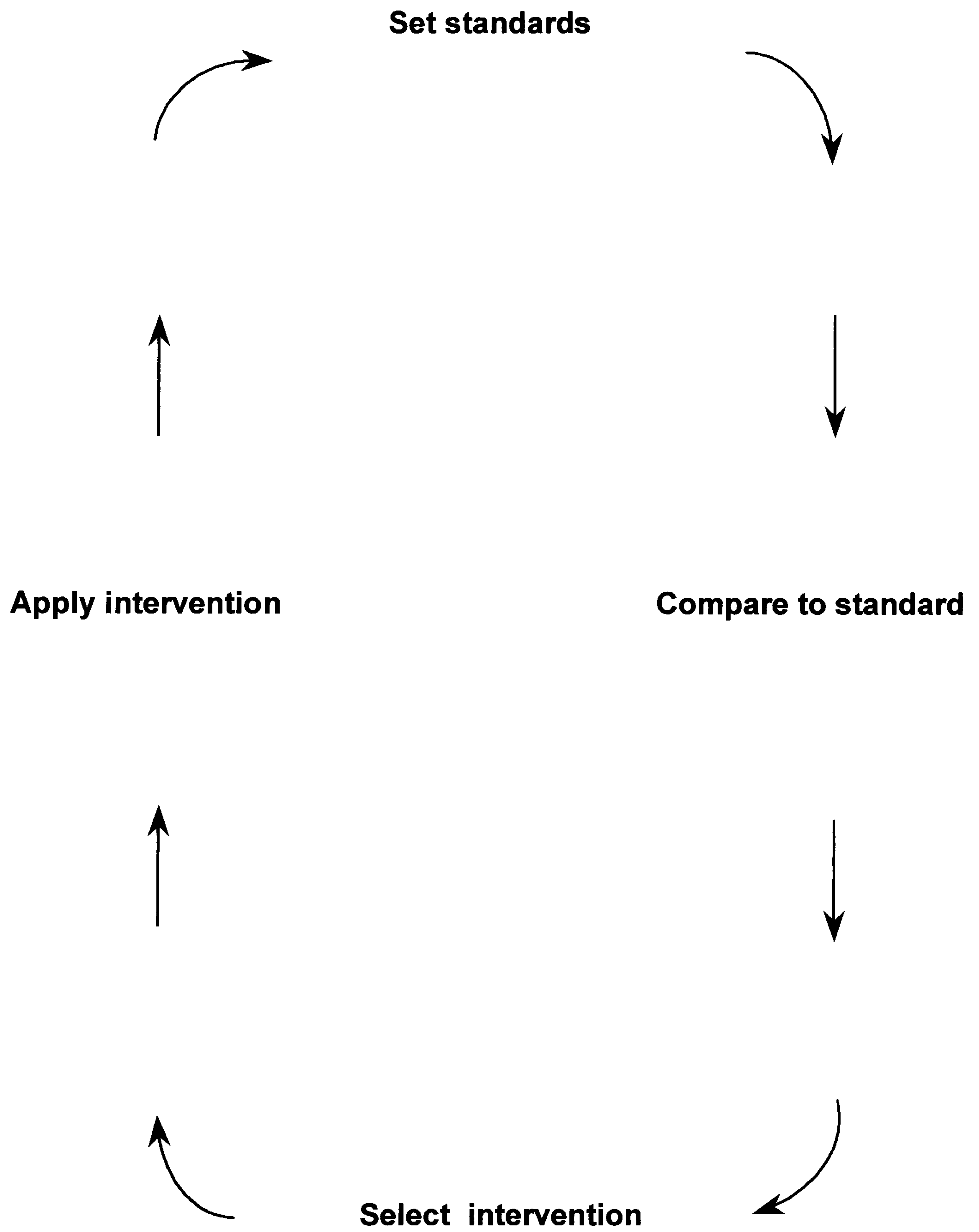


Figure 6 The audit cycle

EVOLUTION OF ACTION RESEARCH

Action research originated from the psychologist background of authors like Kurt Lewin, who worked in the area of race and industrial relations in America. Kurt Lewin emigrated to the USA from Europe at the time of World War 2. He was a social psychologist who was persecuted as a Jew. His writing has a refreshing, practical feel to it when he is discussing the impact of group work and "the problem of its permanence" for any social change (Lewin 1946: 40). He first used the term action research – a way to generate knowledge about a social system at the same time as trying to change it – in 1944 and died only four years later in 1947. Most of his work was published posthumously. He developed the idea of action research by investigating social practices like production in factories, discrimination against minority groups or habits of food buying in the mid 1940s (Carr and Kemmis 1986). Lewin's objective was to improve inter-group relations by bringing together representatives of different ethnic groups in a workshop setting. The hope was that these representatives would establish links between themselves and carry out joint plans to improve relations within the communities they returned to after the workshops. He pointed out there was "doubt about the effectiveness of the techniques used for the betterment of inter-group relations" and that "realistic fact finding and evaluation is a prerequisite for any learning" (Lewin 1946: 35). He wished to introduce more objective standards of achievement within the setting of a group workshop.

"If we cannot judge whether an action has led forward or backward, if we have no criteria for evaluating the relation between effort and achievement, there is nothing to prevent us from making the wrong conclusions and to encourage the wrong work habits" (Lewin 1946: 35).

Lewin recorded the key events within the workshop. The leadership and individual contributions to the group were analysed using tape-recorded interviews with observers, leaders and some of the trainees, along with daily evaluation of the workshop by all participants. He observed the development of

co-operative teams of trainees and the implementation of various projects including a plan linking all teacher colleges in the state of Connecticut (Lewin 1946). Lewin believed that the failure of organisations to learn and change effectively was attributable to a lack of adequate feedback processes, resulting in an imbalance between observation and action (Greenhalgh 2000).

Action research and education

In the 1960s action research appeared to lose pace in the USA. According to Carr and Kemmis (1986) this was the time of the Kennedy space race and the cold war when the egalitarian principles of worker led change may not have found favour. They state there was a decline in action research in the 1950s and 1960s, because of a separation of the action and research components. They felt that academic theorist researchers obtained unprecedented support from public funding, and large-scale activities took over from small scale self reflective approaches such as action research (Carr and Kemmis 1986).

The focus for action research moved to the United Kingdom and the area of schoolroom teaching. In Britain there was a resurgence in interest in educational research with the "Ford teaching project" in 1973-76 directed by John Elliott and Clem Adelman. It involved teachers undertaking collaborative action research into their own practices (Carr and Kemmis 1986). Action research was then taken up in the 1970s by "teacher educators", who tried to implement small-scale innovations and assess their effects within the classroom. Greenwood (1994) has described this period as producing the action research classics of Stephen Kemmis and McTaggart (1988), Wilfred Carr and Stephen Kemmis (1986), John Elliott and Adelman (1976), Elliott (1981) and Lawrence Stenhouse (1975). There was said to be a move away from the positivist scientific approach of Lewin towards a smaller scale local reflective model. There was dissatisfaction with the model of an outside researcher who observed and interpreted the teacher at work. It was Lawrence

Stenhouse and John Elliott who were said to have introduced the teacher and the researcher as being one single person.

John Henry at Deakin University provided teachers with transcripts of their own teaching (Henry 1985). The teachers involved discovered that their normal practices of classroom interaction, emphasising didactic talk and closed questioning actually operated to deny students the opportunity to raise their own questions and to develop independence of their teacher in their learning. They had maintained classroom control through controlling classroom talk but then changed their form of classroom questioning, and provided resources which encouraged students to raise questions. The classrooms changed physically and the students became more involved in determining classroom behaviour and negotiating learning (Carr and Kemmis 1986). The cycle of information, reflection, action and further information was in place. The research was the collection of qualitative transcript data that was pooled by the participant teachers.

Stephen Kemmis (1982) at Deakin University explored strategies for remedial reading teaching in a junior secondary school. He described ten different strategies that could be used, and analysed the problems present in remedial teaching. Different teachers collected data on the particular strategies of interest to them and their practice changed as they came to understand the problems and effects of each strategy. They established teams of regular classroom readers and specialist remedial teachers and altered the school day to have greater emphasis on reading. Again the issues here were definition of research and the rigor of data collection. There was, however, clear "improvement in practice" (Carr and Kemmis 1986). There was also participant involvement, but it is of note that not all participants were involved. The providers of education but not the recipients participated.

Action research in nursing

The 1980s saw action research developing in the arena of nursing (Greenwood 1974, Webb et al 1990, McCaugherty 1991, Waterman 1994, Hart and Bond 1995, Rolfe 1995), again in the context of teaching, but now in a larger form of classroom that included the clinical environment of the hospital ward. New nurse practitioner roles were emerging. The nursing process aimed to encourage reflection on individual patient's care. This growth of specialist nurse roles, with an increase in research awareness, increased interest in interventions to bring about improved patient care. The dissemination of action research into medical education, as in this project, can be seen as part of another stage in the spread of action research into the environment of medical education (Meyer 2000).

Action research and reflexive learning

The next step in the evolution of action research was a linking between the models of reflexive learning propounded by Donald Schön (1983, 1987), Peter Reason (1988) and Michael Eraut (1994) and the reflexive components of action research. These authors were looking more at the development of theory from practice or "reflection on action" (Schön 1987) and the use of "co-operative enquiry" or working together as a group to generate theory (Reason 1988). This illustrated a divergence in the use of action research. Some used it "to improve practice rather than produce knowledge" (Elliott 1991: 49). Others felt that the "development of theory was the final goal of action research" (Holter and Schwartz-Barcott 1993: 300)

Typologies of action research

As can be seen, action research has been applied in several different settings. The fundamental cycle of research, theory and action has remained, but there was variation within this. Hart and Bond (1995) described four main forms of

action research, which were "empowering, professionalising, organisational and experimental". In this study the action research applied fell into the categories of professionalising and organisational, where the action and research components were of equal importance, the emphasis was on producing change within a loose grouping of professionals and the researcher was an integral part of the system.

The professionalising criteria of Hart and Bond (1995: 40-43) that applied in this study were:

- Reflective practice
- Advocacy on behalf of clients (SHOs)
- Practitioner focused
- Professional groups with shifting membership
- Problems emerging from professional practice
- Spirals of opportunistic, dynamic research cycles
- Practitioner and researcher roles merged.

There were elements of the organisational category of Hart and Bond (1995: 40-43), which also applied in this study because the researcher was occasionally working outside the professional group in more of a management role. The organisational criteria that applied in this study were:

- Re-education and training
- Organisational change towards a consensus
- Overcoming resistance to change
- Problem defined by the most powerful group (SHOs)
- Success defined by sponsors
- Consensual definition of improvement
- Differentiated roles (between participants).

Hart and Bond (1995) described the categories as a spectrum with the empowering end having a greater action component and being user led; the experimental end having a greater research component and being researcher led. These categories were developed from those by Lewin (1946) and his co-

workers who originally used the terms "participative, diagnostic, empirical and experimental". Diagnostic applies most closely to this project as this type of action research was designed to "recommend remedial measures for a problem and propose a plan of action". Empirical involves the collection of data from a succession of similar groups to obtain generally valid principles of group behaviour. Participative involves the involvement of subjects in making decisions about the action plan. For Hart and Bond (1995) and Lewin, the most clearly defined category was experimental, which involves the use of a controlled study. Here the researcher was totally separated from the subjects under study so as to minimise any effect of the researcher on the setting.

Technical, practical and emancipatory action research

Wilfred Carr and Stephen Kemmis (1986) describe three types of action research. This three-category approach is easier to apply and has been outlined by Rolfe et al. (2001). The first category is the "technical" form, which separates the theory from the practitioner and has the researcher observing the practitioner. Also known as traditional or positivist it equates to the empirical and experimental categories described above (Rolfe et al. 2001).

The second category is practical action research where outside facilitators form co-operative relationships with practitioners (Carr and Kemmis 1986), also known as collaborative or interpretive (Rolfe et al. 2001). This form of action research was applied by nurses, such as Christine Webb et al. (1990) and Jennifer Greenwood (1994), and is the predominant form used in this study.

The third category was the "Emancipatory" action research, which involves the participants' own practical actions and reflections upon the effect of those actions (Rolfe et al. 2001). Rolfe also describes this category as critical as the participants themselves critically review their practice. The term emancipatory is used as the participants control the data about their practice and can apply it to bring about change in their environment.

Interventions and the researcher

Some argued that a close link between the researcher and the person responsible for the intervention was important (Carr and Kemmis 1986, Cohen and Manion 1984). As the two became more separate the link between research and action became weaker. If there were many people involved in the research and subsequent intervention, concordance of aims was even less likely, unless there was strong leadership. The ideal stated by some action researchers was for the person undertaking the research and the person responsible for the intervention to be one and the same (Carr and Kemmis 1986). In this situation attempts should be made to guard against bias since the person introducing the intervention may have a vested, albeit subconscious, tendency to wish to demonstrate that the intervention is effective.

Whether or not the two are linked, the position within the organisation of the initiator of an intervention may be important. Hart and Bond pointed out that if the initiator was within the management structure their credibility was high but that person was dependent on patronage and this could undermine collaboration (Hart and Bond 1995). If the initiator was too "grass roots" then they lost credibility and the ability to effect change. The ideal may be midway, which Hunter (1990) describes as an "interface worker" moving between the management and the grass roots, or any interested group.

ACTION RESEARCH IN RELATED SETTINGS

Action research can be applied to almost any setting and this section deals with a few examples related to the NHS. The first example is in road safety. An example given not because it is closely related to the current project, but because it demonstrates several features pertinent to the project as well as showing the breadth of application of action research.

The village of Starston in Norfolk was used as a "rat run" between two busy B roads. Traffic speed was identified as a problem and records over several months identified an average speed of 36mph. The intervention was to remove

all road signs and road markings and change the road surface to brownish grit (Horsnell 1998). The road speed fell to an average of 31mph, however the county headquarters ordered the road markings to be replaced and the road speed returned to the previous level.

Most components of action research were seen here. There was data collection, reflection on the problem, design of an intervention and data collection to assess effect. Withdrawal of the intervention demonstrated a temporal relationship with the measured outcome. In this study there was no statistical analysis to assess the degree to which the result could have occurred by chance and confounding variables were not discussed. Because the intervention was reversed there was no assessment of the lag effect to see if the effect of the intervention would have worn off with time. The reversal of the intervention also illustrated the problem that can arise if the researcher and initiator of the intervention were not sufficiently high up the management structure to maintain the intervention.

The nursing process

As discussed earlier most action research within the NHS, and reported in the literature, has taken place in nursing. Papers describe the potential for action research in nursing both at the level of organisational change for a ward and for an individual patient. Lauri (1982) described how an outside nursing consultant was introduced to facilitate improvements through group work, education, consultation and guidance and monitored the effect of this by observation. Although Lauri (1982) puts forward no concrete examples, she describes how the individual assessment of each patient by the nurses was similar to action research. Nurses, as part of the nursing process, gathered data on each patient and identified problems that were present. They set goals and planned nursing care to reach these goals. The patient's condition was monitored and the achievement of the nursing goals was reviewed. Then the plan and the nursing

goals were changed. This was described as action research with a single participant and a group of observers (Lauri 1982).

Elderly patient care

At a ward level Smith (1986) attempted to facilitate improvements in the quality of life for elderly patients in a 50-bed hospital ward. The researcher was appointed as a grant funded "project officer" and data was collected by observation of the ward, discussion with individuals, the setting up of meetings with the nursing staff and meetings with a steering group of senior medical, nursing and social work staff. The researcher identified two problems, which were the "deployment of nursing staff", with insufficient staff on day shifts, and the "system of decision making", with senior medical staff making decisions that seemed inappropriate to junior nursing staff. It was unclear from the paper if the problems were owned by participants in the ward work and if these problems were directly linked to the project aim of improving quality of patient life. Smith discussed why the problems existed along with the reasons why the participants did not undertake any change to resolve these problems. Unrealistic fears about the effect of change were one proposed reason. "A protected forum for discussion...of the difficulties experienced by staff" was proposed to resolve this. This could have formed the action component of the research, but the study ended at this point. There appeared to be a difficulty negotiating progress and further funding. The project may have progressed if a more achievable, specific, objective was identified and shared by all participants.

This study illustrates several of the difficulties faced by action research in the NHS. Although the abstract stated, "This paper describes an action research project" it did not complete the action research cycle; what Carr and Kemmis call 'arrested action research' because it "faltered before completing its development" (Carr and Kemmis 1986). The researcher did not have sufficient time, in eleven months, to establish herself in the research setting and facilitate change. Smith was also seen as an "intermediary" who would implement

change herself rather than a facilitator of change. This brought out the action researcher's dilemma of whether to be an observer, a facilitator or a full participant leader. In both this study and the study by Lauri (1982) the researchers were outsiders rather than full participants from the start. It appeared that clarification of the purpose of change and the identification and involvement of all key participants did not take place. Smith, as the participant researcher, had difficulty in trying to reach agreement to implement change. It was also unclear from the paper if the conclusions reached were the researcher's own reflections or related to statements made by the participants. There were no verbatim comments recorded and no discussion of the detail of written and verbal records made.

The data collection was biased towards the perspective of the nursing staff or givers of care rather than the patients as recipients of care. Since the aim of the study was to improve quality of life for the patients their perspective may have been more appropriate.

Psychiatric nursing

When change is actually achieved it can be difficult to determine which component of the action produced the change. This is particularly so when the actions are multiplied over a short time span. Paul Armitage (1991: 414) described a state of nursing care on psychiatric wards that was "custodial and outmoded with only minimal evidence of any rehabilitation". He put in place interventions to implement primary care nursing in two long-term psychiatric wards to improve the nursing care. Armitage (1991: 414) defined primary care nursing as "patient-centred with the accountability for care with individual nurses". Instead of a nurse being responsible for particular tasks in the ward the nurse would be responsible for particular patients and all tasks related to that patient. They would spend more time assessing the needs of the individual patient.

The action or intervention was to introduce a "nurse preceptor" to facilitate the changes (Armitage 1991: 414). Workshops, educational sessions, peer review groups and "quality circles" (where all staff could feedback opinion about the changes) were introduced. The two wards were merged and refurbished, a nurse information co-ordinator was introduced and ward cleaners became housekeepers involving the patients in ward cleaning. All this happened in six months and the authors themselves acknowledged, "the intervention was far more complex than the introduction of primary care nursing alone" (Armitage 1991: 421). Which intervention actually produced the change could not be determined. It could have been the ward redecoration alone for example. The effect of each intervention was assessed by observation of patient care and clinical meetings, nursing staff questionnaires, and asking residents about their satisfaction. A group of expert assessors and of peer assessors was convened and each group was asked to assess the wards before and after intervention using a checklist. The conclusions made were that after the interventions the "residents were more self sufficient and independent, the climate of care was more conducive to rehabilitation and the environment of both wards was said to have improved" (Armitage 1991: 420).

In this study by Armitage (1991) the action research cycle appeared to start at the point of the intervention rather than at the point of identifying the problem and the options on the action to resolve that problem. The solution of primary care nursing was already part of the intervention before anyone in the nursing team was involved in discussion. This may explain why the measures to assess the effectiveness of the intervention were diffuse, looking at all aspects of ward care. It also made the paper less clear and less structured than it might otherwise have been. This may be the reason why Armitage (1991: 420) had to "speculate on the reasons for the implementation not being more successful", when in reality a new system of nursing had been introduced and evaluated within only six months. To achieve this alone was a success within such a short time span.

This study by Armitage (1991) also illustrated the point that action research is an area in which qualitative and quantitative methodology merges. The researcher requires some expertise in each area to analyse all aspects of the emerging data. Armitage (1991) produced scores relating to nurse absenteeism, record analysis, satisfaction, and ward atmosphere. These are illustrated in bar charts representing the scores before and after intervention. This data was amenable to statistical analysis, but this was not attempted. The significance of the difference between the bars is unclear in the absence of standard deviation or confidence intervals (Armitage 1991).

Plan – do – study – act

Within the areas of medicine and medical management the term action research is seldom used but the principles are applied. In 1999 Simon Robbins, the Chief Executive of Camden and Islington, in his presentation at the 4th Joint Conference of Postgraduate Education described the cycle of "Plan, Do, Study, Act" with respect to life long learning in the NHS. The process was described and applied but not labelled as action research. The Plan Do Study Act cycle (PDSA) has been described as part of Continuous Quality Improvement for organisations (Berwick 1996, Todres and Macdonald 2002).

An example of larger scale action research in the health services research was the introduction of out of hours care in Denmark, again not labelled as action research. This was a change introduced in the region of Aarhus. The problem was the demand for 24 hour GP care. The action carried out by the government was to introduce a new system of centralised GP cover. The change was monitored and the effect was a fall in home visits and visits to out of hours centres (Oleson 1998). This approaches the concept of a large-scale action research project, but was not described as action research. There was no plan to repeat the cycle.

Single patients

On a smaller scale within medicine itself the treatment of individuals can be seen as a form of action research, in this case labelled the n=1 study. Here the effect of a medicine is known on a large scale but not for the individual patient. The setting for the action research is different with each individual. It is not known if that person will respond. The medication is given and the effect reviewed with a subjective measurement of asking how the patient feels, perhaps with a score, and sometimes with an objective measurement, such as peak flow recording in asthma. The medicine is then stopped and the effect reviewed. It is then restarted. If there is a response on each occasion it is restarted then it is likely that the medication works in this one individual. The evidence is not conclusive, but with every stop and start of medication that is associated with a clinical response the evidence of a genuine difference increases. This gives the research and action component. The reflection is by the medical practitioner and patient. Is the medication working? Will a different intervention in the form of another medicine or other form of treatment help? Each day every medical practitioner is carrying out this form of action research to a greater or lesser extent on almost every patient they see. It is when it is applied consistently and recorded in a structured way that it could become recognisable as action research. That is when there is adequate documentary evidence to convince a third person that the medication did indeed have an effect. This is an area for discussion as action research is usually perceived as participative, involving groups of people (Lewin 1946, Carr and Kemmis 1986, Hart and Bond 1995, Meyer 2000, Waterman et al. 2001). Some would argue that such studies involving one participant are case studies (Fish and Coles 1998, Golby and Parrott 1999). Nonetheless most components of the action research cycle- research, reflection on theory and action – can be seen in this clinical scenario of doctor and patient.

THE CYCLE OF ACTION RESEARCH IN SHO EDUCATION

Returning to the setting of medical education for SHOs in Portsmouth the situation lent itself to action research. There was a defined cohort of people within a local geographical area that was relatively fixed over time. A new post had been set up both to research problems in training and then develop interventions that would help resolve these problems. There was the opportunity to develop methods of data collection through regular questionnaires and interviews supported by regular contact with the population of doctors under study. Action research was the preferred method, although it had not previously been specifically described in the setting of medical education.

All descriptions of action research have the common theme, of researching the situation, designing an intervention and researching the effect of the intervention. Lewin (1952) describes the four stages of "planning, acting, observing and reflecting". From the existing body of literature a model for action research in SHO education was developed (figure 7).

This model of action research was applied to each problem in SHO training that was identified. Time, resources and outcome determined how far around the action research cycle each problem was taken, and if the cycle was repeated. Whatever stage was reached in the cycle it contributed towards the aims of this study. The first aim was to determine the current state of SHO training. This was achieved in the first part of the cycle, which examined training and identified problems in training. The second aim was to develop interventions in SHO training. This was achieved in the next part of the action research cycle, which was the design of interventions. Evaluation of the intervention, a further aim of the study, took place in the next part of the action research cycle. As each problem came to light a portfolio of interventions developed. The number of interventions applied depended on how many action research cycles were completed and on the success of the intervention.

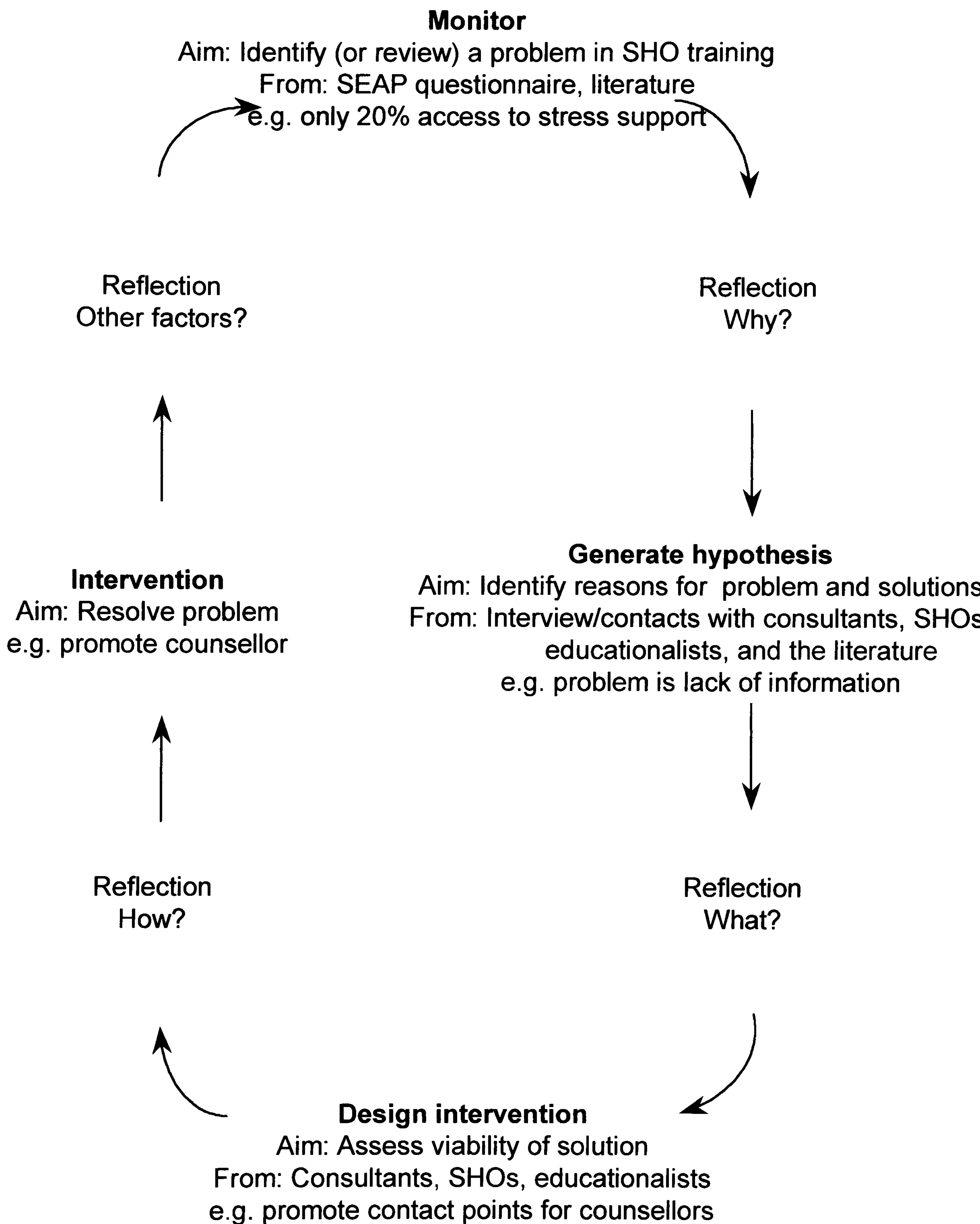


Figure 7 Action research in education

RESULTS STRUCTURE FOR ACTION RESEARCH

The literature did not show a consistent pattern for presentation of the results of action research and this is readdressed in the discussion section of this study. Most papers did not have each component of the action research cycle clear. In this study the "problem", "intervention" and "outcome" components are evident in the headings of each section. The reflexive component has been gathered together in "theory" sections after each problem is identified, and in "discussion" sections after each intervention. The "theory" section encapsulates reflection on why there is a problem, possible solutions and the design of an intervention. The "discussion" section looks at the effect of the intervention and gives an overview of the single action research cycle that has been completed.

SUMMARY

This chapter has looked at action research and its evolution from the social change settings of Lewin (1946), through the schoolroom settings of Carr and Kemmis (1986) to its more recent application within nursing education. Action research is seen as an appropriate approach to examine the effect of interventions in a local setting and assist planning of subsequent interventions; an approach which has parallels within the educational learning cycle and decision making in everyday life. An outline has been given for the application of action research within the setting of medical education for hospital doctors. The next chapters examine the specific qualitative and quantitative methods used within the application of action research in this setting of SHO education.

METHODS

CHAPTER 3

OVERVIEW OF METHODS

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The SHIP study

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Consent

Dependence

Management of risk

Dissemination

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INTRODUCTION

This chapter covers the setting, aims, objectives, a brief review of the methodology and those aspects that make this study original in the context of educational research. Finally the databases used and the ethical issues faced

by this study are described. The aims and objectives are purposely laid out as a list to give some clarity and enable easy reference.

Setting

The study took place in Portsmouth, a coastal city in Southern England with moderate levels of inner city deprivation. The Portsmouth city council reported a stable population of 190,000 in 2001. MORI market research organisations in 2001 showed gross annual household incomes in Portsmouth averaged £19,100. This ranked the city 338 out of 438 local authorities reviewed. Very low incomes, those below £9,500, were found in 23% of Portsmouth households, which was well above the 14% regional average for this income band. Two thirds of Portsmouth households were homeowners, one-fifth rented from the city council and 13% rented privately. Total applications for homelessness were around 2,000 annually in 2001. Portsmouth City was designated by the government as a Health Action Zone and attracted funding from the Social Regeneration Budget in 2001 because of pockets of poor health and deprivation.

The area was served by two district general hospitals which were 15 minutes travelling time apart. The vocational training scheme for general practice was based at one hospital, but the SHOs on the scheme worked in either hospital or the community clinics and a smaller psychiatric hospital in the area. At the time of the study there were four general practice rotations each of which ran over a two year period for the hospital components. This meant that an average of 16 SHOs were on the rotation at any one time. An approximately equal number of SHOs were putting together their own general practice rotation by applying for separate six-month posts as they arose. These were not included in the main part of the study as they declared themselves to course organisers late in each post and usually moved out of the area for their next post. In 1993 for the area of Wessex there was no record of the total number of SHOs, but by 1999 records had begun and showed a total of 778 SHOs of which 119 had declared

a career interest in general practice. At least 60 of these were on one of the nine vocational training schemes in the area.

The local department of general practice became a university department during the study. The personnel and roles in the department did not change over the period of the study. There was one Associate Director of GP education (formerly known as an Associate Adviser in general practice), and there were three course organisers who organised the education of general practice registrars during their one-year of training in the community. One course organiser (the author) was appointed to oversee the hospital training for general practice in 1993. There were nine specialities on the rotation and each had between two to seven consultants, two to four registrars and two to six SHOs. The consultants were responsible for the education of the SHOs and were accountable for this to Postgraduate Regional Dean for medical education. Hospital Trusts employed the consultants and their Chief Executive.

Aims and objectives of this study

The aims were:

- 1) To assess the standards of SHO education at two district general hospitals in Southern England from 1993 to 1999.
- 2) To describe the interventions available to improve the standard of SHO education.
- 3) To determine the effect of interventions in education on a cohort of SHOs training for general practice.
- 4) To demonstrate the use of action research in the discipline of medical education.
- 5) To develop options for a future model of SHO training.

The objectives were:

- 1) To develop an educational tool to monitor the standard of junior doctor education in the National Health Service.
 - a) To design, pilot, develop and evaluate a regular standardised questionnaire to monitor education of junior hospital doctors in the National Health Service.
 - b) To collect data on the education of SHOs with a chosen career in general practice who were training at the local hospitals.
- 2) To collect information on the range, potential effectiveness and context of use of interventions available to bring about improvements in education of junior doctors.
- 3) To describe the effectiveness of interventions introduced in the local hospitals using a cycle of research, theory and action.
- 4) To describe future models for training of SHOs for general practice.

SUMMARY OF METHODS

The approach chosen, to determine the standard of SHO education, identify problems and assess the effect of interventions, was a combination of qualitative and quantitative methods. Problems were identified and confirmed using these methods then interventions were designed and applied. The effect of each intervention was assessed using the same research methods before moving on to the next identified problem and intervention. The study design was therefore open, with comparative data before and after interventions, and recording of confounding factors that could affect outcome.

The main quantitative method applied was the design, assessment and application of a standardised questionnaire given to the SHO towards the end of each hospital post. Short questionnaires were also used to assess specific problems in more depth and provide more focused information on the effect of an intervention. Qualitative methods included regular focus groups, an ongoing field diary and interviews.

The questionnaire became known as the SHO Educational Audit Project (SEAP) questionnaire because it also audited education against prescribed standards set by the Wessex Deanery. The SEAP questionnaire allowed comparison between posts and within each post over time. It was applied every six months to every SHO on the GP vocational training scheme. It was piloted, developed and then assessed for validity and reliability. The SEAP questionnaire consisted of 52 questions that were category or scale responses with space for comments. The questionnaire is described in more detail in chapter 5 and results relating to the questionnaire are outlined in chapter 6. The focus groups consisted of a meeting of SHOs that was convened every month with the researcher acting as facilitator. Written records of verbatim statements were made and conclusions were shared and agreed after being written up on flip charts. Issues faced by the SHOs were discussed over 15 minutes to 30 minutes before a regular teaching session took place. The application of focus groups is discussed in more depth in chapter 4. The field diary recorded brief verbal feedback, transcripts from flip chart records, observations, reflection about each intervention and suggestions for interventions. It therefore acted as a factual record and reflective diary. Like the other qualitative methods this is described further in chapter 4. When particular problems arose SHOs or consultants were either interviewed to gather additional information or sent specifically designed question sheets or convened as a focus group to discuss the problem and solutions. All SHOs in one cohort in 1997 were interviewed using a semi-structured approach with tape recording followed by transcription and analysis as described in chapter 4. Thus there was a continual system of data collection for SHO training, which provided data before and after each intervention was applied (figure 8). This system was then augmented by additional interview or questionnaire data that focused on the specific intervention.

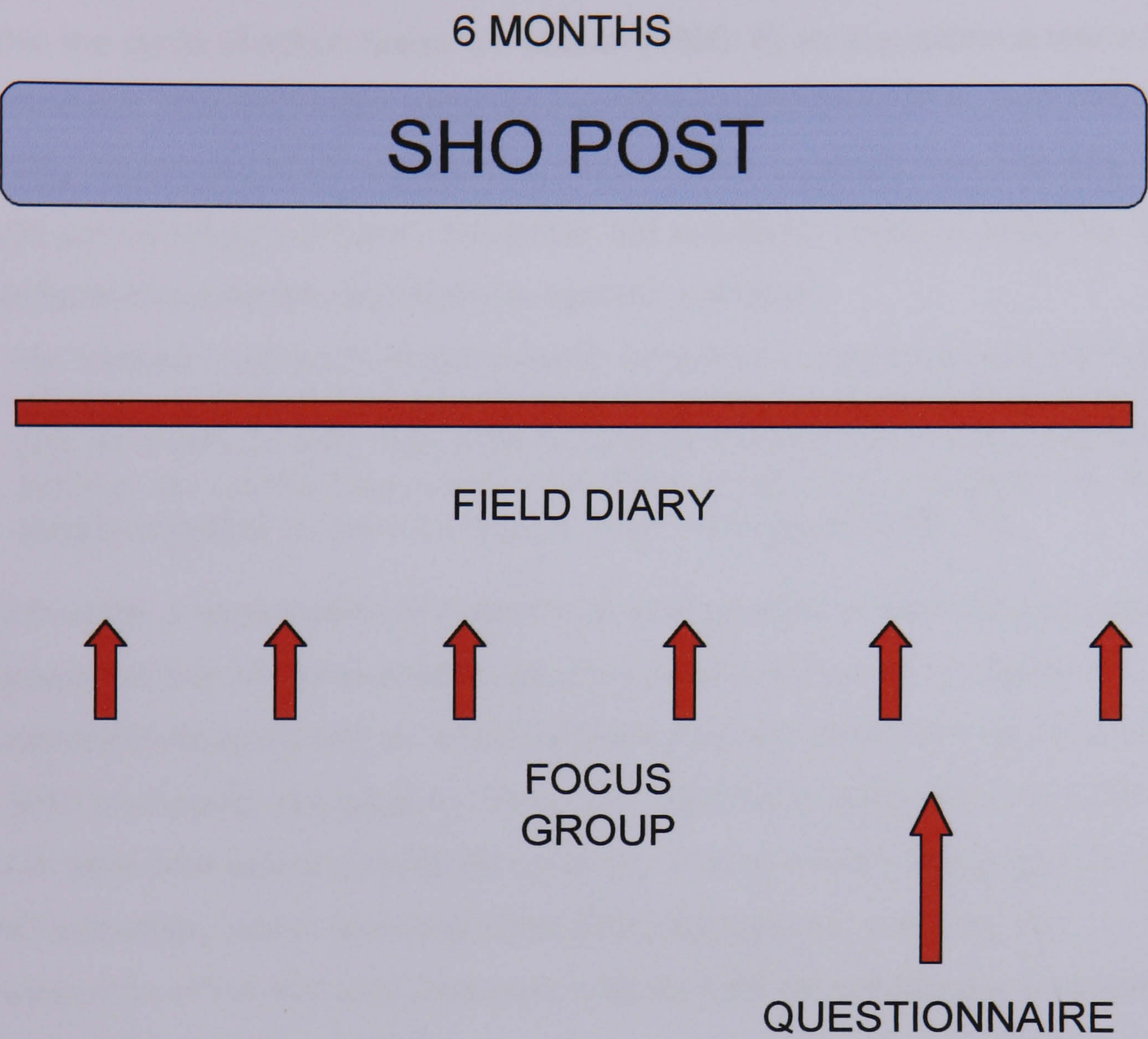


Figure 8 Monitoring system for SHO posts at Portsmouth

Combining qualitative and quantitative research

This study therefore used a combination of research methods, drawn together within the cycle of action research. Mason (1996: 6) as a qualitative researcher pointed out, “the distinction between quantitative and qualitative methods is not entirely clear-cut and all researchers need to think carefully how and why they might combine any methods”. Silverman subsequently stated in 2000 the “whole qualitative/quantitative dichotomy is open to question”.

He “viewed most such dichotomies or polarities in social science as highly dangerous. At best they are pedagogic devices for students to obtain a first grip on a difficult field: they help us to learn the jargon. At worst they are excuses for not thinking, which assembles groups of sociologists into armed camps unwilling to learn from each other” (Silverman 2000: 11).

In this study a combination of quantitative and qualitative methods was used because neither alone seemed to access all the information available. Questionnaires even with an open comments section did not cover all aspects of SHO training or new aspects that arose. Interviews, discussion and field notes were time intensive and did not allow a rapid overall measurement of SHO education, which was needed to allow comparison over time. A combination of the two was chosen to provide both an overview and adaptability of data collection (figure 8).

As Golby and Parrott (1999: 49) stated, an “interpretivist approach to research does not preclude the use of quantitative or statistical data where it is appropriate”. Equally, qualitative methods were seen to enhance the conclusions drawn from the quantitative elements of the studies (Black 1994). In the 1990s there were an increasing number of examples of qualitative and quantitative research being carried out in the same setting and, in particular, within the setting of health service research.

The SHIP study

One example to illustrate the issue is the ‘SHIP’ study by Jolly et al. (1999). The Southampton Heart Integrated Care Project (SHIP) used quantitative methods

to assess the effect of the introduction of a specialist liaison nurse to improve the follow up of patients who had a myocardial infarction or angina (Jolly et al. 1999). General practices were randomised to receive contact with a specialist liaison nurse to co-ordinate follow up and communication or to be in a control group with no intervention. Sixty-seven practices in Southampton and South West Hampshire took part. The number of participants was 597 with a follow up of 502 (90%). Outcome measures included cholesterol level, blood pressure, distance walked in ten minutes, smoking cessation and BMI at one year. There was no difference in outcome measures, although follow up by the practice nurse and in rehabilitation classes did increase. One of the authors, Professor Ann-Louise Kinmonth, discussed the reasons for a failure to demonstrate any improvement in outcome measures when presenting the study at the Wessex Research Network annual conference in 1999. Parallel qualitative studies had shown that patient's perception of the severity of their illness had contributed to their approach to self-care. Participants felt that severe myocardial infarctions were those that lead to death and that as they had survived they must have had a mild myocardial infarction. Doctors tended to reassure patients to encourage return to full activity and this reinforced the opinion that the myocardial infarction was "mild". With a "mild" illness there was less incentive to change behaviour. The qualitative research suggested reasons why there was no change in outcome detected by the quantitative arm of the study.

This illustrates two points. Firstly the quantitative research alone did not explain the outcome and needed the qualitative method to explore the reason that no change was detected. Secondly it is possible that a smaller scale action research project could have identified this issue prior to the larger quantitative study and fed into the design of the intervention of the specialist liaison nurse.

OVERVIEW OF METHODOLOGY

As described in the previous chapter on action research, the principles applied in this study developed from the setting in 1993 as an approach to research on change. The crude structure that arose was refined by the literature on educational theory, social research and behavioural change, in particular the work previously done by Eraut (1994) and Schön (1987) on learning theories, the descriptions of action research by Lewin (1946), Carr and Kemmis (1986), Hart and Bond (1995), and the interventional research by Oxman et al. (1995). Although interpretivist in nature, this study was at the technical or rational end of the interpretivist spectrum (Hart and Bond 1995). This resulted both from the researcher's background of medical training and from the ethos that existed in the positivist discipline of medicine in the 1990s. This was a time when the general population and therefore its government wanted medical certainty so the emphasis was on facts and figures. Counting, even with small total numbers, had a greater influence than observations. The positivist elements of this study included the technical approach of a structured questionnaire and the comparison of data over time.

Although the emphasis within the discipline of medical science was positivist those teaching medicine had to face the reality of uncertainty and the variation between individual patients. Within the discipline of medical education the co-existence of positivist and interpretivist approaches was more acceptable. Medical education lay at the interface between the black and white factual knowledge of medical technology and the reality of uncertainty, where doctors working at the limits of medical knowledge were dependant on intuition and guesswork.

The specific action research model that was applied linked research about the SHO posts with theory on the ways to enhance the post, followed by application of an intervention to improve the post and then research on the effect of the intervention. The methods used and the times of application are outlined in

table 9. The methods are discussed in more depth in the subsequent chapters 4 and 5.

Date	Method	Topic
1993-1994	Pilot questionnaires	SHO post
1993 - six monthly	Questionnaire application	SHO post
1993 - continuous	Field diary	SHO post
1993 - monthly	Focus group discussion	SHO post
1996	Focus group discussion	Interventions
1997	Interviews	SHO post
1994-1996	Action research cycle	Appraisal
1996-1999	Action research cycle	Teaching
1996-1998	Action research cycle	Attendance
1997-1999	Action research cycle	GP trainer contact
1997-1999	Action research cycle	Induction
1999	Focus group	Future SHO posts

Table 9 Chronology of research applied and the associated topics

Two case studies

This study originated from the practical need to determine the effect of action taken by a scheme organiser and can be viewed as one or more case studies. Both Golby and Parrott (1999) and Fish and Coles (1998) have outlined the use of case studies. Case studies are examples of practice and can act as a source of information and theory for others applying similar practice. They are a way of passing on information about professional learning that is too complex and detailed to break down into component facts. As Golby and Parrott (1999: 7)

state, "What the skills account of practice cannot find room for is how learners learn when to employ their skills and how to vary them according to circumstances". This has been described as professional learning (Schön 1983, Schön 1987, Fish 1997, Fish and Coles 1998). Case studies are a way of passing on this information and building on practice.

"A practice is more than the aggregation of skilled performances of individual practitioners. It is a living tradition. It evolves over time. It is, so to speak, the language of conduct of individual practitioners" (Golby and Parrott 1999: 9).

This study is primarily a case study of the effect of a designated scheme organiser on one vocational training scheme over a six-year period. However, above all, it is a case study of the application of action research within medical education. These aspects are addressed in more depth in the discussion chapters.

Extraction of literature – databases

The main medical database used in this study was Medline accessed via the OVID system. MESH headings were initially used with examination of the associated tree and application of explode and focus options. Because the MESH indexing with the use of subheadings can miss up to 50% of relevant articles text-words were also used as the basis of literature searches (table 10) (Greenhalgh 1997a).

Topic	Medline Keyword	Medline MESH	CINAHL Keyword	CINAHL MESH
Action Research	Action Research (284)	Health Services Research	Action Research (577)	Action Research
Professional Learning	Professional Education / Learning	Professional Education	Professional Education / Learning	Professional Development
SHO Education	Education Senior House Officer (54)	Education Medical (6784)	Education Senior House Officer (15)	Education
Appraisal	Appraisal	Employee Performance Appraisal	Appraisal	Student Performance Appraisal
Teaching Attendance	Teaching Attendance	Teaching	Teaching Attendance	Teaching
Induction	Teaching Induction	None	Induction	None
Educational Supervisor	Educational Supervisor	None	Teaching Supervisor	Supervision and Supervisors
Apprentice	Apprentice	Vocational Education	Apprentice	None
Attendance	Attendance	None	Attendance	None

Table 10 Examples of keywords and subject headings

Other databases that were visited included the CINAHL for nursing and allied health care, DHData for Department of Health research on health service administration, ERIC for education, the TIMELIT Dundee search site for education, Psychinfo for psychology and EMBASE for psychology. All databases tended to concentrate on articles in journals so overlooked whole book references.

Most articles and book references were found by "daisy chaining" back from the bibliography of relevant articles (table 11). Experts in the relevant fields were a source of references and a subscription was maintained with Education for General Practice (Association of Course Organisers), Medical Teacher (Association of Medical Education of Europe), the British Journal of General Practice and the British Medical Journal.

Journal	Number	Topics
British Medical Journal	63	Medicine and Education
Books	51	Psychology, Interventions, Research Methods, Learning Theory
Reports	39	Committee Proceedings, Policy Statements
BMJ Careers	16	Career and Education
British Journal of General Practice	10	General Practice
Education for General Practice	9	Education
Journal of the American Medical Association	6	Medicine and Education
Journal of the Royal College of Physicians of London	8	Education, Medicine
Other Medical Journals	10	General Practice, Education, Working Conditions
Nursing Journals	8	Action Research, Interventions, Education
Management Journals	5	Organisational Development

Table 11 Breakdown of articles referenced by journal and predominant topic

ETHICAL ISSUES

In this study there were specific ethical issues over consent to participate and the management of risk, and these are discussed here.

"...the well-being of the human subject should take precedence over the interests of science and society" - Helsinki Declaration (World Medical Association 1964: 1).

Research ethics committees, founded in the 1960s, were originally designed for NHS patient research only, however this study was taking place on NHS premises so it was within the remit of the Local Research Ethics Committee (it could be argued that all the United Kingdom population will be NHS patients at some point) (NHSME 1997). The project was discussed with the chairperson of the Local Research Ethics Committee and ethical approval was confirmed. It was pointed out that formal ethical approval was not absolutely necessary as the work was part of normal clinical practice. The planned interventions were likely to have been put in place whether or not the research project existed. It was possible that another committee would have requested a more formal review of the study if they had taken the viewpoint that the questionnaires and interviews were additional to normal working practice.

There were several other ethical issues in favour of the project having ethical approval. The research project was more likely to enhance care than cause harm for the SHOs. The research component involved collection of data to determine if change had actually taken place. If change had taken place further unnecessary interventions would be prevented. If change had not taken place the study would identify the need for further intervention. The study also aimed to disseminate information on effective interventions, which would benefit SHOs in other hospitals. Subsequently, at the end of this study, further guidance was proposed by the Department of Health, which would have required additional ethical committee approval for this study had it been in place in 1996.

Consent

Consent was obtained for procedures that were additional to those likely to have taken place if the research project did not exist. This mainly related to interviews and records of verbal statements. Verbal consent was obtained for both and written consent was obtained for interviews. For verbatim quotes, subjects were asked if their "words could be used anonymously and quoted as part of a study on improving SHO posts". With respect to questionnaires,

consent was not obtained each time they were used, however the covering letter explained the use of the data and how it was anonymised.

Dependence

The Medical Research Council points out that researchers must be cautious if in a dependent relationship to him or her, as subjects may consent under duress (Medical Research Council 1998). SHOs may have seen themselves as dependant on the researcher for future patronage as he was also their course organiser and might be asked for a reference. However, in practice, SHOs were more dependent on their GP trainer who was normally expected to provide the references for future employers and had more day-to-day contact. It is also possible that some SHOs may have felt they had no choice but to participate in the study and they may have been concerned that the data might be used against them. None expressed this as a concern during the study.

Management of risk

The 'management of risk' is the issue of how problems arising as a result of the study are managed. Although there was no direct effect on health, there was a potential risk to a SHOs career if their responses made were public. For example, if results from a project were attributed to one SHO, their consultant might then have overtly or subconsciously persecuted that SHO. This was one of the reasons why cumulative data over a series of posts was used and why questionnaires were anonymised. Also in this setting future job references were written by the GP trainer rather than the consultant in post, so there was less likely to be fewer long term consequences for each SHO. In the event of accidental disclosure, the SHOs were advised to contact the course organiser or Associate Director of GP education who would visit those directly affected by the disclosure.

Dissemination

There were issues around dissemination of research. There was potential for harm if the conclusions criticised specific SHO posts and implicitly criticised those consultants who were in charge of the post. Consultants may become disillusioned and withdraw from the training scheme. Publicising positive improvements may be preferable to negative criticisms of failure to improve. Delaying publication until improvement could be said to have taken place was an option. Those currently in post might then be able to distance themselves from the conclusions and hopefully still address any remaining issues. To withhold publication was an option, but it could be deemed ethically incorrect to withhold research that may be of benefit to others and already had time invested in it by participants.

Finally there are issues relating to the interests of the researcher. In her discussion of ethics Mason (1996) pointed out that there are personal, moral and political issues to consider when undertaking a degree. The degree may be used just to advance the researcher's own career or to justify a particular viewpoint. For this study the achievement of a higher degree and some standing in the discipline was relevant but not overriding as it was not essential to a continuing career in general practice, and it could only support a parallel career in academic medicine or education. The particular viewpoint that might be promoted by this study was the need for improved education of doctors and the political pressure that might result from research showing this to be an issue. Research already showed a problem so further publication may not have had a dramatic effect. Unlike previous studies this study attempted to look at how to resolve the problem rather than just highlighting it.

In summary there were ethical issues that were considered throughout the study and it is hoped that a practical balance has been made between divulging results and benefit to the participants.

Originality

There were features in the aims and objectives of this study that made this work distinct from previous studies in the area of medical education.

Previous studies had only taken a snapshot of the situation or returned to the posts after an interval of years (Bowman and Reeve 1989, Crawley and Levin 1990, Kearley 1990, Baker and Sprackling 1994, Little 1994, Paice and West 1994, Styles et al. 1994, Ilott and Allen 1996, Baldwin et al. 1997). This study aimed to continuously monitor posts and to follow each new doctor through the rotation.

It was planned as a demonstration of a practical, simple, cost effective (both in terms of labour and finance) system to monitor education that could be applied to other training schemes and hospitals in England or other countries with similar systems for medical education.

There was no previous list of interventions that could be used to improve the education of hospital doctors. Each Associate Director of GP education was making decisions from experience, but had not had the opportunity to share their knowledge. This study aimed to bring together the range of available interventions. In addition there had been no previous attempt to consider the relative effectiveness of interventions to improve education or the features which contribute to the effectiveness of an intervention.

Action research had not been applied in the field of medical education before and this study aimed to introduce the concept in a way that the process could be repeated in similar settings. It was a case study of action research in the discipline of medicine and medical education.

The recommendations for improvements on training and future models for training that would arise from this study had the potential to feed into proposals for a National Health Service policy on SHO training.

This chapter has attempted to provide an overview of the study, the methods used and the aims. The next chapters now look at the specific methods applied.

METHODS

CHAPTER 4

QUALITATIVE SOURCES OF DATA

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SUMMARY

INTRODUCTION

The qualitative component of this study involves participant observation with the use of a reflective diary, focus groups and interviews. These methods are described in this chapter, along with discussion about the context of qualitative research, the effect of the researcher's inherent subjectivity and the transferability of the results.

QUALITATIVE METHODS

Decisions about the standard of SHO training up until 1993 were being made on the basis of anecdotal comments by the SHOs themselves and by the doctors who took part in their training. These comments arose during conversations at meetings, or on a one to one basis. The approach was informal with no written record of what was said. The data was not collected in a systematic manner that could be reviewed by others and critically assessed. The introduction of qualitative methods was a logical step in the process of monitoring SHO education. These methods also allowed more in depth exploration of new problems as they arose. Quantitative methods such as questionnaires provided an overview and comparison, but could not provide the detail and adapt to the setting in the same way that qualitative methods could.

Qualitative research in medicine

The context of this study was the discipline of medicine and this introduced an additional aspect to the application of qualitative research, because quantitative studies had predominated in the medical literature. Standard medical journals included in the Abridged Index Medicus such as the "British Medical Journal", "Lancet" and "New England Journal of Medicine" had published few or no qualitative studies until the early 1990s, when there was an increase in the number of qualitative articles. A Medline search of the year 1997 revealed that only 136 articles were published with qualitative research in the title or abstract. For the year of 1987, a decade earlier, the same search revealed no articles.

Bryman (1988) stated that the debates on the whole research field of qualitative data emerged in the 1960s and qualitative journals and textbooks on methodology appeared in the 1970s.

Qualitative papers seemed out of place in journals representing the discipline of medicine, which traded on short articles with key points of information. By 1998 there was a shorter form of qualitative paper emerging, of which one example is the paper by Granier et al. (1998), published in the "British Medical Journal".

The topic was meningitis treatment. The topic is relevant here only in the fact that it is familiar to almost all doctors and therefore transferable to a large number of readers. Eighty-three cases of meningitis were identified in two hospitals over a two-year period. A purposive sample was selected and all general practitioners who referred these patients were interviewed. Interviews were semi structured and transcribed word for word. Clinical information was verified using hospital records and another researcher read the transcripts and listened to the interviews.

Rather than the topic, it was the layout that was of interest. In this respect, the article was almost indistinguishable from other quantitative articles in the journal. There was an abstract, introduction, methods, results and discussion section with a key messages box. Paragraphs were short and the discussion brought out five common clinical rules. These clinical rules in the discussion were mirrored by the results section, which had a paragraph for each rule. The study did not mention categories, codes and themes in detail, which could have been considered as essential by qualitative researchers. However, these terms may have confused the reader who was unfamiliar with them. They were also less crucial because the steps to the conclusions and the themes were implicit in the paragraph structure. This study had a feel of realism and clinical relevance about it, which was not apparent with quantitative studies on similar subjects. The clinical rules drawn out by the study were known to individual doctors, but it had not previously been possible to express them in quantitative terms.

This article went a step further forward because it successfully brought the concept of qualitative research into a quantitative journal. It is punchy and to the point. The results were transferable in the setting described and in the individual reader's experience. This style of writing qualitative research may appeal to quantitative researchers, but many qualitative researchers feel uneasy about the quantitative treatments of interview transcripts (Bryman 1988).

In either case this article illustrated the problem of applying qualitative methods (and particularly action research) in the setting of the discipline of medicine – a discipline instilled with the traditions of scientific reasoning and numbers. As Professor Nick Black is quoted as saying:

“most of us are prepared to accept uncritically simplified, reductionist and blatantly incorrect statements so long as they contain at least one number” (Greenhalgh 1997a: 740).

Qualitative research can generate numbers in terms of frequency of response in a category, but these have little purpose when each individual's perspective is a valid interpretation irrespective of the frequency with which it arises. There is no confidence interval in qualitative research as each individual is confident of the perspective they hold. To critically assess qualitative methods requires a different, numbers free approach. However, as Trisha Greenhalgh pointed out,

"the critical appraisal of qualitative research is a relatively underdeveloped science" (Greenhalgh 1997a: 743).

Assessing qualitative research

Greenhalgh posed nine questions, which she stated should be addressed in any qualitative research (Greenhalgh 1997a: 741-742).

- 1) Did the research describe an important clinical problem addressed via a clearly formulated question?
- 2) Was a qualitative approach appropriate?
- 3) How were the settings and subjects selected?
- 4) What was the researcher's perspective and had this been taken into account?

- 5) What methods did the researcher use for collecting data and were these described in enough detail?
- 6) What methods did the researcher use to analyse the data – and what quality control measures were implemented?
- 7) Were the results credible, and if so, were they clinically important?
- 8) What conclusions were drawn and were they justified by the results?
- 9) Were the findings of the study transferable to other clinical settings?

Another set of criteria proposed by Hammersley was described as "relativistic criteria for quality". They were: consistency of theoretical claims with the empirical data collected; credibility of the account to those studied and to readers; extent to which the description of the culture of the setting provides a basis for competent performance in the culture studied; extent to which the findings are transferable to other settings; reflexivity of the account – that is the degree to which the effects of the research strategies on the findings are assessed or the amount of information about the research process that is provided to the readers (Hammersley 1983). This study has attempted to address the nine questions put forward by Greenhalgh and the criteria proposed by Hammersley and this is discussed further in the results and discussion sections.

Transferability

An issue is how far the results from this study, and its qualitative methods, will apply to other settings. Will it generate generalisable rules that predict outcome in similar settings or will it produce principles that can be transferred elsewhere in the hope of producing similar results? Mays and Pope (2000) point out that it is naïve to expect the results to be generalisable:

"Antirealists argue that qualitative research represents a distinctive paradigm and as such it cannot and should not be judged by conventional methods of validity, generalisability and reliability. At its core, this position rejects naïve realism - a belief that there is a single unequivocal social reality or truth which is entirely independent of the researcher and of the research process; instead there are multiple

perspectives of the world that are created and constructed in the research process" (Mays and Pope 2000: 50).

The results of this study had the potential to be transferable to other similar settings. There were other vocational training schemes in general practice in the United Kingdom. Vocational training also took place in other countries that have a primary care system using doctors, examples being Europe, Australia, China and Africa.

The length of training in the hospital varied with each country, but almost all had some hospital training. All these training schemes faced the same issue of trying to improve hospital training, so that they provided a better education that was more focused on the needs of the community doctors.

The word transferable is used instead of generalisable, because if exactly the same actions are applied elsewhere it is unlikely that exactly the same outcomes will result. Indeed even in the same geographical setting different outcomes are likely because the setting of personalities, attitudes and working environment will not be the same.

The interventions may be transferable, but the direction of change may not be the same so local research will need to be carried out to assess this. The model of monitoring SHO education and of action research to assess the effect of the intervention is potentially transferable. The hypotheses and principles that arise from the research may also have wider application and some element of generalisability. Jennifer Mason (1996: 7) illustrates this with the statement that "qualitative research should produce social explanations which are generalisable in some way, or which have wider resonance". Mason (1996: 7) did "not think it was sufficient for a researcher to say that they wish to simply describe something", instead she felt that "qualitative research produces explanations to intellectual puzzles".

This study has also focused on one aspect of the SHO. It does not produce an overall picture of the life of an SHO, a point illustrated by Bryman (1988) who uses the example of Ball in his 1984 study of a comprehensive school. This

focused on the academic side rather than the pastoral and extra curricular work of the pupils and critics argued he had concentrated on one aspect at the detriment of other areas (Bryman 1988: 73). In this study the emphasis was specifically on the educational content of SHO training. The scope of this research has not expanded into the whole personality of the SHO, their lifestyle and his or her beliefs and values.

THE REFLECTIVE DIARY

A record of observations made by both the researcher and by other participants in the study was required. These were held within a dated diary, which also acted as a record of ideas about the observations. In addition, the process of writing the diary encouraged reflection and the development of theories. This record was a reflective diary.

Reflection has been described as an implicit part of learning and behaviour change (Schön 1983, Kolb 1984, Atkins and Murphy 1993). It is also considered part of the action research cycle (Wilson-Thomas 1997). Schön (1983) was one of the first to analyse the process of reflection and coined the terms reflection on action and reflection in action. Reflection on action was a conscious process, whilst reflection in action occurred during practice and influenced the decisions being made in practice (Schön 1983). Schön (1987) and others have since built on these concepts (Eraut 1994, Rolfe et al. 2001). Fish and Coles (1998: 68) describe reflection as “careful consideration of one’s own practice by means of systematic critical enquiry” which “aims at better understanding of practice, and involves standing back”. The core components are summarised as an internal examination, triggered by an experience and resulting in a changed perspective or learning (Atkins and Murphy 1993: 1189). Fish and Coles (1998) gave examples of this when they described “case studies” which were written reflection on “critical incidents” that then led onto the development of personal theories. Atkins and Murphy (1993) reviewed the literature on reflection and

concluded there were three main stages in reflection, which were awareness of uncertainty, critical analysis and then development of a new perspective.

The content of a reflective diary

Part of reflection is a record of events, observations and thoughts within field notes. It is stated that, "writing about experiences in the form of a diary may be a useful tool for studying reflection because it may enable practitioners to make explicit the knowledge that is implicit in their actions" (Atkins and Murphy 1993: 1191). However, Emden (1991) pointed out that there is a diversity of ideas about field notes with no one right way to observe and reflect so field notes are often highly individual. Notes may be completed at the scene or some time later. Immediate notes have the benefit of more accurate recording of events or comments with a record of the researcher's own feelings (Robson 1993). A delay in writing allows more time for reflection and crystallisation of ideas about the events.

Spradley (1980) identifies three principles for field diaries. The "language identification principle", that the role of the person using the language is stated e.g. doctor, nurse or patient. The "verbatim principle", that it is better to make a verbatim record of what people say rather than restate or summarise it. The "concrete principle", that concrete wording rather than abstract generalisation should be used, for example what you see, hear, taste, smell or feel.

Holly (1984) describes three types of field notes, which are logs, diaries and journals. Logs are structured and factual, diaries are unstructured and personal, and journals serve the purposes of both. The reflective diary used in this study contained factual components as well as personal observations and by Holly's definition could be defined as a journal.

Holly also described several types of writing within the journal:

- Journalistic: recording events and circumstances factually.
- Analytic: focusing on component parts of a topic.
- Ethnographic: recording observations by the observer.

- Creative-therapeutic: which is spontaneous and free flowing comment.
- Introspective: which challenges the observer's thoughts and behaviour.

The reflective diary in this study included most of these forms of writing and was closest to that described by Hart and Bond (1995: 201):

“a place to deposit emergent facts, a wall to bounce ideas against (dialogue with self), an aide-mémoire, a running record of events, a linking mechanism for ideas, including those from the literature”.

The diary used in this study recorded the date of an event and where possible the verbatim comments made. It was written after the event when there was access to a keyboard, within 24 hours (Robson 1993). Handwritten notes were made at the time and transcribed onto a Microsoft word document. Ideas, including concepts and possible causes of problems and their solutions to issues, were written into the text with bracketed initials signifying their source. Comments were assigned to named individuals when written in the diary, but any quotations in the thesis were made with reference to the individual's role only. This enabled searching for the quotation with some provision of confidentiality. The diary was kept on a personal computer isolated from any computer network and with password access.

The location of reflection

Although reflection and the development of theory is part of the action research cycle there is minimal discussion in the literature about where the reflective component of action research should be placed. It may be overt or enmeshed in the discussion section. In this study both methods were used. Reflection was placed in the 'theory' sections of each results chapter and in 'overview' sections, which come at the end of completed action research cycles. Each results chapter ends with a discussion section, which contains reflection relating to the whole results topic.

FOCUS GROUPS

“Focus groups are a form of group interview that capitalises on communication between research participants in order to generate data” (Kitzinger 1995: 299). The recipients of education and key participants in this study were the SHOs and a meeting was set up with all SHOs every month, over the whole period of the study. The meetings took place in protected time away from the workplace in the local postgraduate centre. Like other focus groups, they constituted an average of six to ten participants of similar background with a moderator, who was the researcher (Morgan and Krueger 1998, Fern 2001).

The incentive to attend these meetings included both the opportunity to meet as a group to discuss issues facing them and the provision of education related to their future career in general practice. The beginning of each meeting was set aside for discussion about the SHO training and was the core of the focus group where most data was generated. This was advertised as the "senior house officer soapbox" period.

The objective of these groups was to help SHOs explore and clarify their views (Kitzinger 1995). It was intended to identify what problems the SHOs faced, to determine if these problems were universal to the SHOs, to generate possible solutions, to start planning an agreed solution and, at a subsequent meeting, assess the affect of these solutions (Morgan and Krueger 1998, Barbour and Kitzinger 1999). Focus groups are noted to assist the study of organisational change and facilitate change (Barbour and Kitzinger 1999).

The planning, format, and data collection were similar for each meeting and followed the outlines seen in other focus groups (Kitzinger 1995, Morgan and Krueger 1998, Gantley et al. 1999). Participants were seated in a circle to encourage equal participation. The focus group opened with each person introducing themselves to the group. They stated their name and current SHO post speciality. To encourage subsequent interaction and help participants feel more comfortable in the group, SHOs were encouraged to mention something

else such as a recent event, hobby or other non-work related activity (Morgan and Krueger 1998).

After this opening question the researcher moved onto introductory questions where the SHOs were asked if they wished to bring up any points relating to their training or had issues to raise. Questions such as "how is your post" or "are there any problems?" were used. The researcher, as facilitator, would go round the group offering the option to speak.

This was followed by transitional questions where specific issues relating to SHO training were then brought up by the researcher. Questions such as "what do you think about...?" or "have you any comments on...?" were used.

Questions were intended to be neutral and allow statements from SHOs to emerge rather than express the viewpoint of the researcher. Disagreements within the group were identified and explored to clarify the issues and help develop a consensus (Kitzinger 1995).

If the key questions had not yet arisen in the discussion these were then brought up (Morgan and Krueger 1998). These included questions such as "what is the problem in...?", or "how do you think this problem could be resolved?". At the end of the focus group session there was opportunity for "any other questions?" and then the conclusions were summarised verbally to check all members of the group were in agreement (Morgan and Krueger 1998).

The discussion in these groups was usually shorter than recorded in other focus groups, which may last for two hours or more (Kitzinger 1995, Morgan and Krueger 1998). Whilst the whole meeting ran for three hours, it was usually only the initial 30 minutes that was spent working as a focus group. There was room to expand the discussion when necessary and participants often followed up comments throughout the rest of the educational meeting. The cumulative total of focus group discussion over each year was approximately six hours.

This study was unusual in that it used focus groups over a longitudinal period of six years (Barbour and Kitzinger 1999).

The researcher aimed to listen to the discussion within the group and facilitate it rather than dominate the topic, the aim being to minimise the influence of the researcher on the group's conclusions (Fern 2001). Comments were recorded verbatim on a flip chart with the opportunity for the participants to correct the statements and build on the comments (Morgan and Krueger 1998).

Handwritten notes were also made of comments when the chart was not appropriate or in use for another task. After the sessions, entries in the reflective diary were made and linked to comments transcribed from the flip chart or handwritten notes. Additional entries were made by the researcher, which described personal observations, feelings and ideas arising from the discussions.

Meetings with those involved in the provision of SHO education also took place on a more infrequent basis. Three times a year the local course organisers met and there were four meetings a year for course organisers in the Wessex region. Items for discussion were tabled for these meetings. There were also meetings with other educationalists and consultants. At these, flip charts were not usually used, only handwritten notes. Although they constituted focus groups the format of the meetings varied, because the researcher was not always the facilitator.

The researcher aimed to report statements in a neutral, factual manner throughout and tried to avoid influencing any statement arising from these groups (Fern 2001). Where prior statements were made by the researcher these were noted in the record made. However the researcher was also a participant so some contribution to the group's conclusions was likely. As Jennifer Mason (1996: 64) stated "the notion of researcher distance or neutrality is not only impossible, but it defeats the epistemological purpose of immersing yourself in a setting".

Where specific quotes were recorded by participant's, verbal consent for use was obtained. The data from each meeting then constituted quotes, handwritten notes, flip chart comments, and the "memory base" of the researcher. After each

meeting the researcher transferred key data into the reflective diary adding observations on the group process and recording additional ideas or theory that arose.

INTERVIEWS

Interviews supplement information from focus groups (Barbour and Kitzinger 1999). They allow individuals who may not participate in the group discussion to express their opinions and allow follow up of issues that arose from the focus groups (Barbour and Kitzinger 1999). From a practical perspective interviews were easier to arrange than ad hoc focus groups, because only two individuals were involved.

Interviews were used to explore the validity of the SEAP questionnaire, to generate hypotheses on the causes of problems in SHO training, and to assess the effectiveness of interventions in training. There were two broad approaches to interviews. One approach was a semi-structured interview of about an hour duration, which was then recorded, transcribed and analysed (Robson 1993, Britten 1995, Smith et al. 1986, Mason 1996). These interviews looked at overall SHO training and the content of the SEAP questionnaire. The other approach taken was to use brief interviews of around ten minutes duration, which had less structure and aimed to record the individual's comments on the specific situation, problems, solution or the outcome of an intervention. Statements were written down verbatim as spoken or immediately afterwards (Robson 1993).

The content of interviews

The majority of semi-structured interviews took place in 1997. They aimed to cover all aspects of the SHO post, and in particular every aspect covered in the questionnaire. Written consent to interview was obtained and the interview took place in a separate, quiet room where no interruptions could take place (Britten 1995). The SHO was asked beforehand to set aside an hour of time. There

were two elements to the interview. The structured element consisted of scripted questions that were read out. The unstructured elements were questions that clarified statements made by the SHO (what did you mean by...?), questions that arose from the SHOs statements (what did you feel? what happened then?), questions that arose from previous SHOs and open questions (have you any other issues?) (Robson 1993).

During the interviews several steps were taken to try to limit the effect of the interviewer on the response (Robson 1993, Mason 1996). The interview was scripted and began with a general question asking about the SHO's welfare, an explanation of the interview and a statement that there would be "limited input from the interviewer to limit bias". The interviews followed the topics set by each question on the SEAP questionnaire. The question was read out and wherever possible the phrase "what do you think of..." or "please could you comment on..." was used. Closed questions requiring a Yes or No response were avoided (Robson 1993). Whenever they arose the reply was discounted. Long questions, double-barrelled questions, jargon and leading questions were avoided (Robson 1993). Only the respondent's words were taken as quotations and then only if they had used them prior to the interviewer. The interviewer was allowed to clarify explanation, but then gave time for the respondent to expand their reply (Robson 1993). Additional issues arose between set questions and after the set questions. These were explored as they arose. The interview ended with open questions and time to explore specific concerns by the SHO. SHOs often used this time to ask questions about their own specific career plans, next SHO post or personal circumstances.

The interviews were recorded and transcribed (appendix 1) (Britten 1995).

Transcriptions were the spoken word and pauses only (Smith et al. 1996).

Transcriptions were analysed using thematic content analysis (Strauss 1967).

Key statements were coded as a letter and number and sorted into categories (appendix 2). By back referencing to the codes, statements in the original interview could be identified to illustrate the emerging themes.

For each interview the codes were augmented by abbreviated forms of the statements made by each SHO. These were entered on a computer matrix (Excel windows 95) with the rows representing each SHO and the columns representing each category (appendix 2). The category columns then shared thematic headings. The method is similar to the framework approach described by Ritchie and Spencer (1994). As the data is processed "emergent issues" appeared which were added in as additional category columns in between the "a priori issues" which were identified before interview. A computer matrix was used by Granier in his qualitative studies and it was adapted to Excel for this present study (Granier et al. 1998).

When coding the text, conscious attempts were made to clarify the key statement and whatever viewpoint it made. All key points were recorded. The problem of bias in interpreting the interview data was further addressed by responder validation (Hammersley and Atkinson 1983). This involved asking the next interviewee if the interpretation made at the previous interview was correct. One option was to stop interviewing additional SHOs when no more data emerged from the interviews and there was theoretical saturation of categories and themes. However, the data was fully analysed only after all interviews had been done and the cohort size was small, so all members of the cohort under study were interviewed.

THE RESEARCHER'S PERSPECTIVE

The "ideal researcher is neutral and objective, but in reality all are human and come with their own experiences and agendas" (Greenhalgh 1997a).

Greenhalgh (1997a: 742) points out:

"it is inconceivable that the interviews could be conducted by someone with no views at all and no ideological or cultural perspective....

The most that can be required of the researcher is that they describe in detail where they are coming from so that the results can be interpreted accordingly".

My career route to this research has been from the perspective of the SHO. I qualified in medicine in 1984, having worked for periods as a nursing auxiliary and a medical assistant at refugee camps and hospitals abroad. I trained as a pre registration house officer in the East End of London before moving to Portsmouth in 1986 to complete a two year rotation training as an SHO in general medicine. I obtained the MRCP qualification in 1988, which entitled me to complete training as a hospital consultant. At this point I became aware of the need for a holistic approach to patient care. It was more satisfying to provide a total package of care and deal with all the problems a patient presented with than to deal with the single presenting problem and then leave all the rest untouched. From 1988 to 1990 I completed my own rotation to train in general practice using a combination of different SHO posts in different hospitals – a “do it yourself” scheme as it was described at the time. I worked abroad as a medical registrar for a six month period before completing a GP registrar year based at Portsmouth in 1991. After a year working as a locum or non-principle general practitioner, I entered a general practice partnership near Southampton in 1993. At this time I also took up the newly created post of a course organiser at Portsmouth, which was intended to enhance the training of SHOs on the general practice vocational training scheme.

Overall my own training had been predominantly within the discipline of medicine and my research training was in a positivist setting, including a BSc in Pharmacology in 1981. The holistic approach of general practice emphasised the limitations that existed with the purely scientific positivist approach. Much was unknown and decisions relied on intuition and knowledge of the individual patient’s response. The interpretivist approach was increasingly more relevant. I participated in a research methods course based in Southampton and subsequently ran the Wessex Research Club. The Wessex Research Network started soon afterwards in the local area of Southampton running a combination of qualitative and quantitative research projects. NHS Research and Development funding for this study began in 1996.

Going native

This background placed me in danger of "going native" whereby the researcher "loses his or her awareness of being a researcher and becomes seduced by the participant's perspective" (Bryman 1988 p96). I had trained as a SHO for five years and experienced first hand the problems faced by this group of doctors. My work as a course organiser gave me regular monthly contact with the SHOs, whereas my consultant contact was not fixed. Contact with consultants was often monthly, but with different individual consultants over shorter periods of time. My opinions could potentially favour those of the senior house officers in the study and tend to put aside points of view expressed by the consultants and the 'establishment', which in this case include the government and the regional educational hierarchy. It is also a valid criticism that the perspective of this study is usually from the SHO point of view. However, in this setting the senior house officer is the consumer of education and the problems identified are those faced by the SHO. It is therefore appropriate to approach the study from the perspective of the SHO.

Reactivity

Another factor is the effect of researcher's role on the opinions expressed by participants. This has been termed "'reactivity' – the reaction on the part of those being investigated to the investigator and his or her research instruments" (Bryman 1988: 112). For example, the SHOs may emphasise their problems to instil effort by the course organiser/researcher to produce change. Alternatively they may play down problems to prevent action by the course organiser/researcher, which might identify them to their consultant as a source of complaint. Consultants may suppress problems to avoid further scrutiny or may emphasise staff shortages to obtain further funding. Assessing problems from the perspective of different people over time may detect this issue, but it is part of the picture when the researcher and participant are the same person. It

is a disadvantage, which is intended to be outweighed by the advantages of a participant's perspective.

SUMMARY

This chapter has looked at the qualitative methods in use during this study. Qualitative methods have been combined with quantitative methods in the action research cycle to assess the effect of specific interventions in SHO education. Qualitative methods allow a more in depth exploration of the problems faced by SHOs leading to the design of possible interventions. Qualitative methods provide the additional detail that helps to develop theory, whilst quantitative methods allow comparison and an overview. The next chapter considers the quantitative methods that were employed.

METHODS

CHAPTER 5

QUANTITATIVE SOURCES OF DATA

Contents:

INTRODUCTION

QUESTIONNAIRE DESIGN

Questionnaire evolution

Validity

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METHODOLOGICAL LIMITATIONS

SUMMARY

INTRODUCTION

The quantitative component of this study centred on the use of a questionnaire to monitor SHO education. This chapter describes the design and evolution of the questionnaire, the assessment of validity and reliability and issues relating to use of the questionnaire.

QUESTIONNAIRE DESIGN

The questionnaire in this study arose out of the need for a practical overall assessment of a SHO post that was comparable over time. It began as a list of requirements for an ideal SHO post generated by SHOs in 1993. A literature search confirmed these and added others, which related to the organisation of

each post, for example, the use of a named educational supervisor. The literature review included educational and medical journals, publications by the colleges representing the medical specialities and publications by government organisations (Reeve and Bowman 1989, Pringle and Polney 1989, Crawley and Levin 1990, Grant et al. 1990, Kearley 1990, SCOPME 1991, Baker 1993, Dillner 1993, RCGP 1993, GMC 1993, SCOPME 1993). As the questionnaire was effectively part of an audit of the education of hospital posts it became known as the SHO Educational Audit Project or SEAP questionnaire. The pilot questionnaire was distributed to course organisers, associate advisers and SHOs in the Portsmouth hospitals in 1993. The first questionnaire was applied in March 1994.

A self administered questionnaire was used rather than an interview schedule. This allowed comparison of explicit categories, whilst an interview would generate a variety of categories (Gantley et al. 1999). Interviews would have allowed more exploration of issues raised, but they are more difficult to compare over time, particularly if applied by a different interviewer (Silverman 1997, Silverman 2000). Cost and time were also constraints and “interviewing is greedy of resources” when compared to questionnaires (table 12) (Mason 1996, Campbell and Machin 1993). To cover the same ground as a questionnaire would need an estimated hour for each SHO with a further two hours to analyse the interview. Repeating this for every SHO over several years was not a practical proposition. The questionnaire was therefore chosen to monitor repeated measurable items with the option of interviews to cover specific issues.

	Interview	Questionnaire
Bias	Researcher at interview Variable	Question biases Fixed
Depth	Allows exploration of a few issues in depth	Covers most issues briefly
Repeatability	Limited comparability over 6 years	Produces comparable data over many years, within posts, between posts and between hospitals
Secretarial time	Two hour mailing and appointment organising	One hour mailing
Recipient/SHO time	1 hour per SHO	10 minutes per SHO
Interviewer time	1 hour per SHO	None
Data handling	Half an hour per SHO to transcribe. Total time 10 hours	Total time 2 hours
Researcher/course organiser time	2 hours per SHO data handling. Total 40 hours	Total time 2 hours for reviewing and presenting data
Cost	Transcriber £4 per SHO Interviewer £8 per SHO Total £240	Total £16 for data entry

Table 12 Comparison of interviews and questionnaires for collection of data on SHO training (Time and cost estimated for a 6 month cohort of 20 SHOs.)

The questionnaire used predominantly closed questions to allow quantitative comparison over time and between posts and hospitals (Campbell and Machin 1993). Room was left at the end of the questionnaire for comments. The format was developed to allow spacing between questions and yet be kept to two sheets of A4 so that it was not too daunting for the respondents (Armstrong et al. 1990). Colour and layout could affect the response rate, but the main determinants were the practicality of printing. Standard white paper with normal type print was used initially. Subsequent typeface was Times New Roman size 12. There were insufficient resources for an optically readable questionnaire during the period of the study, so data was entered manually into a computer. The questions were worded to use terms familiar to the SHOs with explanation where necessary. Questions were made as short as possible and limited to one variable (Armstrong et al. 1990). Negative, positive, potentially offensive wording and jargon were avoided (Armstrong et al. 1990, Streiner and Norman 1995). Initial versions used dichotomous responses of Yes and No. Additional responses of Don't Know "D/K" and Not Applicable "N/A" were introduced after the first pilot with explanation of the abbreviations at the start of the questionnaire. Question sequencing was designed so that the questionnaire started with contracted working arrangements, followed by living conditions, then educational content and then ended with personal demographic details. Emphasis was placed on achieving a good response rate. It was intended to make the questionnaire clear, easy to use, as short as possible and with minimal repetition (Howie 1989, Armstrong et al. 1990, Streiner and Norman 1995). A covering letter was constructed to be brief, neat and official on local departmental headed notepaper (appendix 3). It gave the reason for the questionnaire, a statement about confidentiality, an indication of how long it would take and also included previous publication references to lend it authority (Armstrong et al. 1990). SHOs were written to using their first names and each letter was signed by the course organiser whose name was printed on the

letterhead and at the end of the letter (Howie 1989). An addressed envelope was enclosed using the internal mail. The envelope was A4 or A5 size wherever possible to limit the effort of returning the questionnaire. Each questionnaire was coded with a figure for the region participating. The code for each SHO was determined by the order they started on the rotation and the code key was recorded only in one handwritten book. The code was only broken to enable second mailing of non-respondents, and a telephone reminder if the questionnaire was still not returned (Howie 1989).

Questionnaire evolution

After 1994 the questionnaire evolved in the two areas of question content and questionnaire layout. The intention was to keep the wording of questions the same wherever possible to allow comparison over time. Most changes in questions therefore involved the removal of less relevant questions and the addition of qualifying questions.

In 1995 semantic differential scales were introduced to allow a range of responses to questions that related to quality of the post (Streiner and Norman 1995), for example, the quality of the teaching. The semantic differential scales had a range of 0 to 5 giving a six point scale with no neutral point (Armstrong et al. 1990, Streiner and Norman 1995). The wording at the extremes of each scale was determined by the questions and differed for each question. The wording was chosen so as to balance the positive and negative ends of the scale as far as possible (Armstrong et al. 1990). The direction of each scale was kept the same. Alternating the direction of scale for each question was considered, but not applied, because speed and ease of answering were seen as important to achieve a good response rate (Streiner and Norman 1995). It was felt that alternating the direction of scale would discourage respondents from doing the questionnaire repeatedly over the two years. The scales used were similar to Likert scales, but did not use the categories of strongly agree through to strongly disagree (Likert 1932, Campbell and Machin 1993, Streiner

and Norman 1995). Consideration had been given to this but the use of space, layout and the wording of the pilot questions favoured semantic scales. In 1996 the standard of printing was improved by the introduction of a more advanced 'Word' package as part of the Microsoft 'Windows' system. This system also allowed better formatting with labelling of the semantic scales being moved from the question to under the scale itself. The result was three forms of the same questionnaire using the same question content. Changing the layout of the questionnaire could have biased comparison and also complicated data handling so it was decided to 'freeze' the format of the questionnaire after 1996 (appendix 4). It was intended that a final form of the questionnaire would arise naturally at the end of this study, if there continued to be ongoing use of the questionnaire.

Over this time period the content of the questionnaire was reviewed against the literature (Bayley 1994, Little 1994, Dillner 1994). The problems and expectations for a good SHO post remained similar throughout this time (Paice et al. 1997, Williams 1997, Harris and Ferriera 1997). However there was an increasing demand for monitoring of training and in particular for the use of a questionnaire (SCOPME 1993, Wass 1996, Sharif and Afnan 1998, Hand and Adams 1998).

Validity

Aspects of theoretical validity considered were face, content, construct and empirical validity (Armstrong et al. 1990, Campbell and Machin 1993, Sarantakos 1998, Streiner and Norman 1995). To assess face validity (whether the questionnaire seems to measure what it purports to measure) the questionnaire was circulated around SHOs and local course organisers. A cohort of SHOs was also interviewed after completion of the questionnaire to compare interview responses with the questionnaire responses. For content validity (review by experts to ensure all relevant aspects are covered) the questionnaire was mailed to experts in the field of education with an

accompanying four point question sheet and a letter asking for the respondent to annotate the questionnaire with criticisms and suggested improvements. Construct validity looked at whether the questionnaire explained or showed expected relationships predicted by established or hypothetical constructs (Streiner and Norman 1995). This was addressed, where possible, in the results and discussion chapters. One way to test construct validity would have been to apply the questionnaire to different groups who were expected to respond to each question in a different way. For example, nurses or registrars who were reported to have a more structured education and could act as an established construct or existing opinion. At the time of project planning this was considered outside the scope of resources.

A further way to assess construct validity was possible if several answers covered the same topic. A positive or high score on one question would be expected to be linked to a particular score on another question, this being a hypothetical construct or prior hypothesis. For simplicity and brevity the questionnaire had been designed with one question to each topic so it was less likely that there would be a link in response and hypothetical construct validity could not be tested. However, where a question was linked in some way the replies were compared using the raw data and the statistical tests described at the end of this chapter. For example an SHO could only give the reason for refusal of study leave, if they had said that study leave had been requested in the preceding question.

Aspects of empirical validity considered were concurrent and predictive validity (Sarantakos 1998). To assess concurrent validity (agreement with other evidence, also called criterion validity) data was also collected from other sources such as interviews with the SHOs, other questionnaires and information collected elsewhere such as attendance registers. Predictive validity (agreement with subsequent events) did occur on occasions. For example, an absence of teaching noted in the questionnaire was subsequently confirmed in a letter from SHOs. The intention was that the questionnaire should have

predictive validity and that the problems identified would be confirmed by interview or other data collection before action was taken. Details of the validity tests are given in the first results chapter (chapter 6).

Reliability

A questionnaire should be reliable – that is, the random error of responses must be minimised so that consistency of measurement is achieved (Armstrong et al. 1990, Aiken 1994, Streiner and Norman 1995, Sarantakos 1998). Using the cohort of general practice SHOs at Portsmouth the questionnaire was tested for reliability by repeat administration. The two sets of questionnaires were entered onto SPSS, and statistical tests for reliability were applied. Cohen's Kappa was the main test used to report reliability as it provides a chance corrected measure of agreement. This is effectively the proportion of occasions when the response is the same, minus the proportion of cases where they are likely to agree by chance. If the responses are identical Cohen's Kappa was one. A score of less than 0.4 was taken as "poor reliability", 0.4-.0.6 as "moderate reliability", 0.6-0.8 as "substantial reliability", and greater than 0.8 is "almost perfect reliability" (Campbell and Machin 1993). Each pair of reliability data was also manually checked to ensure the calculated Cohen's Kappa coefficient was in keeping with that expected from the raw data. Details of the reliability tests are given in the first results chapter (chapter 6).

Statistical analysis

There were three main areas of statistical analysis for the questionnaires. These were the comparison of category replies (Yes/No), the comparison of semantic scale data and the estimates of reliability of data (as described above). The interval between each response was not fixed and was different for each question so the data was assumed to be non-parametric and non-parametric tests were applied.

The Yes/No category responses over time or between groups involved a comparison in proportions. The factors under consideration were the presence or absence of a prior intervention and the reply to the question of Yes or No. This produced a 2 x 2 table appropriate for a Chi squared test. In the text most data was presented in this 2 x 2 table format to clarify the results and facilitate use of Chi squared. For the analysis, Yates correction was applied as recommended by Campbell (Campbell and Machin 1993). Where values in the table were less than 5, Fisher's exact test was also applied to increase the validity of the p value (Campbell and Machin 1993).

The semantic differential scales had a range of 0 to 5 but equivalence of intervals could not be assumed for statistical analysis. A non-parametric ranking test was required. The data was continuous ordered categories and the Mann and Whitney U test was applied (Campbell and Machin 1993). The calculation for z values was drawn up on Excel and data was entered onto the resultant template. SPSS was later used to confirm the calculations. To describe the semantic scale data, the mode, range and mean were used as they give a summary of the data and allowed some visual comparison. These measures were not used in the analysis. Other questionnaire studies on the standards of training subsequently used the same statistical methods of Mann and Whitney U and Chi squared (Paice 2000).

METHODOLOGICAL LIMITATIONS

A core issue was: which aspect of the SHO training was being analysed? There were two variables: the post and the SHO. Repeated measurements were being made on one post using a standard tool (the questionnaire), which was completed by different people (each SHO). The sampling unit or 'unit of analysis' was therefore the post rather than the doctor (Altman and Bland 1997).

Every SHO did not work in every post. Bias could have arisen if a disenchanted SHO rated all his or her posts badly irrespective of the actual standard of the

post. For this reason each SHO was allocated an individual code number allowing comparison of responses between SHOs. This enabled a check on the effect of a disenchanted or overenthusiastic SHO.

The confidence intervals for any change detected were large, because of the small number of SHOs involved. Although the results showed statistically significant differences, the magnitude of the difference was less certain. If the sample size had been greater, the accuracy of the estimated difference between the two groups would have increased and the confidence intervals would have been smaller. However, it is unlikely that a larger sample size would be obtained in any hospital where an action research model of monitoring would be applied. The largest sample possible was the whole population, which, in this case, was the whole GP vocational training scheme. This was the sample used. Wide confidence intervals were not ideal, but could not be avoided in the practical setting of this action research model.

Aggregation of data over a longer time period, say two years, gave larger samples to compare before and after intervention. When applied, this was treated with caution as any difference might have been missed due to lag phase changes where the effect of the intervention wore off over time. This was a type 2 error, which would be a failure to detect a real difference. Therefore, where conclusions were drawn about a change in one post, the data was examined at all levels to look for concordance and discordance in change. Where data over one year was aggregated then each six month cohort was considered as well. Where the overall responses suggested change the individual responses were also reviewed.

Another source of bias was a change in expectations. As the study progressed the expectations of the SHOs may have increased or decreased. This could have affected replies such as satisfaction scores. If an intervention or other factor had affected expectations, the response on the questionnaire might have changed when the post under study did not. Expectations on the standard of training could have risen because of the government drive to reduce hours.

This might have reduced satisfaction despite an improvement in the post. Where the question was shown to be a reliable and valid representation of the post it was more likely that the difference detected reflected an actual change in the post rather than expectation alone. In addition, the presence of change in other measures to assess the post lent evidence to actual change having occurred. This included qualitative data such as statements by doctors about change occurring or quantitative data such as altered attendance figures. Having detected a difference it could not be said that the difference detected was due to the intervention. Statistics could show that a difference was unlikely to have occurred by chance, but had no bearing on what produced that difference. To answer this question required collection of evidence about which intervention could have contributed to the change. There needed to be a time relationship between the change and the intervention. The change had to occur after the intervention. Change or a trend to change should have been seen in the first data obtained after the intervention. Change should have occurred within an acceptable time period after the intervention. There needed to be a clear pathway for the intervention to have produced the change. Change should only have occurred in the cohort that received the intervention. Other factors that could have resulted in change should have been discussed and ruled out where possible.

SUMMARY

There were several steps between detecting a statistically significant difference in the questionnaire data and concluding that an intervention produced a change in education. The question had to be linked to an actual change in the post and the intervention had to be linked to the change. The questionnaire and statistics were two of several components in the accumulation of evidence that change was produced by the applied intervention.

RESULTS

CHAPTER 6

OVERVIEW, QUESTIONNAIRE AND INTERVENTIONS

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SUMMARY

OVERVIEW OF RESULTS

This chapter gives an overview of the results (table 13), looks at results from the SEAP questionnaire and clarifies the range of interventions available to produce change in education.

The subsequent chapters (7-11) go on to describe the results in detail and in approximately chronological order. For example, the interventions on appraisal (chapter 7) took place earlier in the study than those on meeting with the GP trainer (chapter 10). The order depended on when the identified problems came to light, or other factors that made them a priority.

Each chapter (7-11) is set aside for an identified problem and begins with a list of contents. This list outlines the action research cycle applied and includes the three components of “problem” (research), “theory” and “intervention” (action).

“Theory” outlines the thinking behind the causes of the problem and the planning of the intervention.

Each of these results chapters (7-11) ends with an overview of the action research cycle and theories arising from the cycle. This is followed by a summary of each action research cycle. These are presented in tables in the standard IMRAD (Introduction, Methods, Results and Discussion) format and in a proposed SPIRES (Setting, Problem, Intervention, Results, Evaluation, Subsequently) format for comparison.

Chapter	Issue	Action	Outcome
6	Questionnaire evaluation	Assessment of questionnaire	Reliable, valid and used at other sites
6	Standard of SHO education	Questionnaire applied	Description of SHO education
6	No existing list of interventions in education	Survey of educationalists and literature	List of available interventions
7	Low rates of appraisal (25%)	Consultant teaching of appraisal	Increase in appraisal (63%)
8	Quantity of teaching low	Interviews, letter, feedback, meetings	No change in quantity of teaching
9	Attendance at teaching (41%)	Feedback on attendance	Attendance increased (65%)
10	Contact with GP trainers limited	Letter stating time, place and purpose of meeting	All SHOs had structured meetings with the GP trainer
11	Only half of SHOs had induction	Start dates of all SHO posts aligned	No change in induction
12	Design of an ideal SHO post	Focus groups with users and providers of education	A community and outpatient based model for GP training
13	Action research in medical education	Field diary records	Information for action researchers

Table 13 Overview of the study results and related chapters

THE SEAP QUESTIONNAIRE

This section outlines the results relating to use of the SEAP questionnaire including response rate, validity and reliability. It also describes its application over the six year period, other questionnaires and proposed developments for the questionnaire.

Response rate

Over the period 1994 to 1999 137 questionnaires were returned at Portsmouth at an overall response rate of 90%. The total number of SHOs at Portsmouth who participated was 80. The number of SHOs on the vocational training scheme rotation, at any one point in time, varied from 12 to 18. The response rate to the questionnaire every six months was always greater than 85% and it was usually 95%. Most SHOs returned completed questionnaires on the first mailing and telephone reminders were usually needed for two or three SHOs.

Validity

The details of validity assessment are described in the methods chapter 5. To assess face and content validity the questionnaire was mailed to twelve educational experts in the United Kingdom in December 1996. These experts were identified from a national meeting and existing literature. There was an 83% response rate to mailing. Most were Regional Directors of GP education (7) and the remainder were associate directors (3), and lecturers (2). In response to the comments made, three questions were added that asked about satisfaction with the post, the preferred duration of the post and its relevance to general practice. The term specialist registrar was also introduced as someone who provided teaching in addition to consultants. There were no negative comments and positive comments included "Excellent questionnaire. No need for additions", "A good start to a national approach", "It is already better than many of the instruments currently in use", "Clear and easy for the SHO to

complete and covers the necessary areas". The results of scoring are summarised in table 14.

It was noted by respondents that some NHS regions did not have educational supervisors or GP based education. Any national questionnaire would therefore need to allow the option of blanking out irrelevant questions or adding locally relevant questions.

Question Scale	5	4	3	2	1	0
How much information will this questionnaire give you to compare the SHO post to existing criteria for a good SHO post? 5 = All I need 0 = None	1	5	1	3		
How much do you think this questionnaire will reflect an individual SHO's opinion about a post? 5 = Very Well 0 = Not at all		6	3		1	
How much do you think a summation of questionnaires from different SHOs in the same post will reflect the standard of that SHO post? 5 = Very Well 0 = Not at all	3	4	2			
Feedback of the results from a summation of questionnaires has the potential to bring about improvements in the SHO post. How much do you agree? 5 = Strongly agree 0 = Strongly disagree	3	5	1	1		

Table 14 Results of the SHO Educational Audit Project (SEAP) survey on content validity (Figures are the number of responses given for each scale point.)

The opinion of the SHOs about the questionnaire was assessed informally with each distribution and formally at interview in February 1997 when five out of the ten SHOs interviewed made statements similar to “everything is covered”. Two

would have liked space to add comments on some questions, for example, specifying that hot meals were available, but not for 24 hours. It was noted by SHOs that six month posts which split into two, three month posts needed two separate questionnaires and this was subsequently arranged. SHOs felt the questionnaire was “well worded”, “easy to understand”, and “pretty comprehensive”.

The interviews in February 1997 had a 100% response rate with one SHO on the rotation being excluded as he was undertaking a post on the Isle of Wight. Each interview took one hour and the interviews were recorded, transcribed and analysed which took approximately three hours per SHO. The interview responses were compared to the questionnaire responses. The questionnaire response was taken to be valid if at least 80% of the interview responses matched the questionnaire responses. This was the case for forty-five questions. The details are given in appendix 5 and an example relating to the question on appraisal is given in table 15. For 29 questions the interview response for every SHO matched their questionnaire response. For seven questions one SHO gave a different response between the interview and questionnaire. For six questions two SHOs gave a different response between the interview and questionnaire.

SHO	Reply Jan	Reply Feb	Interview statement on frequency
34	Yes	Yes	"just the one interview"
35	No	No	"none"
36	Yes	Yes	"three months or six months"
37	Yes	Yes	"three weeks into the job"
39	Yes	Yes	"two months and about five months"
40	Yes	Yes	"in the fourth month once"
41	Yes	Yes	"I have had one now"
42	No	No	"no consultants do this"
44	Yes	Yes	"it was at four months"
45	Yes	Yes	"did have an appraisal"

Table 15 An example of questionnaire responses and interview statements
(January and February 1997 with respect to the question "Have you had an appraisal interview in this post?")

The questions about “Have you been told who to approach for career advice” and “for stress advice” showed disagreement between the questionnaire and interview for three and six SHOs respectively. Analysis of this showed that SHOs were trying to answer two questions, which were, had they been told who to approach, and did they know who to approach? Also those SHOs who knew who to approach had difficulty recalling where they were given this information. In addition, there was no clear policy about career and stress advice in the hospital so most had actually not been told at all. This question would have been better worded as “do you have the name of the careers/stress advisor?” For three other questions there was inadequate information in the interview to compare to the questionnaire. These were heaviness of workload, complaints dealt with satisfactorily and number of months to competence. This absence of interview data arose because the respondent was explaining their interpretation of the question rather than giving a response.

The method used to assess validity could be criticised. The number of SHOs in the whole cohort was small. The response rate for subsections of questions was lower than for the main stem of questions. The decision on the validity of each

question, in relation to the interview response, was made by just one person, who also designed the questionnaire. Future assessments of the validity of the questionnaire by interview should use a larger cohort, ask for the exact response and involve at least one extra independent assessor of interview responses.

Reliability

To look at reliability the questionnaire was applied twice with an interval of four weeks between. This was done both in February 1997 and in September 1997. All SHOs in Portsmouth returned the first questionnaire (100% response rate), but two in September 1997 did not return their second questionnaire (90% response rate). Five SHOs were in both the February and September cohorts of SHOs. One SHO in the February cohort and one in the September cohort were in three month jobs and so returned two questionnaires each time. Hence 21 pairs of questionnaires were expected and 19 complete pairs of questionnaires were obtained.

Out of 50 questions on the SEAP questionnaire the Cohen's Kappa score was rated as substantial (more than 0.6) or almost perfect for 38 questions (appendix 6). It was less than "substantial reliability" for ten questions and of these, seven were rated as "moderate reliability" (Kappa 0.4-0.6). These were questions on educational content of the contract, the relevance of teaching, complaints being dealt with satisfactorily, career advice, frequency of attendance at GP teaching, satisfaction and holiday leave. Two questions were scored as "poor reliability" (Kappa less than 0.4) and these asked how heavy was the workload and if the route for complaints was known. Dichotomous Yes/No responses scored higher on reliability than scales where five responses were available. On review of the data the responses might only be one point apart on the scales, but this was taken as non-concordance in calculating Kappa.

The reliability of the questions also tended to follow the degree of subjectivity of the topic. Questions about clearly measurable events such as having an appraisal or not, scored highly on reliability, whereas questions on feelings such as satisfaction scored lower. Questions relating to stated policy such as knowing the name of an educational supervisor scored highly on reliability, but those where no policy had been made, such as routes for complaints, scored lower. It was concluded that the scores for reliability reflected the topic as much if not more than the question wording. However future questions could be modified.

The question about heaviness of workload had low reliability and this may have been because heaviness of workload is a subjective observation and the perception of workload can vary from day to day depending on how busy the SHO has been. Questions on the hours of work, intensity of work or ability to complete the work may be better than “workload” in future questionnaires. Specific measurements suggested by the interviews were having time for breaks, clearing the backlog of work and the number of simultaneous tasks being undertaken.

Impact and usage

Each speciality consultant participating in the GP rotation (9) was mailed a graphical presentation of some of the results of the questionnaire and was asked to comment on the questionnaire and its potential impact. Eight consultants responded (88%) and the results are in table 16. Three expressed a wish to “do much better”. Two consultants expressed a difference between their perception of what was happening and the SHO perception of what was happening, but this was always expressed as if the consultant’s perception was correct. “There is a considerable gulf between what is being offered and what is being perceived as being offered”, “I see no reason why they have not been able to attend at all”.

Question Scale	5	4	3	2	1	0
How much interest to you is this information? 5 = A lot 0 = None	5	3				
How much use is this information to you? 5 = A lot 0 = None	4	3	1			
How much do you think this will alter your approach to the SHO post? 5 = A lot 0 = None	1	1	4	2		

Table 16 Results of the consultant survey on the impact of the SEAP questionnaire
(Figures are the number of responses given for each scale point.)

The SEAP questionnaire and results were presented at the United Kingdom Conference of Regional Advisers in Brockenhurst in 1996 and Dr Bill Patterson, then Regional Director of GP education for SE Scotland expressed interest in using the questionnaire. The questionnaire was used in all general practice SHO posts in SE Scotland from 1996 until Dr Patterson retired in 1999. He developed his own system for collating the data and expressing it in a tabular form and all data was also entered alongside the Portsmouth data.

"The results of what now adds up to about 118 SHO reports are proving most helpful to us in targeting our new SHO post visiting arrangements. The series of reports on one of our troublesome SHO posts has indeed been most helpful in pointing out specific problems in that post, allowing the powers that be in the particular hospital trust to understand why the Joint Committee and ourselves were threatening to de-select that particular department from GP VTS education recognition" (Dr Patterson personal communication 1998).

The SEAP questionnaire was also taken up by the Southampton vocational training scheme in 1996 and by the Dorset vocational training schemes in 1999. Application at Southampton was initially sporadic. The use of the questionnaire was dependant on the enthusiasm of the person administering it. This was usually the local course organiser.

Senior house officers themselves did ask for the questionnaire at Portsmouth on occasions and expressed concern they might not get it. For some it was an opportunity to express their feelings about the post. It acted almost as a route of complaint and an outlet to express their problems. Some SHOs pointed out that the mailing address was incorrect, emphasising the need for constant updating of addresses. This particularly applied to SHOs on electives for whom a home address was preferable, and to SHOs working in community posts with no constant central place of meeting. The departmental address was the easiest to use, but some departments appeared to lack reliable internal mail delivery for their junior staff.

Ethical issues

There were ethical issues relating to the handling and dissemination of data. Data had to be held so that it was independent of the assessment structures for the SHO and so that the opinion of the SHO about the post did not reflect on the assessment of the SHO. The SHO had to consent to data use and each questionnaire was accompanied by a letter outlining the intended data use, anonymity and the right to withdraw. Statements made by consultants, SHOs or course organisers were only recorded with their verbal consent. The data was anonymised and presented in a neutral format. These principles need to be followed if the questionnaire and monitoring system are applied at other sites. In addition, the process of data collection and dissemination should be transparent and understood by all involved. This should ensure that all individuals involved in the monitoring system are confident in the process.

Confidentiality was an issue with respect to non-responders. If the questionnaire had been totally anonymous then it would have been impossible to follow up non-responders. For this study the code was broken by the course organiser only for non-responders. In future use of the questionnaire it is proposed that the covering letter should state that the results are confidential, but that the code would only be broken to allow repeat mailing of non-respondents. The letter should also state that this would only be done by the one person who was responsible for mailing and who had no involvement with data handling or action.

Trends in data – demographics

The ratio of male to female doctors varied each 6 months but overall the number of male and female respondents was equal at Portsmouth. In SE Scotland less than a third of respondents every 6 months were male and overall 26% of respondents in SE Scotland were male.

At Portsmouth 20% of SHOs were age 30yrs to 40yrs with the majority under age 30yrs. Only in 1998 did the proportion of SHOs over age 30yrs rise to 40%. In SE Scotland the proportion age over 30yrs never rose above 14%.

Trends in data – working conditions

Most of the following results relate to the period 1996 to 1999. This period has been chosen as it allows direct comparison with the data collection in SE Scotland. The period includes 78 SHO posts in Portsmouth hospitals and 119 SHO posts in SE Scotland. Data relates to Portsmouth unless stated otherwise. When Portsmouth alone is considered or trends in data over time are explored then questionnaire responses from 1994 onwards are considered (137 posts). Overall 81% (63/78) of SHOs stated they had signed contracts and this percentage was similar (79%, 94/119) for SE Scotland. Contracts were signed at “the start of my GP scheme” and at no other time. A contract relating to the SHO’s immediate post may therefore have been signed two years earlier and it

was described as poor by several SHOs. It “doesn't go into vast detail”, “didn't mention anything about clinical uses at all”, “content...sort of nothing, non-existent really”.

Out of those who could recall having a contract, 24% (15/63) stated there had been changes in the conditions relating to the contract (16%, 15/94 SE Scotland). Only 33% (5/15) of those SHOs at Portsmouth had agreed to the change as compared with 60% (9/15) of SHOs in Scotland.

The majority (always above 70%) of SHOs had access to an on call room, housekeeper, clean linen and hot food. The proportions did not change significantly over the period of the study. In SE Scotland the proportions were similar except for provision of hot food where there was a decline from 55% (16/29) of SHOs in 1996 to 32% (9/28) in 1999. At Portsmouth hot food overnight was only a “vending microwave meal” after 1am rather than a canteen provision. In the daytime a “problem was finding time to eat” or “protected time to eat”.

The proportion of SHOs who stated they worked more than 72 hours a week increased over the period of the study. After 1998 at least 17% (2/12) said they worked more than 72 hours a week, whereas none had said this between 1996 and 1997. This is contrary to the government drive from 1991 onward to have the maximum working hours under 52 hours a week and the maximum contracted hour under 72 hours a week (NHS Management Executive 1991). Workload was also scored as more heavy as the study progressed. The scale was from 0 (onerous) to 5 (light) and in 1999 all except one post scored less than 2 with a median score of 1. In 1996 the median score was 2 and a quarter of SHOs had scored the post more than 3. There was no comparative data for SE Scotland.

There was a steady rise in the proportion of SHOs at Portsmouth who said they knew the route for complaints in the post, from 47% (7/15) in 1996 to 64% (9/14) in 1999 and this was mirrored in SE Scotland (38%, 11/29 to 53%, 15/28). Between 50% and 100% of SHOs said their complaints had been dealt

with satisfactorily at Portsmouth and this figure was 20% to 60% for SE Scotland. SHOs at interview at Portsmouth stated that complaints related to workload, rotas, teaching quantity, personality clashes, and inappropriate tasks.

Trends in data – hospital teaching

In 1996, 69% (12/15) of SHOs at Portsmouth said they discussed clinical cases with a senior doctor, but by the end of the study this had fallen to 50% (7/14).

Attempts to change this trend in one speciality are discussed in chapter 10.

Those SHOs that did discuss clinical cases usually stated they discussed cases every week (overall 86%, 38/44). The proportion of SHOs at Portsmouth who said they had teaching provided by consultants or specialist registrars fell from 93% (14/15) of SHOs in 1996 to 78% (11/14) by the end 1999, but the quantity of teaching was scored as similar throughout the study period.

SHOs also stated that the standard of teaching at Portsmouth fell over the study period with up to 5/14 (30%) of SHOs scoring it as excellent in 1996 and no SHO scoring it as excellent after 1998. This pattern was also seen in the quality of teaching in outpatients. At the start of the study 3/11 SHOs (30%) scored outpatient teaching as excellent grade 5, but after 1997 no SHO scored the teaching as excellent. The total and median scores also fell. The proportion of SHOs attending outpatients did not change and was 56% (9/16) in 1999.

The relevance of teaching was scored at a similar level throughout the study.

But more SHOs scored teaching at the irrelevant end of the scale for general practice (42%, 32/76 score under 3, 1996) than for the immediate hospital post (20%, 15/75 score under 3 1996). This difference is statistically significant, with wide 95% confidence intervals (Chi-squared = 8.6, $p = 0.003$, $df = 1$, difference in proportions = 22%, 95% confidence interval 8% to 36%).

It appears that at Portsmouth the SHOs felt that the amount of teaching by senior registrar grade and above fell as did the quality of teaching, but the quantity remained similar.

The figures for SE Scotland were similar but there was no decline in the discussion of clinical cases or teaching provided by consultants and specialist registrars. There was a fall in the quality of teaching in SE Scotland with 4% (1/25) of SHOs in 1996 and 23% (5/22) of SHOs in 1999 scoring teaching at the poor end (score under 3) of the scale. The quantity of teaching fell from 14% (4/29) of SHOs saying they had constant teaching in 1996 to none saying this after 1998.

Trends in data – General practice teaching

With respect to GP teaching, around half of all SHOs were meeting their GP trainer every six months at the start of the study (47%, 7/15 1996) and this rose to all SHOs by the end of the study (100% 1998 onward). This is discussed in chapter 12. There was no clear change in the number of times SHOs reported that they attended GP training in the hospital setting despite a change in the attendance records (chapter 11). In Scotland most SHOs did not attend GP teaching and none met their GP trainer.

Trends in data – educational structures

Three quarters of SHOs stated they knew the name of their educational supervisor and this remained a steady proportion until 1999 when it was 100%. The proportion in SE Scotland was also three quarters and did not increase. Educational supervisors were recorded as very supportive by half of SHOs in 1996 and this remained similar up to 1999. However the range of scores started from not at all supportive, and almost a third (29%, 4/14 score under 3 1999) were scored as being at this end of the scale. The proportions were similar in SE Scotland, again with no change over time.

Three quarters of SHOs (overall 76%, 59/78) said there was always a more senior doctor available to come and help with clinical problems. This proportion was similar over time and similar to SE Scotland (overall 80%, 95/119).

Between 71% and 100% of SHOs at Portsmouth said they had access to a library whenever they required it and this range did not change over time (SE Scotland 79% to 86%). SHOs interviewed at Portsmouth pointed out the library was “locked after 9pm” and required a “card, which gives access”.

Trends in data – induction

Half of SHOs stated they had induction and this proportion was similar over the study period despite intervention by the hospital Trust as discussed in chapter 13. Scores for the standard of induction course were similar over the five years ranging from poor to excellent. Several comments pointed out that induction had been hampered by the fact that the GP SHOs started 2 months after the other SHOs in post. Half of the SHOs stated they had seen an induction booklet and this figure did not change. The scores for clinical content and administrative information in the booklets did not change. No SHO ever stated that clinical content was covered very well.

Attendance at induction courses was stated to have fallen from 88% (22/25) in 1996 to 57% (16/28) in 1999 in SE Scotland and there was a similar fall in the number seeing an induction book. Scores for induction courses and booklets were similar over the period and again administrative content scored higher than clinical.

Trends in data – appraisal

The proportion of SHOs stating they had an appraisal increased from 36% (5/14) in 1995 to between 50% and 85% of SHOs after 1996. The highest proportion having appraisal in SE Scotland was 53% (15/28) in 1999 and this was similar over the whole study period.

Appraisals varied from an informal “chat over coffee” to a “checklist over 40 minutes” and scores in both Portsmouth and SE Scotland ranged from not useful to very useful with no change in this pattern over time.

The number of SHOs stating they had been told the educational targets for the post also increased from 40% in 1996 (6/15) to 64% (9/14) in 1999. As discussed in chapter 9 this may be part of the initial appraisal discussion. Of those who had been told the educational targets, the proportion who had these targets reviewed was usually three quarters and did not change over time. Half of all the SHOs said they had written down their own personal educational targets and this proportion did not change significantly over the study period.

Trends in data – study leave

The proportion of SHOs stating they had applied for study leave varied from 57% to 92% between 1995 and 1999, with a one year fall to 15% (2/13) over 1997. Figures were similar for SE Scotland (57% to 89%) but there was no drop in 1997. Few SHOs in Portsmouth or SE Scotland said they had been refused study leave (none or one every 6 months), but SHOs may not have applied if they thought they would be refused. For example at Portsmouth in 1997 no SHO was refused study leave but only 15% had applied. Interviewed SHOs at Portsmouth had said they were disadvantaged in leave application because they started “2 months behind” other SHOs, because other non-GP SHOs had some priority and because their study leave subject did not match the speciality of the current post.

The pattern for holiday leave applications was similar, with between 50% and 93% of SHOs getting the holiday leave they requested at Portsmouth (SE Scotland 67% to 93%). Again this proportion fell at Portsmouth in 1997 to 28% (2/7), but not in SE Scotland. Some posts at Portsmouth with shift patterns had leave “fixed right at the start”. SHOs at interview pointed out that with six month posts the “request (for leave) had to be in before (they) started” in post.

Trends in data – social support

Questions on career and stress advice had been shown to be less valid and reliable than other questions, but the responses did suggest it was an issue.

Between a third and a half of SHOs stated they had not been told who to go to for career advice and the proportion was similar in SE Scotland. There was no specified career advisor at the hospital Trust or in the Deanery in Wessex so this figure was likely to be an overestimate.

For most years, around half of the SHOs said they had not been told who to turn to for stress support and the proportion was similar over time and similar to SE Scotland. There were occupational health counsellors in the Portsmouth Hospital Trust and national helplines were introduced (Chambers and Maxwell 1996).

Trends in data – satisfaction

Scores for satisfaction with the SHO post were similar through the study. In 1996 and 1999 the proportion of SHOs saying they were very satisfied (score 5/5) was similar (23% 1996, 29% 1999) as was the number who scored towards the dissatisfied end of the scale (15% 1996, 21% 1999, scored less than 3). In Scotland satisfaction declined from 38% (11/29 score 5) saying they were very satisfied in 1996 to 14% (4/28 score 5) in 1999.

The interviews had suggested satisfaction was related to the SHO's expectations. Several SHOs stated they "had got what they wanted". Being "happy in the post" and the "way you are treated" were seen as important. "Workload", "educational content" and "relevance to general practice" were also said by SHOs to be related to satisfaction.

There was a relationship between the questionnaire scores on support by senior staff and satisfaction with the post. Those posts with greater support scores showed greater satisfaction. This pattern was seen with the SE Scotland SHO responses as well. Both satisfaction and support by senior staff also stood out as being answers that scored highly at the positive end of the scale (5 very satisfied or very supportive) when compared to every other question asked.

There was a weaker relationship between scores for teaching and for satisfaction. The SE Scotland data showed a link between scores for support of

educational supervisor and for teaching compared with the scores for satisfaction.

Most posts were said to be very useful (scored 5) for a general practice career. The exceptions being orthopaedics and ophthalmology, which scored consistently near the 'not at all useful' end of the scale. This did not apply to these specialities in SE Scotland. There was no close relationship between scores for satisfaction with a post and how useful it was for general practice.

Trends in data – duration of posts

There was wide variation in how long the SHOs stated an ideal post should be. This varied from the extremes of 1 month to 12 months. Most SHOs stated 6 months was ideal.

SHOs were asked: "how many months into the post did you feel competent?" Their answers ranged from never to within 1 month and this did not follow any particular speciality. The majority said three months or less (66% to 100%).

Written comments

Approximately a quarter of SEAP questionnaires had comments written at the end. There were no comments made about problems with the questionnaire. The themes were enjoyment of the post, teaching, support, pressure of work, inappropriate tasks, organisation, and complaints.

Teaching:

There were both positive and negative comments about teaching;

: "Consultant very approachable and willing to explain and teach when relevant."

: "An excellent post for GP trainees, a fantastic consultant to work for and plenty of support and training."

: "V. poor dedicated teaching. V. little organised sessions."

Teaching by the consultant, when it took place, was usually viewed as good and this was usually in outpatients. Comments indicated that the absence of

formal teaching was a problem and teaching by registrars was not consistent;

:“Good impromptu clinical teaching.”

:“Would have been useful to have more formal teaching...left to me pestering the other SHOs.”

: “Teaching and support by the consultants was excellent but only when on a ward round or outpatients.”

: “No teaching and support by the registrars.”

: “ The worst thing about this job is the lack of formal teaching – there are no consultant ward rounds to attend and the registrars are too busy to teach at the bedside.”

Support:

SHOs commented both about the good and bad quality of support;

: “V. good Dept: camaraderie excellent, superb senior input, teaching very satisfactory.”

: “Very supportive department.”

: “Consultant is very approachable, enthusiastic and supportive.”

: “Support by registrars on call was very variable depending on the personality of the registrar and how busy the team was.”

: “Consultant unsympathetic and rude.”

Continuity and a team identity were commented on several times;

: “Working for a consultant or team would have been much more rewarding i.e. contact with the same patients with follow up.”

:“Since we are not attached to firms there is no feeling of continuity.”

Pressure of work:

Posts were viewed as busy:

: “Such a busy post that there was no time to absorb what I was learning from the seniors and I felt like an automatic machine rather than a professional.”

:“The volume of work is so huge that there is no feedback by senior doctors.”

:“Very onerous.”

:“Cover more than 100 patients at the weekend.”

Several SHOs commented on the number of inappropriate tasks;

: “Just fill in forms and clerk in elective admissions.”

: “Only for clerking/venous access/phlebotomy.”

: “Repetitive tasks of not very much value.”

Organisation:

There were problems with organisation of rotas for holiday and release for teaching, and with organisation of locums.;

: “Very often did not know the rota i.e. which days staying late on call, until the week prior so not able to organise social life.”

: “Very seldom able to go to GP meetings as always post nights or on call – should be accounted for on rota.”

: “Immensely and totally crap service from medical staffing for locums.”

: “All SHOs ended up prospectively covering sick leave (long term) as difficulty getting locums.”

Complaints:

There was difficulty getting complaints listened to and acted on. Also SHOs felt it was not worth complaining as they were in post for a short while;

: “Complaints made to consultants from whatever angle were not taken on board and very little has changed.”

: “Not complained because it was only 3 months post and took 1-2 months to settle in +holidays.”

There were more comments about the Obstetrics and Gynaecology post than any other and these were generally negative;

: “Lack of ward rounds, lack of work as a team, lack of follow up, lack of proper teaching.”

This is addressed further in chapter 8.

Comparison with other questionnaires

There were other questionnaires applied during the study period, but most were in specialities other than general practice training (Pearse et al. 1999, Baldwin

et al. 1997). All questionnaires on SHOs' training for general practice, with the exception of that by Leverton (2000) in Plymouth, were applied once or at most twice to the same cohort (Hand 2000, Paice et al. 1997). The closest to the SEAP questionnaire and the most widely applied was the Royal College of General Practitioners (RCGP) questionnaire that was used prior to college visits to hospital posts every 5 years (Hand and Adams 1998, Hand 2000).

The original RCGP questionnaire had been deemed unsuitable for use at Portsmouth in 1993 because of its brevity, question wording and answer scales. It did not cover all aspects of the post, there were often two questions asked in the same sentence and the questions favoured a positive response. The RCGP questionnaire was subsequently modified under the guidance of Dr Christopher Hands, Director of Education in Anglia, after review of the SEAP questionnaire at Brockenhurst in 1996 (Hand and Adams 1998).

Hand and Adams (1998) reported on the use of the RCGP questionnaire on GP registrars in Anglia. It consisted of 42 questions each with a scale. The response rate was lower than for the SEAP questionnaire at 58% as no reminders were sent and no allowance for absences was made. Question reliability using Cronbachs alpha varied from below 0.39 in three areas of study leave, contract provision and domestic arrangements up to 0.8. The RCGP questionnaire used a Likert scale and calculated a mean scale score on the assumption of interval properties (Hand 1998). There were reservations about using a similar method in the Portsmouth SEAP questionnaire, because the intervals between each part of the Likert scale were not the same unit size (Streiner and Norman 1995).

When the RCGP questionnaire was reapplied in the same locality in 1999 there were some trends, but none were statistically significant (Hand 2000). Some of the questionnaire wording had been altered and Hand (2000) concluded that, "changing one or more items in a scale can have quite dramatic effects on the results found". He stated, "keeping the same instrument of measurement then

becomes a crucial issue" (Hand 2000). This has been achieved with the SEAP questionnaire.

Paice et al. (1997) in the North East Thames region carried out two surveys of SHOs in 1992 and 1995. Her response rate was 62% and this demonstrated an improvement in rating of posts. Work intensity was reported as less, consultant supervision was rated as similar, consultant feedback rose from 26% to 48% of SHOs, and there was an increase in hours of teaching (Paice et al. 1997).

Other questionnaires were applied by Gibson in Northern Ireland, Kelly in West Scotland, the BMA in Yorkshire and by the Royal College of Physicians in London (Hand and Adams 1998), but these had no published data.

Leverton (2000) in Plymouth did apply a questionnaire on a regular basis over the same time period as this study. The questionnaire was linked directly to a grading for the SHO post and this guided the content of each question. Each question was split into four parts related to the grade 0 to 3. The Plymouth questionnaire had not yet been assessed for reliability and validity and each component question varied in content style and means of verification (Leverton 2000). Although directed at the SHO, not all questions could be answered by the SHO and two or three questions were asked in the same sentence. Thus the Plymouth questionnaire was developmental, but it had strong positive aspects because it was comprehensive, was linked to hospital post grading and had a graphical data output that was clear to understand (Leverton 2000).

In summary, the SEAP questionnaire was designed in 1993 because no other questionnaire was suitable. Since 1993 other questionnaires have become available as alternatives, but the SEAP questionnaire is the only one that has been applied six monthly in a standardised format over a six year period.

Future questionnaire

Conclusions from this study are that future questionnaires should be optically readable by computer to speed up data entry, data presentation and feedback.

The review appraisal was not covered in the SEAP questionnaire and a question asking about a second and third review appraisal should be added. The assessment of validity and reliability also identified several questions that needed modifying and reassessing before use in a future questionnaire. These included heaviness of workload, which needed to ask about specific components of workload. The questions that stated, "Have you been told (do you know) who to approach for (complaints/career advice/stress advice)?" should be withdrawn and replaced with questions that ask, "Is there a clear policy on who to approach for (complaints/career advice/stress advice)". The question on complaints could be amended to ask the number of complaints made during the SHO post.

Two other questions that scored moderately on reliability and validity were related to attendance at GP teaching and holiday leave. Both of these depended on the recall of the previous six months activities. It is recommended that attendance at teaching is verified by checking actual attendance records. The question on holiday leave should be modified to ask if the SHO was refused the holiday leave they requested.

The question on satisfaction was found to be useful in this study and had originally been added on the advice of Dr Paul Little, Wellcome Research Fellow, in 1994. A further question that was suggested on several occasions and also found to be a discriminatory question by Hand (2000) was "Would you recommend this post to a friend?" Adding this question may supplement data from the satisfaction question.

Questionnaire Summary

The SEAP questionnaire has been shown to be a valid and reliable measure of SHO opinion, but the data on this has come from small scale studies and includes recommendation for modifying the SEAP questionnaire.

In both Scotland and Portsmouth:

There was an increase in stated workload

- There was a fall in the quality of teaching
- A quarter did not always have access to a senior doctor
- There was variation in the quality of educational supervision
- Only half of SHOs attended induction
- Less than half of SHOs knew where to go for stress support or career advice
- There was an increase in the number of SHOs who knew of a route for complaints.

The key findings at Portsmouth which were not seen in SE Scotland were:

An increase in contact with GP trainers

- An increase in appraisal meetings
- An increase in named educational supervisors
- Less discussion of clinical cases
- Less teaching by consultants.

Teaching, contact with GP trainers and appraisal are discussed in the subsequent results chapters in relation to interventions applied. The next section outlines the range of interventions identified from the literature and local studies.

INTERVENTIONS TO IMPROVE EDUCATION

Although the literature contained examples of interventions or discussed the relative effectiveness of interventions, there was no listing of the range of interventions available and no information on the range of interventions within medical education. This section describes the interventions that had been applied in other areas of the United Kingdom. These identified interventions, the interventions applied in this study and those identified from the literature have been brought together as a brief taxonomy. This was intended to facilitate access to information on the range of interventions and assist the choice of

intervention both from a written list and from a set of cards. The selection of interventions using cards was demonstrated in 1999 in Solihull (appendix 7).

The Brockenhurst survey

In 1996 the United Kingdom was split into 28 regions and each was lead by a Regional Adviser (now titled Director of GP education) who was responsible for all postgraduate education relating to general practice within their region (Bahrami 1996). There were five to ten Associate Advisers working with each Regional Adviser. All Associate Advisors and Regional Advisers at the National Conference of Regional Advisers in General Practice at Brockenhurst in 1996 were invited to attend a discussion about the interventions available to influence education in hospital posts. Ten regional advisers and eight associate advisers attended. They were asked to split into three groups and generate a list of interventions that would influence the education of SHOs in their region. An overhead displayed the question "What interventions are available to educationalists/yourself to influence the standard of SHO posts?" Each group drew up the list on a flip chart (table 17) and there was discussion of the points made.

Identify SHOs
Direct contact with consultants
Deanery visits, college visits and joint statements (resources a concern)
Influencing clinical tutors, key consultants (on committees), and Trust Chief Executives
Educational contracts (local) or training agreements with Trusts. An SHO charter
Selection and deselection of posts and (de) construction of rotations
Speciality Regional Advisers, dedicated (hospital) course organisers, trainers acting as hospital linkmen and maintaining contact with trainees, subversion (using GPs as resource teachers)
Teaching the teachers, educational skills course for consultants and hospital doctors
Joint educational initiatives
Log dairies, formative assessment
Consumer surveys, audit
Release courses, service based learning packages
Moving money (SHO VTS study leave) to regional advisers and salary control

Table 17 The interventions listed by Associate Directors and Directors of education (Brockenhurst 1996)

The responses suggested there was a lack of information about who the SHOs were and limited financial control of the budgets for SHO salaries and posts. Subsequent discussion showed that deselecting posts was rarely done. It was pointed out that there needed to be another post ready to replace the deselected post. There was regional variation and changes were dependent on the personalities of those in each deanery at the level of postgraduate medical dean and hospital clinical tutors. It was stated that the selection of clinical tutors

was important and that the deaneries should be helping to teach potential tutors from the very start.

A taxonomy for interventions

Having generated a list of possible interventions it became difficult to handle the choice of interventions. There was also a need for information to be available on each intervention in a brief relevant format to enable some decision to be made about how applicable it was to the setting under discussion. A taxonomy and selection of 36 cards were designed (appendix 7). The following listing gives the written content of each card as used in 1999 at the 4th joint conference for postgraduate medical and dental education in Solihull (table 18). Over a 20 minute period, cards were selected or rejected then discussion centred on the design of the intervention for the vocational training scheme under discussion.

Category	Intervention title	Intervention (as printed on card)
Advice	Written	Better if linked to guidelines, literature or feedback and if given by an "expert"
Advice	Brief verbal	Better if followed up with relevant literature and if given by an "expert". It can be telephone, corridor or brief meetings face-to-face. Telephone may be most cost effective whereas face-to-face is the most effective yet most costly (Lock et al. 1999, BJGP 49: 695-698)
Education	Didactic lecture	Likely to have less effect than other forms of education. Needs to be tailored to audience with prior knowledge of audience learning needs and wants. "Little or no effect" (Bero et al. 1998, BMJ 317: 465-468)
Education	Individual seminar	Said to be one of the most effective interventions. Also called outreach visits. Time consuming. Needs a good mentor. Best if based on learner's perceptions of wants and needs and determines where the learner is starting from. Learner should have the power to produce change. Follow up helpful. (Bero et al. 1998, BMJ 317: 465-468, Oxman et al. 1995, Can Med Assoc J 153: 1423-31)
Education	Group work	An effective intervention. Needs co-ordination and good facilitation. Best if all relevant parties are identified and present. Ensure all feel they have participated. Ensure that goals are agreed publicly with the agreement of all present. Summarise goals and send them to participants. (Moore 1994, BMJ 308: 1553-5)

Table 18 A taxonomy of interventions for SHO Education

Category	Intervention title	Intervention (as printed on card)
Education	Formal course	For example training the trainers. This can combine various modalities of education. There are issues of protected time and cost. Local or national. It may alter stalwart behaviour. "I am the only one who..."
Education	Enhance awareness	Disseminate information about lifestyle and working conditions using any route. Often done but little research on this as a method
Education	Written material	Best if brief and easily read in a few minutes, with a few references relating to further reading (including web sites, guidelines, CD-ROM), and the literature. Better if recognised source or person with a reputation for neutrality
Education	Published material	The use of letters or articles in high impact journals, newspapers and television. Consultants are influenced by journals/conferences. GPs are influenced by medical newspapers and postgraduate meetings. (Allery et al.1997, BMJ 314: 870-874)
Education	Critical case analysis	Relevant to the problem in hand. Needs careful facilitation
Education	Data collection	Application of a questionnaire or survey to heighten awareness about an issue and initiate reflection on behaviour
Empowerment	Recipient information	Informing the recipient of the existing guidelines, or enhancing expectation of services can fuel a demand that increases pressure on organisations to improve. This has been used in the NHS in the form of patient charters. It is not reported in the literature. It can lead to conflict and frustration if there is no capacity in the system for change

Table 18 A taxonomy of interventions for SHO Education

Category	Intervention title	Intervention (as printed on card)
Feedback	Cost feedback	Examples include the PACT data on prescribing costs. Likely to have greater effect if there is associated budgetary control and incentives in the event of an over or under-spend. More effective than peer comparison in the USA (Berwick and Coltin 1986, JAMA 255 1450-4)
Feedback	Peer comparison feedback	Feedback can be praising to encourage improvement, or critical to discourage poor areas, or informative and neutral. Said to be one of the most effective interventions (Oxman et al. 1995, Can Med Assoc J 153: 1423-1431)
Guidelines	Local expert	Tailored to local setting. Expert dependent. Best if based on national groups and literature. Time consuming
Guidelines	Local consensus group	Investment in groupwork may be beneficial. Cost and time resource issues. Can be watered down by democracy. Has authority. Tailored to local setting. Best if based on national groups and literature.
Guidelines	National consensus group	May not be relevant locally. Has authority. Can be watered down by the democracy. Usually evidence based
Guidelines	Literature based	May not be relevant locally. May not be practical. Can be biased by method of literature search
Incentives	Financial	Works well if of sufficient size. Costly
Incentives	Status	Needs a widespread understanding of a category system or the achievements required
Organisational	Timetabling	Restructuring the working conditions so that team members can meet on a regular basis informally and formally. Brings factions together to communicate over how to resolve problems. An approach described by Kurt Lewin in the 1940s

Table 18 A taxonomy of interventions for SHO Education

Category	Intervention title	Intervention (as printed on card)
Organisational	Reallocate responsibility	Responsibility passed to a person with knowledge of the problem or with a reason to invest time on its resolution e.g. clinic and duty rotas
Organisational	Record keeping	By asking someone to keep some form of record about what took place the standard of that activity may improve e.g. records of decisions made after an appraisal. Also allows a check to be made that the event actually occurred and what took place.
Peer review	Visits by external body	May be overshadowed by organisational politics. Costly in terms of time and finance. Best if preparation time allowed and goals are clear. Should use local information as well as interviews and questionnaires. Statement of findings should be circulated and a follow up planned. Clear incentives and penalties may focus preparation e.g. Royal colleges, JCPTGP
Peer review	Visits by local colleagues	May be affected by pre-existing relationships and can be collusive. May provide a supportive atmosphere and develop local support. Can lack national structure and comparison e.g. regional office, other courses, own course organiser
Peer review	Audit	Requires enthusiasm by the participants. Providing ideas and plans for audit may help. The provision of an audit team or facilitator may help. Better to be simple, specific with clear outcomes and dissemination of results
Peer review	Mentoring	May be difficult to find a good mentor or work as a mentor pair. Can be collusive rather than confrontational

Table 18 A taxonomy of interventions for SHO Education

Category	Intervention title	Intervention (as printed on card)
Reflection	Facilitated	With the setting of particular issues. Could use review of the aims for reflection or a written summary of reflection. May document duration of protected time
Reflection	Protected time	Dependent on the individual. May just require demonstration of the importance of reflection to justify its priority over other tasks with an immediate output
Reminders	Single	May not have duration of effect. "Consistently effective" (Bero et al. 1998, BMJ 317: 465-468)
Reminders	Serial	Effect may be lost when reminders stop (Zaat 1992, Med Care 30: 189-198). May develop tolerance to the same repeated message with waste bin filing
Rules	Contracts	Defines the goals clearly. Can demotivate unless introduced with consultation. Work if linked to suggestion of penalties
Rules	Policies	Work if there is consistency at all levels of the organisation and it is possible to apply. Can force those who do not comply to do lip-service compliance. Policy needs to be justifiable and already be in use by a proportion of those it is applied to, e.g. cycle helmets (Carnell 1999: 318-1505)
Rules	Implied compulsion	Implying something will happen if an objective is not achieved without having authority to set the objectives. Used more often than expected e.g. setting of rules on attendance at a meeting. May be the initial stage before a rule is finalised
Rules	Declared ownership	Where the leader of a group states that the group proposed or decided on a course of action. Carrying out the group's wishes becomes a gift to the group even if the original idea was sown by the leader

Table 18 A taxonomy of interventions for SHO Education

Category	Intervention title	Intervention (as printed on card)
Support	Facilities	The provision of secretarial, administrative and expert support to achieve a goal along with equipment and consumables. A package to supplement existing facilities. Can be costly and may end when package is withdrawn. May kick-start the organisation. Can act as a pilot and demonstrate need or benefit

Table 18 A taxonomy of interventions for SHO Education

SUMMARY

This chapter has given an overview of the results (table 13), and details of the SEAP questionnaire. This study identified an absence of concise information on the range of interventions available in medical education. In an attempt to fill this gap, this chapter has outlined a taxonomy of interventions. The following chapters (7-13) describe how some of these interventions were applied to the specific problems identified in SHO education at Portsmouth.

RESULTS

CHAPTER 7

APPRAISAL

Contents:

PROBLEM – APPRAISAL 1994

Theory – blocks to appraisal and solutions

Intervention in appraisal – educational sessions 1995 to 1996

PROBLEM – APPRAISAL 1997

Appraisal content

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Formative and summative assessment

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SUMMARY

PROBLEM – APPRAISAL IN 1994

"You go from one job to another and you just assume you're doing OK. Nobody really tells you" (SCOPME 1991: 17).

This statement was from one SHO quoted in a report in 1991 from the Standing Committee of Postgraduate Medical Education (SCOPME 1991). The report highlighted the absence of any structure for feedback to each SHO about their progress. Appraisal was one way to provide feedback. It has been defined as the setting aside of time for the educational supervisor and SHO to discuss the "progress and objectives achieved by the SHO" (SCOPME 1991: 17). The SCOPME report pointed out that appraisal was a central feature in the career development of civil servants and many managers yet, by contrast, the appraisal of medical staff in the NHS was not widespread (SCOPME 1991). In 1990 a survey of the United Kingdom showed that "During hospital posts 67% of 1567 trainees did not have their progress regularly assessed" and if they did "results were not shared with them" (Crawley and Levin 1990: 913).

In Wessex, the Postgraduate Dean, the Director of Education, the clinical tutors, the course organisers and the Associate Director of GP education at Portsmouth all wished to see appraisal as a core component of SHO posts. In 1993 there was only anecdotal information on whether or not appraisal was taking place.

The SEAP questionnaire asked "have you had an appraisal in this post?" For all the GP vocational training scheme posts over the period January 1994 to October 1995, 29% (17/58) stated "Yes" they had an appraisal. There was some variation between posts with a higher proportion in medicine and accident and emergency (50% to 60%).

Theory – blocks to appraisal and solutions

Informal discussion with consultants and local educationalists, along with the literature, suggested several potential blocks to appraisal. These are shown in table 19.

Uncertainty about the expected content of appraisal
Lack of confidence in carrying out appraisal
Unaware of the benefits to SHOs, consultants, patients and hospital
A perception of lack of time, with the loss of time outweighing the benefits
Previous bad experiences with appraisals
Organisational issues such as absence of reminders to do appraisal
Insufficient positive incentives to do appraisal or absence of penalties if not done

Table 19 Potential blocks to appraisal taking place

"What if the SHO cries" was a statement by an associate director and was an example of the consultant's concern about doing appraisal. Matt Thomas (1997: 3) in the subsequent newsletter of the Royal College of Physicians stated that there is a "fear of the unknown, of what to do if things get out of hand, of making things worse, of looking a fool". He wrote that as a consultant "he had received little education in appraisal, its relative merits and weaknesses, and the pitfalls one can easily drop into" (Thomas 1997: 3). Oxley (1997: 3), as the secretary of the Standing Committee of Postgraduate Education, cited "barriers to implementation" of appraisal in NHS Trusts which included "lack of time, a lack of understanding of its purpose, and a lack of appraisal skills in trainers". Whitehouse later wrote there is a "negative attitude to the idea of appraisals, which reminded him of surgeons in the 19th century who were said to sharpen their scalpels on their boots to show their contempt for the microbe theory" (Whitehouse 1999: 53).

Education for the consultants and SHOs about the content, benefits and ways of handling problems arising from the appraisal was the approach chosen by the hospital clinical tutor. Organisational changes within each post were not within the scope of the course organisers and clinical tutors. They were the responsibility of the individual departments. Incentives and penalties to produce change were limited to positive or negative feedback on performance with the distant threat of withdrawing funding of a post. Education of the consultants and SHOs was therefore the initial approach taken.

Intervention in appraisal – educational sessions 1995 to 1996

For the SHOs, appraisal was discussed at the start of their three year rotation and at the Wednesday morning general practice meeting for SHOs. One of these meetings was set aside each year to discuss the structure of their SHO training. The meetings took place from 1994 onward. SHOs were encouraged to ask for and expect appraisal. The structure and aims of appraisal were reviewed.

For the educational supervisors, sessions about appraisal were run by an educationalist with experience in workplace training outside the NHS, and by the clinical tutor. The sessions had been run in the Wessex region before and on this occasion were applied at Portsmouth. There were twelve sessions, which varied from three to five hours and took place between January 1995 and February 1997. The initiative was described in the SCOPME document "Improving the experience" as a "series of workshops called "facilitating learning and appraisal" in which participants practice the skills and techniques needed in their role as a trainer" (SCOPME 1991: 16). The method employed had been "used for some time in general practice training. It relied on a mixture of theoretical and practical training, using peer group feedback as a principle resource. Strengths and weaknesses are identified and priorities for learning are formulated" (SCOPME 1991: 16). The educationalist who ran these

sessions described the sessions as “supportive rather than directive and intended to raise awareness and skill levels rather than co-ordinate activities”. A total of 46 educational supervisors attended the educational sessions at Portsmouth. Of those with posts in the general practice rotation the following specialities were represented: Ophthalmology, Geriatrics, Obstetrics and Gynaecology, Psychiatry, Paediatrics, and Medicine. There were no ENT, Orthopaedic or Accident and Emergency educational supervisors who attended. The estimated cost of the course was £3,000.

Courses for appraisal training had been run elsewhere. An example was the "Edgecumbe model" run by Dr Richard Feinmann, Deputy Dean Postgraduate Medical and Dental Education at the University of Manchester (4th joint conference for medical and dental education 1999). Dr Feinmann stated the GMC report on house officer education "New Doctor" was the incentive for this initiative (General Medical Council 1997). The model was a two day course run for 12 educational supervisors. Day one was diagnosing educational needs and the second day covered giving feedback. Half of each day was taught and half was practice with volunteer SHOs present for the practical sections. Educational supervisors fell into the groups of "Innovators", "Late adapters" and "Laggards" when it came to using the methods taught. It was said that 78% subsequently used the skills taught. The effect of the courses was not measured.

PROBLEM – APPRAISAL 1997

Appraisal increased to 63% (10/16) of the SHOs on the rotation for the six month period up to 30th April 1996 and this was statistically significant when compared with the six months up to 30th April 1994 (Chi squared = 5.14, $p = 0.02$, $df = 1$, difference in proportions = 38%, 95% confidence interval 7% to 68%).

Out of the three specialities that did not show an improvement in appraisal rates, two did not have a representative on the course. However, because there

was no record of who carried out each SHO appraisal, the attendance at a course and the completion of appraisal could not be linked for individual educational supervisors. Furthermore, one speciality with an educational supervisor that did attend completed no appraisal at all over the whole period. An additional confounding factor was that the specialities with the lower rate of appraisal were also all surgical specialities, so this feature rather than attendance at a course may have been the significant variable. Surgeons may have different approaches to appraisal and may also feel less confident to provide appraisal because they have less experience of what is required for general practice than say a consultant in medicine.

Year	1994	1995	1996	1997	1998
Had Appraisal	5 (24%)	10 (27%)	15 (58%)	13 (59%)	13 (68%)
Not had Appraisal	21	27	26	22	19

Table 20 Responses to the question “Have you had an appraisal interview in this post?” for the period 1995-1998

Both the questionnaires (table 20) and the interviews in 1997 suggested appraisal was taking place and had increased, but had the intervention produced the change? The main evidence for a link came from the interviews with the SHOs in February 1997. SHOs reported that appraisal took place because they had been empowered to ask for it: "by my instigation", "I went and asked", "I met him and said, we have to have appraisal, and he said, oh yes". There was evidence that the SHOs had been empowered to ask for appraisal by their discussions with the course organiser at the start of the rotation. At the "beginning of the training scheme, when we used to meet every Wednesday morning, he said that they didn't always happen and you needed to go and ask. I remembered that so I went and asked".

Interviews with the SHOs subsequently showed that the educational supervisors were still not aware of what they were required to do or how to do it despite the training: "I don't think he was originally aware of his duties". The SHO quoted the educational supervisor as saying "Somebody told me about that sort of thing". There were also statements that showed the clinical tutors had put a structure in place to write to each SHO and ask them to arrange an appraisal. There was "circulation of a sort of memo from the clinical tutor" and "we were sent a reminder letter from the clinical tutor". The educational supervisors were not interviewed directly during this period of the study.

Appraisal content

The questionnaire had asked about appraisal taking place, but not about the content. There were two questions that were linked to appraisal content and these asked about educational targets and personalised educational targets. SHOs were asked, "Have you written down your own personal educational targets for this post?" which was one of the expected outcomes from an appraisal session. This showed a significant increase when the two, six month periods to April 1994 and April 1996 were compared. The proportion rose from 25% (5/20) to 69% (11/16) (Chi squared = 6.89, $p < 0.01$, $df = 1$, difference in proportions = 44%, 95% confidence interval 14% to 73%). Although this provided indirect evidence of an increase in appraisal the questionnaire wording did not specify this link and it was also possible that the SHO wrote down their educational targets due to their own motivation independently of the appraisal. This question (Kappa 0.69) was also less reliable than the question on appraisal (Kappa 1).

In each appraisal session a SHO was also expected to have the educational targets of the post shown to them. These targets were the suggestions made by educational supervisors and previous SHOs about potential areas of learning. The targets would then be personalised to suit the individual SHO having the appraisal. If personalised educational targets were arising from the appraisal

session, an increase in the educational targets preset for each post would be expected. Over the same period this increase was small (from 25% 5/20 to 37% 6/16) and not statistically significant. This suggested that the SHOs had drawn up their own personal educational targets rather than basing them on the educational targets for the post. This could have been in response to other sources of encouragement such as the course organiser that they met monthly. Because the questions on educational targets and personal learning targets did not give enough information about the content of the appraisal, the SEAP questionnaire was modified in 1996 with the introduction of a six point scale and the question "How useful was the appraisal?"

The results subsequently indicated that the majority of SHOs in Portsmouth found the appraisal useful (table 21). No SHO in Portsmouth said it was not useful, although the cohort being monitored in SE Scotland at the same time showed several who found it was not useful (table 22).

Reply scale	Score range	Number of SHOs giving each score 1997	Number of SHOs giving each score 1998
Very useful	5	0	3
	4	5	3
	3	2	5
	2	1	2
	1	0	0
Not useful	0	0	0

Table 21 Distribution of scores for the question "How useful was the appraisal?" Portsmouth 1997-1998

Reply scale	Score range	Number of SHOs giving each score 1997	Number of SHOs giving each score 1998
Very useful	5	1	5
	4	2	7
	3	2	5
	2	1	3
	1		4
Not useful	0		5

Table 22 Distribution of scores for the question "How useful was the appraisal?" Scotland 1997-1998

The interviews with SHOs in 1997 also asked about the content of appraisal. Most comments suggested it was useful: "useful, very useful...definitely Yes". One said it was not useful.

Several stated it was unstructured, "very informal one", "different in different posts", "wasn't really an appraisal, it is just like an introductory chat", "very informal and very chatty over coffee and just snatched between when my consultant could fit it in".

Some had had more structured appraisals: "very good...prepared...list...went through...useful", "a written form where I filled out half and the consultant filled out the other half", "sort of questionnaire that we sort of followed", "We had protected time and he went through the questions".

One stated it was "an informal chat" but implied it covered several areas: "What I felt about the post, what I was doing, was I getting on, any problems, what he thought of me". This suggested informality may not be a problem if there was time and an underlying structure.

SHOs were asked what their ideal appraisal would be like and the responses included: "A formal thing", "formal appraisal is best", "should be some structure

to it", "What you think the job is like...feedback...constructive criticism", cover "areas of deficiency", "find out how you're doing", "focus and direct what I am doing", "highlight areas where there are problems", "air your grievances", "a log book and a review of this progress", "honest, helpful and tells you where it's going wrong".

The difference between regular support and ward contact and appraisal was illustrated. "No appraisal, (but he was) sort of speaking to me and I mean it was a fairly continual thing throughout the job rather than sort of sitting down at the beginning middle and end." Thus there was an increase in appraisal, but the content of the appraisal varied.

Follow up of appraisal

There was also the issue of follow up after the first appraisal. The questionnaire only asked about one appraisal. The regional contract between the Deanery and each hospital Trust asked for two appraisals and an initial induction session. Indirect evidence about the second appraisal came from the question "Was your attainment of these (educational) targets reviewed?" Of those five people who had been told the educational targets for the post in the six months up to 30th April 1994 only two had them reviewed. For the same period up to 30th April 1996 six people had been told the targets and only three had them reviewed. Either the second appraisal was not taking place or the educational targets were not being discussed in appraisal. Both were possible so each SHO had to be asked about the second appraisal at interview.

Interviews suggested the second appraisal was not taking place and the first one was delayed if it occurred. "I am still waiting to have my full length one (appraisal) even though I have got to five and a half months", "just one interview...halfway through", "one is long overdue now", "done in fourth month only". Only two SHOs stated they had more than one appraisal and all ten interviewed were asked.

The future aims were therefore to increase the proportion having appraisal, improve the content of the appraisals and increase the number of follow up appraisals. It was at this point that the research cycle ended. The main reason was a perceived lack of resources and clear direction for action. However, it is relevant to compare the next potential steps with the later intervention of follow up and the content of GP trainer meetings (chapter 10) as the same approach could be applied to appraisals.

OVERVIEW 1993 TO 1997

An increase in the number of appraisals at Portsmouth was shown over three years, and this subsequently plateaued with between 50% and 70% of all SHOs receiving appraisal. The initial rate of appraisal at Portsmouth in 1994, before any intervention, was 25% (Rickenbach et al. 1997). Other studies have shown a similar low appraisal rate (Baldwin et al 1997, Baker and Sprackling 1994). In a survey in the Yorkshire Deanery only 8% (79/1023) had appraisal (Bunch et al. 1997). Hand reported a formative assessment rate of one in three in East Anglia, which did not change with time (Hand and Adams 1998, Hand 2000). No surveys in England have reported a higher rate or described attempts to improve appraisal rates. The rate in Scotland was at 51% in 1996, but there was no data from 1994 to exclude an increase from a lower baseline.

An association has been shown between education about appraisal and appraisal rates, but there is insufficient evidence to confirm cause and effect. There were several other variables and the two main interventions, which could not be separated. The increase in appraisal may have been due to SHO empowerment or the educational supervisor course or both interventions together. Other variables included the effect of Royal College guidelines on specialist registrar appraisal, the impact of clinical tutor contact, discussion of appraisal at meetings such as the Medical Education Committee and Speciality Education committees, publications in the medical journals (Rickenbach 1994) and other information from the Wessex Deanery. There were also some

confounding factors. Those who attended the education sessions may have been more susceptible to the idea of appraisal and already preparing for change. In addition, an increase in the understanding of the term appraisal and its associated terms may have accounted for an increase in the number of SHOs stating they had an appraisal.

Criteria linking intervention and change

However, this process of looking at the relationship between appraisal rates and education in appraisal did lead on to the development of criteria to assess the link between intervention and change (table 23). For appraisal, the intervention of education took place over many months and at different times for each educational supervisor in one speciality. The timing of change could not be shown to be after the intervention or to be linked closely with the intervention.

Criteria	Present	Absent
Change occurred after intervention		Unclear
The timing of change was close to the intervention		Unclear
The intervention was expected to produce change (face validity)	√	
There were no other known factors that could have produced change		X
There was a well matched, separate control group showing no change		X
The change was statistically significant	√	
The change had practical significance	√	
Change was shown by more than one method of assessment	√	

Table 23 Criteria linking an intervention to change – appraisal and educational sessions

Although the intervention and change could not be conclusively linked there were several conclusions arising from this part of the study, which fed into other action research cycles and theories. These included proposals for monitoring change more closely, and for more specific interventions.

Support structures

The initial emphasis of the intervention had been on education for educational supervisors, but empowerment for SHOs became an equal consideration.

Where an intervention is planned to increase contact between two groups of people the intervention may be more effective if aimed at both groups simultaneously.

For the SHOs there was a monthly GP SHO meeting, which gave access to all SHOs. There was no equivalent forum for the educational supervisors. This contrasts with GP trainers who had a shared support structure, clear identity and regular meetings. It was helpful to have an existing structure in place, which allowed regular contact with the group targeted for change. The structure for SHOs was put in place in 1993 and a similar forum for educational supervisors may facilitate change.

Organisation of appraisal

There were also organisational issues, which were not tackled by the educational sessions in this intervention and may be important for future planned education. The education sessions concentrated on the reasons for appraisal and content of appraisal rather than implementation. Discussion with speciality tutors later brought out this issue of “how to get the educational supervisors and SHO to meet?” One suggestion included fixing the date of subsequent meetings at the first meeting, whilst making it clear that the time was set aside and that the meeting was important. Having a departmental time when the meeting takes place for everyone or using a regular educational slot

for the meeting was an example. This concept also fed into the subsequent intervention on meeting the GP trainer (chapter 10).

Questionnaire development

It became apparent that the SEAP questionnaire assessment of appraisal content and frequency needed further development. A question about second and third assessments was therefore placed in all future questionnaires.

The evolution of the question on appraisals appeared to be a generic process applicable in other settings. The steps were:

- Assessing whether or not an event took place
- Determining how often the event took place
- Assessing the quality of the event

A method of assessment such as the questionnaire may either measure all three components from the start or evolve over time to measure each component as it becomes appropriate.

Formative and summative assessment

A problem faced by educational supervisors, SHOs and the local educationalists was the question of what constituted an appraisal and how it should be done. The core issue appeared to be the conflict between formative and summative assessment. Formative assessment is a neutral, supportive, educational process of feedback. Summative assessment is a report, often regulatory, at the end of a particular period of education, which then gives a measure of fitness to continue. If the two were mixed then the learner became preoccupied with demonstrating their strong points rather than sharing their weak points, which they needed help to develop (Thomas 1997). This issue faced one speciality tutor in the Portsmouth hospital who believed the two should be separate yet had difficulty showing colleagues why they should be separate. The literature and advice on this was conflicting. As Oxley (1997) states, part of the problem may have been "lack of clarity in the definitions" and

lack of dissemination of these definitions. "Terms such as appraisal, formative assessment and summative assessment and individual performance review are all confused and are sometimes used almost interchangeably" (Oxley 1997: 2). Most authors stated that appraisal was purely a process of confidential feedback (SCOPME 1996, Oxley 1997, Thomas 1997). Yet when others described it, there was an element of reporting of fitness to continue (Riley 1998).

Initially, appraisal at Portsmouth was discussed as a purely formative, confidential process, but it became apparent from the comments of educational supervisors that appraisal in this setting was not purely formative. The educational supervisor was usually the person who completed the VTR 2 form of satisfactory completion of the post. The educational supervisor was in a position to adversely alter the working environment. It became clearer that the only form of purely confidential and formative appraisal was that carried out by an independent person with no control over the work environment, examples being a confidential stress counsellor or independent careers advisor. Yet to provide adequate feedback for an appraisal, such a person needed information from the post about the individual's abilities and achievements.

In reality the content of appraisal changed with time. The first appraisal was formative since it was a discussion about objectives. There was little or no feedback and no punitive outcome likely. Subsequent appraisals had an unavoidable summative element. The objective was not therefore to state that appraisal of SHOs never has a summative element, but rather to ensure the formative and summative elements in appraisals were explicit and agreed. The educational supervisor had to state when the discussion was confidential and when it was not. The educational supervisor and SHO had to agree on what was the public outcome from the appraisal.

Future interventions in appraisal

The interventions were all targeted at the level of the SHO and educational supervisor. Oxley (1997) suggested the approach should be made at Trust level with negotiations over job plans, appraisal schemes, training and support for trainers. This option was not explored for this intervention at Portsmouth. He also points out the importance of local "champions" to launch and sustain appraisal schemes and that appraisal schemes often need revising and re-launching.

With respect to a future action research cycle on educational interventions for appraisal, more detail is needed about the educational supervisors who carry out appraisals so that they can be targeted more closely by the educational sessions. A closer link between the educational supervisor who was actually seeing the SHO and that educational supervisor receiving teaching about appraisal should be made. A register of educational supervisors would help this process. Rather than voluntary attendance some form of more direct involvement might help to include non-attenders. For example, giving a personal tutorial at the place and time of choice of the individual educational supervisor.

Questionnaires should determine not only if an event occurs but assess the content of the event and how often it occurs
The link between intervention and change can be assessed using set criteria (table 23)
Interventions should target both the provider and the consumer
An intervention should target named individuals
Interventions should target the implementation and organisation of a process as well as the content
Meetings are more likely to take place if a set time for them is timetabled in advance and if dates of meetings are agreed at an early stage
Appraisal has both formative and summative components and which component is in use needs to be made explicit

Table 24 Theoretical principles arising from the action research cycle on appraisal

Although this study showed an increase in first appraisal, the content, quality and follow up appraisals remained areas to be addressed. There was a need for clarity about what was required from the educational supervisors. The next intervention proposed would be more organisational with an emphasis on stating clearly what is to be done and with a more focused monitoring system in place to check it is done.

SUMMARY

This study has shown an increase in appraisal in association with an increase in education about appraisal, but a link was not proven. The action research cycle generated theories relating to future interventions and local action research cycles (table 24). Proposals for future interventions include a contract

for the educational requirements of an SHO post, a register of educational supervisors and targeted individual teaching for the educational supervisors about appraisal. The key features of this action research cycle on appraisal are laid out in tables 25 and 26. These are presented as the standard IMRAD (Introduction, Methods, Results and Discussion) format and in the proposed SPIRES (Setting, Problem, Intervention, Results, Evaluation, Subsequently) format for comparison.

Setting: SHO posts in a District General Hospital. Educational supervisors in nine different specialities who were responsible for SHOs working in their speciality.
Problem: Educational supervisor and learner not participating in regular appraisal.
Intervention: Educational sessions for both educational supervisors and SHOs about appraisal content and benefits.
Result: The six monthly SEAP questionnaires showed an increase in the proportion of SHOs having an appraisal from 25% to 63% over a two year period.
Evaluation: There was an association between the introduction of educational sessions about appraisal and an increase in the number of appraisals. There were other factors that were likely to have contributed to the change.
Subsequently: The increase in appraisal was maintained, but only exceeded 70% of all SHOs once. The content of appraisals and the proportion of follow up appraisals after the first appraisal remained a concern. Further interventions proposed were a contract outlining the educational requirements of an SHO post, a register of educational supervisors and targeted individual teaching for the educational supervisors about appraisal.

Table 25 SPIRES summary for the intervention to increase appraisals

<p>Introduction and aims</p> <p>Appraisal is of benefit to those in training but the rates of appraisal in the NHS are low. The intervention set out to increase the rate of appraisal in a District General Hospital.</p>
<p>Method</p> <p>The SHO Educational Audit Project (SEAP) questionnaire, which has been applied six monthly since 1994, was used, alongside structured interviews and timetables to assess the provision of appraisal. The intervention applied was the provision of educational sessions on appraisal.</p>
<p>Results</p> <p>The six monthly SEAP questionnaires showed an increase in the proportion of SHOs having an appraisal from 25% to 63% over a two year period.</p>
<p>Discussion</p> <p>There was an association between the introduction of educational sessions about appraisal and an increase in the number of appraisals. There were other factors that were likely to have contributed to the change. The content of appraisals and the proportion of follow up appraisals after the first appraisal remained a concern.</p>

Table 26 IMRAD summary for the intervention to increase appraisals

RESULTS

CHAPTER 8

TEACHING

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SUMMARY

PROBLEM – TEACHING 1994 TO 1996

The GP vocational training scheme and its two year placement in hospital posts, was intended to be an educational period to prepare doctors for general practice. 'Ward teaching' would take place in the work environment, and 'classroom teaching' would be undertaken in protected time in a designated room (Grant and Masden 1996). However the service commitment in each hospital post has limited the amount of time for teaching throughout the NHS (SCOPME 1991, Crawley and Levin 1990, BMA 1998).

The features of good quality teaching in both settings include assessing the knowledge level of the learner, encouraging ownership of the problem under discussion, addressing the learner's questions, providing relevant up-to-date information, allowing time for the learner to state any remaining questions and discussing how unanswered questions will be addressed (Schön 1983, Fox et al. 1989, McCaugherty 1991, Coles 1994, Eraut 1994, Brookfield 1995, Lave and Wenger 1997, Greenhalgh 1997b, Kurtz et al. 1998, Donald 1998, Playdon 1999, Maudsley 1999, Greenhalgh 2000, Kemple 2000).

In the local setting of Portsmouth, in 1996, the issue of teaching for SHOs in the speciality of Obstetrics and Gynaecology came to light from two directions at the same time. One was from comments made in a letter from the SHOs and the other was from the SEAP questionnaire data.

The department of Obstetrics and Gynaecology consisted of eight consultants (of whom two were part time), one senior registrar, seven registrars, four senior SHOs and nine junior SHOs. The junior SHOs included up to four from the GP vocational training scheme. The department was a busy unit with, in 1996, 5200 deliveries per year taking place in the hospital with another 1000 per year in the attached GP unit. The Gynaecology department dealt with 6800 admissions in the same year.

The letter from the SHOs to the consultants was dated 12th February 1996, and was written,

"collectively by (all) the GP registrars working in the Obstetrics and Gynaecology department, to express our concern about the inadequate level of training and teaching received since starting in post in October 1995".

It was signed by five SHOs in the department. The key points are outlined in table 27.

"Sheer work volume on the wards has made it impossible to attend...meetings and...tutorials."
"No senior member of staff attends" teaching sessions, who "can answer outstanding queries or provide more informed opinion based on years of speciality journal reading and experience."
"We are not entitled to study leave to attend educational courses, such as those run in preparation for the DRCOG exam."
"We have no day-to-day teaching from a specific consultant or registrar on ward rounds."

Table 27 Summary of written criticisms of training 1996

At the same time the SEAP questionnaires demonstrated problems with teaching in Obstetrics and Gynaecology (table 28). These problems were more obvious, because they showed a statistically significant difference (Chi Square $p<0.05$). More Obstetric and Gynaecology SHOs (61%) said they did not meet to discuss clinical cases than SHOs in other posts (33%) and meetings to discuss clinical cases also happened less often (table 28).

	Obstetrics/Gynaecology		All posts	
	Yes	No	Yes	No
a) Do you meet to discuss clinical cases with a senior doctor?	7	19 (33%)	39	11 (61%)
b) Do these meetings take place at least once a week?	5	13 (72%)	33	6 (15%)

Table 28 Responses to questions about clinical case discussion 1994-1996

(Question a: Chi Squared = 4.62, df = 1, p = 0.03, difference in proportions = 28%, 95% CI = 3% to 54%. Question b: Chi Squared = 17.9, df = 1, p = 0.001, difference in proportions = 57%, 95% CI = 33% to 80%.)

The SEAP questionnaire also showed evidence of problems with study leave. In 1995 no one in Obstetrics and Gynaecology had applied for study leave, but in the other SHO posts 80% or more applied. The SHOs had stated at the monthly GP SHO meetings that there was no point applying if they knew it would not be approved. Over the period 1995 to 1997 only one SHO out of all posts was refused study leave and this was in Obstetrics and Gynaecology.

In contrast to the SHO's comments, the consultants suggested the SHOs were disinterested and apathetic, that teaching was there for the taking, for example, in outpatients but the SHOs did not bother to attend. Thus, two opposing points of view could be taken. Either the SHOs were overstating the problem or the consultants were underestimating it. However, the SEAP questionnaire had identified the problem as being present over more than one 6 month period, so more than one cohort of SHOs had found the same problem. SHOs in Obstetrics and Gynaecology had not made similar statements when they were

in other posts. The evidence therefore suggested it was more likely to be a problem within the post.

Interventions to improve teaching in Obstetrics and Gynaecology were applied over the next three years. They constituted three action research cycles and these are outlined in table 29. Over this period of time there were changes within the Obstetrics and Gynaecology post, but the quantity of teaching did not increase. The following sections describe each stage of the action research cycle in depth and the headings reflect the stages of problem identification, theoretical analysis of the problem, and intervention.

Cycle 1	
Problem	Teaching quantity low
Intervention 1996	SHO letter and interview
Outcome	Friday protected teaching, but not directed at SHOs Transient increase in discussion of clinical cases
Cycle 2	
Problem	Teaching quantity unchanged
Intervention 1997	Graphical and tabulated feedback Facilitated Away Day External visits by Regional Dean and Royal Colleges
Outcome	All SHOs consistently attended induction Scores for quality of induction improved Scores for satisfaction, complaints, leave access improved
Cycle 3	
Problem	Teaching quantity unchanged
Intervention 1998	SHO letter and interview
Outcome	Teaching quantity unchanged

Table 29 Summary of action research cycles for teaching 1993-1999

Theory – analysis of problems and solutions 1996

When the SHOs attended the monthly GP SHO meeting on the 24th January 1996 the discussion focused on the standard of Obstetric and Gynaecology training. Statements made by the SHO's as a group were compatible with the statements made in the letter and the responses to the SEAP questionnaire. The discussion generated possible reasons for the low quality of teaching and

these are outlined in table 30. It was subsequent informal discussion with consultants and course organisers that brought out the issue of unrealistic expectations of attendance and an absence of knowledge about the problems SHOs were facing (table 30).

That the workload prevented attendance at ward and classroom teaching
That the standard of teaching was too low to encourage attendance
That the teaching was not relevant to a future career in general practice
That the timetable was poorly organised and prevented attendance at teaching
That the expectations of attendance were higher than realistically achievable, so consultants gave up teaching
That the consultants just did not realise there were problems with SHO teaching

Table 30 Hypotheses relating to problems with teaching 1996

Most of the blocks to improvement lay within the control of the speciality rather than the Associate Director of GP education. Workload, standards of teaching and timetabling were all areas that were more directly under the control of the consultants. Therefore, the main intervention available to the Associate Director of GP education centred on raising awareness of the issues in the hope that they would be tackled by someone in the speciality. The letter from the SHOs (12.2.96) had also put forward several suggestions and these are listed in table 31.

Consultant teaching at a safe time each week e.g. 08.00-09.00 or 17.00-18.00
Registrar/senior registrar interactive sessions on topics
Patient based teaching...on the wards in short case style to highlight management issues
A whole departmental, bleep free Friday afternoon session, dedicated to teaching

Table 31 Suggestions for improvements in SHO training proposed by the SHOs in 1996

Intervention in teaching 1996 – letter and interview

The Associate Director of GP education met with the speciality tutor to discuss the content of the letter from the SHOs in Obstetrics and Gynaecology and to develop a plan of action. This took place over an hour in protected time with the letter as a focus of discussion.

The letter itself was also part of the intervention. The SHOs had sent it to those involved in education within the local structure, including the clinical tutor, general practice trainers, and the consultants in Obstetrics and Gynaecology. It is possible that other discussions took place between these people, which may have influenced the outcome.

PROBLEM – TEACHING IN 1997

Friday afternoon protected teaching sessions were subsequently started in 1996. These included the whole department from consultants to house officers. The topics tended to be general rather than focusing on the needs of individual grades of doctor. However, small group sessions focusing on the needs of the SHO were introduced and verbal feedback from these was encouraging.

The sessions were run by general practitioners with an interest in training, who put aside their time at no extra remuneration. The co-ordination for this came

from the Associate Director of GP education. These arrangements had passed some of the responsibility for education onto the Associate Director of GP education, who had now taken on the role of arranging part of the session. The teachers had changed from being those in the department who had responsibility for teaching, to general practitioners who had an interest in teaching but received no remuneration. As time progressed these sessions became fewer because the pool of general practitioners prepared to teach shrank.

The speciality had responded actively in 1996 and the response had appeared to address some of the issues. It had increased teaching and placed it in protected time. The timing of the change suggested this was in response to the SHO letter and to the visit of the Associate Director of GP education.

There were other pressures at the time, which aided the process of change. A trend for setting aside whole afternoons for teaching was present in the region. There was encouragement from the Royal College of Obstetrics and Gynaecology to provide time for specialist registrar teaching. These factors may have been crucial in preparing the setting for change.

There appeared to have been a change in 1996, but by 1997 it was apparent that problems continued. Discussions with the SHOs in April 1997 suggested they had actually found no improvement. Field diary records at the time state: "The focus group highlighted areas which were not directly asked in the SEAP questionnaire. These were absence of ward round, and absence of follow up for example". They also described "zero continuity", "no one cares if right or wrong", "no teams, see nobody all day". The points made by the SHOs broke into seven main areas outlined in table 32.

Attendance at teaching was difficult
Teaching was not related to SHO needs
Patient follow up was difficult
Absence of ward round contact
There was an absence of a team
Inappropriate tasks were allocated to SHOs
SHOs could not attend deliveries

Table 32 Problems identified by SHOs in 1997

More problems were emerging and it seemed that the original problem had not yet been addressed. Teaching remained the core concern, but issues about teamwork and follow up within the department were now present.

The interviews with all SHOs in February 1997 also revealed that problems still persisted. SHOs stated:

- We are "just clerking patients..."
- Scores "0 to 1 (out of 5 for this post) because it really wasn't very useful at all."
- "No consultant ward rounds, no teaching ward rounds."
- "With obs and gynae, the impression I get is, it is very busy and consultants are not supportive and no one sort of helpful."
- "Complaints about the Obstetrics and Gynaecology post that I signed a letter for...were not dealt with" and the "letter back...was quite cheeky actually...wasn't helpful."

In 1997 teaching was taking place on the Friday afternoon, but was strongly criticised as not being relevant to the needs of the SHOs. It was described as being "over GP trainee's head", based on "inpatients really" and consisting of "nitty gritty that isn't relevant to general practice". The initial enthusiasm of the

GP trainers to provide general practice related teaching had waned by 1997 and this was not taking place.

In contrast to these statements made by the SHOs, the SEAP questionnaire had demonstrated an initial improvement in the area of teaching provided by a consultant. The original problem highlighted by the SEAP questionnaire had resolved according to the two main questions. All SHOs now said they met to discuss clinical cases and that this took place at least once a week. Either the problem had resolved and the questionnaire would later show deterioration, or the problem had partly been resolved, but had not addressed the core problems.

However the “comments” section of the SEAP questionnaire did show that problems were present in related areas. If teaching was taking place the quality was an issue. SHOs wrote:

- "The educational value of the post has plummeted since April (1996) as SHOs are no longer rostered to attend clinics."
- "We missed out on having antenatal care...too busy to attend even if we wanted to."

It was at this time that rating scales were introduced into the SEAP questionnaire to give some assessment of quality. Because the rating scales were introduced after the intervention in February 1996 there was no comparable data before the intervention.

Question	Obstetrics and Gynaecology April 1996 to Sept 1997	All other SHO posts in 1997
How good is the teaching? 0 poor - 5 excellent	mode 1 range 1-3	mode 4 range 3-5
How much teaching do you get? 0 none - 5 constant	mode 2 range 1-3	mode 4 range 0-5
How good was the induction course? 0 poor - 5 excellent	mode 1 range 0-4	mode 4 range 2-5

Table 33 The responses for quality of teaching and induction 1996-1997
(Obstetric and Gynaecology post n=6 compared to all other posts n=15.)

The rating scales showed that quantity of teaching, quality of teaching and the induction course were rated low in comparison with other posts (table 33). These showed no trend towards improvement over 1996 and 1997. In summary, the verbal statements made when the SHOs met as a group and at interview suggested no improvement. The SEAP questionnaire suggested an initial improvement in the number of meetings for teaching, but showed a problem with the quantity and quality of teaching. Friday meetings were known to be in place, which were compatible with the improvement in the SEAP questions about meetings, but the content of these meetings was insufficient to address the concerns of the SHOs.

Theory – analysis of problems and solutions 1997

The monthly GP SHO meeting in April 1997 had highlighted timetable issues with respect to ward and classroom teaching. The SHOs felt they could not

attend ward rounds to learn about their patients and follow up on their care.

They were rostered to go elsewhere. They felt they were moved from one part of the speciality such as gynaecology to another such as the labour or postnatal wards in a random manner within the same week. They stated they did not have time to build up a relationship with one group of doctors.

The issue of attendance at ward rounds had arisen in the letter of 1996. At that time it appeared to be a problem with consultants getting to ward rounds, but it now also appeared to be the SHOs who could not attend ward rounds.

Furthermore when they attended ward rounds some SHOs said they were administrative ward rounds only rather than teaching opportunities.

The opportunities for consultants and SHOs to meet, establish a relationship and then timetable in ward based and classroom based education seemed to be limited. The SHOs moved around the department too quickly.

The field diary entry 2.6.97 records three suggestions arising from the discussions with SHOs.

- SHOs timetabling to attend ward rounds.
- SHOs working in the same part of the speciality and geographic area for a longer period.
- Specific registrars and consultants being linked to SHOs over a longer period.

The SEAP questionnaire results had highlighted another area where contact between SHOs and consultants could be improved, which was induction.

Proposals were recorded in the diary:

"That the induction booklets and induction course content be redesigned and targeted at the needs of the SHOs themselves."

The issue still remained as to whether or not all the consultants were aware of the problems. If they were aware of them then would specific statements about the problem backed up by some evidence encourage them to resolve the problem?

Feedback to the consultants about the standard of training seemed the most practical intervention, since questionnaire data had now been accumulated in sufficient quantity to allow comparison over time within the post, and comparison between posts. Feedback, both written and verbal, was the next intervention.

Intervention in teaching 1997 – feedback, visits and meetings

The initial intervention was written feedback of information to the consultants about the standard of training in their post compared both with other posts and with the regional contract on standards for SHO education. In February 1997 the consultant who had accepted overall responsibility for the SHOs in the Obstetric and Gynaecology post was sent details of performance in the five main areas identified in the regional educational contract. These were induction, educational supervision, appraisal, review of educational targets and attendance at general practice teaching. These areas were chosen because they covered several of the issues brought out by the SHOs, were relatively easy to measure and had already been stated as objectives by the region. The data was presented graphically with bar chart comparison to the expected standard and to other posts. Copies were sent to the Regional Postgraduate Dean.

Before the effect of this intervention could be assessed other events took place. The Regional Postgraduate Dean scheduled a visit to all SHO posts at the Portsmouth hospitals for the 27th June 1997. At the same time the Royal College of Obstetrics and Gynaecology scheduled a joint visit with the Royal College of General Practitioners in late July for Obstetrics and Gynaecology only. These two visits were likely to have been coincidental since they duplicated use of resources. In anticipation of these visits a further report on the Obstetrics and Gynaecology post based on the SEAP questionnaire data and SHO focus group was sent, in May of 1997, to the Associate Director of GP education and the lead consultant in Obstetrics and Gynaecology.

At this time a new consultant had joined the Obstetric and Gynaecology department who was a keen educationalist. The Associate Director of GP education met this consultant and proposed a meeting of all parties concerned. The departmental meeting took place over the whole day of the 18th July 1997 at a consultant's house some distance from the hospital. This gave time protected from interruption. The Associate Director of GP education facilitated the meeting, which included representatives from all interested parties, namely the SHOs, the consultants, the midwives, the registrars, the administrators and the general practitioners. Sixteen people attended. The consultant had circulated a copy of the SEAP questionnaire and focus group report from May 1997 beforehand. The course organiser (MR) was asked to provide an oral summary of the report during the morning. The meeting discussed what was the ideal educational environment for the education of SHOs in the post, and then what each person in the room could do to help bring it about. The afternoon concluded with an action plan to improve SHO education. (table 34).

A new induction booklet to be written jointly by consultants and SHOs
A review of the educational needs of SHOs by the consultants and registrars
Joint care of patients with registrars and SHOs attending women together and increased awareness by registrars of their teaching role
A review of the daytime rotas by the consultants and registrars
Setting up of parallel training sessions on Friday afternoons to address more career specific learning needs
A commitment to discuss ways to improve the teamwork on the wards
An extension of the roles of midwives to be arranged by the nurses and midwives
A basic skills draft programme jointly written between midwives, registrars and SHOs

Table 34 The action plan proposed at the departmental meeting 1997

The regional visit was not mentioned at the facilitated May meeting. There was no feedback to the course organiser about either the regional or the subsequent Royal College visit (table 35). Informal feedback from the college visits was requested and obtained on 20th of August 1997. This consisted of a letter and a copy of the SHO responses. This feedback highlighted “the lack of ward based teaching and the disparity between what the consultants feel they provide and what the SHOs perceive as realistic”. It also emphasised the “lack of team structure”.

The formal report was subsequently seen in September 1997. This complemented the finding from the SHO group, letters and SEAP questionnaire, but also gave an overview of the post and covered registrar input and study leave. Statements in the formal report included:

- “SHOs felt as if they were permanently floating and asked to do whatever task needed doing without any proper training or experience and there was no continuity in their work.”
- “Registrars were unwilling or unable to teach.”
- “no formal ward rounds.”
- “rota made up at very short notice.”
- “no study leave.”

The report concluded by saying that “training for SHOs was unsatisfactory, particularly in terms of clinical experience, teaching on the wards and labour ward and theatres and continuity of care”. The report suggested the post should “continue to be recognised for the time being but should be re-inspected in a years time”. The report from this subsequent meeting was never seen.

Date	Intervention
Feb 97	Feedback on five specific areas of education
May 97	Detailed feedback of questionnaire and focus group data
June 97	Regional visit to all hospital posts
July 97	Facilitated away day with all concerned parties
July 97	Royal College visit

Table 35 Interventions in teaching 1997

PROBLEM – TEACHING IN 1998

It appeared that most problems had been discussed and that solutions were going to be put in place to resolve these issues. The fact that a meeting had taken place suggested a genuine wish to resolve the difficulties or to be seen to be trying to resolve them.

By 16th July 1997 an induction booklet had been prepared by the SHOs and a draft induction programme had been drawn up.

A review visit by the Regional Postgraduate Dean was scheduled six months later on the 3rd October 1997. The report on this described:

- “Remarkable progress.”
- “Obvious success of the awayday.”
- The “induction pack was judged as excellent by SHOs.”
- The “use of midwives as teachers was excellent.”
- “Outpatient teaching slots were excellent.”

However, it still recommended “improved teaching programmes”, “increased informal teaching opportunities on wards”, “outpatient experience” and “registrars to take part in day-to-day teaching”.

The initial single intervention had become a complex multiple intervention (table 35), which made it impossible to determine what intervention had the most impact. When the Associate Director of GP education was asked what triggered

the obstetric and gynaecology meeting (on the 18th of July 1997), the reply was that "There was no evidence of organised training, from the junior doctors, happening in obstetrics. There were disgruntled SHOs and the figures (of the SEAP questionnaire)" (16.7.97). The arrangements to meet came within two months of the feedback being distributed. The meeting was started by a presentation of the feedback at the request of the Associate Director of GP education. It appears that the feedback was an integral part of the intervention and may have been a trigger for the subsequent departmental meeting. This complex intervention illustrated a lack of co-ordination between external visiting organisations (the two Royal Colleges and Postgraduate Regional Dean) and the local course organisers. The external visitors did not use the information available from the local educationalists and the local educationalists were not party to the reports from the external visitors. By 1998 it became apparent that problems had still not resolved. The field diary entry for the monthly GP SHO meeting in January 1998 showed continuing problems.

"The discussion about SHO posts was so similar to previous years. I felt myself almost having to let it pass over me...I wonder if consultants get to the same point. Ward rounds are still being done on their own. There was no antenatal contact, no outpatient contact and no deliveries of babies. Three Obstetrics and Gynaecology SHOs were present and all agreed. The Obstetrics and Gynaecology post doesn't seem to have really changed. There is the feeling of rhetoric. But they (the SHOs) stated it was set to improve in April when it was to be more streamlined with less jumping from one to another department, "less disjointed". One team in outpatients with a consultant."

The diary entry went on to say,

"Waiting for the promised change is the easiest and most sensible option at this point. You need to always keep the promise of change alive to fend off criticism. The game of 'will do' is taking place. With each assessment they say they are going to correct it. For each SHO they say it will happen next six months (after they have left)."

The comments illustrate the frustration of the course organisers and Associate Director of GP education about not being able to bring about a clear change. Change had been shown, but it was still insufficient to address the SHOs' issues. At this time it was still unclear if any change had actually occurred. The questionnaire data processing was too slow with a turn around of up to six months after collection of the data. It also required at least two, six month posts before a trend in improvement could be seen for any item.

The SEAP questionnaire did subsequently show a clear increase in induction and some change in teaching quality, but the amount of teaching continued to be scored low (table 36). There was also a reduction in the number of SHOs who said they “discussed clinical cases with a senior doctor” and in April 1998 no SHO said they discussed cases with a senior doctor.

Question	Obstetrics and Gynaecology April 1996 to Sept 1997	Obstetrics and Gynaecology Oct 1997 to Sept 1998	All other SHO posts in 1998
How good was the induction course? 0 poor - 5 excellent	mode 1 range 0-4	mode 3 range 0-4	mode 4 range 2-5
How good is the teaching? 0 poor - 5 excellent	mode 1 range 1-3	mode 3 range 1-3	mode 4 range 3-5
How much teaching do you get? 0 none - 5 constant	mode 2 range 1-3	mode 2 range 1-2	mode 4 range 0-5

Table 36 The responses for quality of teaching and induction 1996-1998
(Obstetric and Gynaecology post n=6 compared to all other posts n=15.)

Theory – analysis of problems and solutions 1998

As had occurred in 1996 there was a change. This had not resolved the issues of teaching quantity, but induction was now taking place in a more structured way. These changes in induction had also preceded the induction initiative described in chapter 11, which started in August 1998.

After each intervention there appeared to have been a honeymoon period where the involved parties acknowledged there had been an airing of the problem and an attempt to improve it. Subsequently all parties became frustrated, either by the lack of change or the lack of appreciation of the change that had been achieved.

During this honeymoon period there had been a review visit, which had talked about “remarkable progress”, and yet after one year there was little evidence of progress in most areas. It appeared that the plans for change had been taken as evidence of change and that the SHOs had given positive feedback in the presence of these plans. The external visiting organisation had missed the absence of change. There was no objective measure or target that had been set by them or achieved.

Intervention in teaching 1998 – letter and interview

In October 1998 the Associate Director of GP education for Portsmouth became aware of further feedback from a single SHO about the quality of the Obstetric and Gynaecology post. In response to this letter the SEAP questionnaire data was reviewed, tabulated and forwarded to the Associate Director of GP education and the speciality tutor for Obstetrics and Gynaecology. A letter of reply from the speciality tutor addressed the questionnaire findings in detail and stated there was adequate educational opportunity in the department, mainly in outpatients. The course organiser (MR) and speciality tutor met to discuss the questionnaire replies in more detail. The meeting took place over an hour on the 16th December 1998. The outcome was agreement to increase the informal links between consultant and registrar allocated to one SHO, to increase case

based teaching by registrars and to meet with all SHOs on a regular basis to obtain feedback.

PROBLEM – TEACHING IN 1999

Once again there were encouraging signs of possible change. At the monthly meeting with the SHOs one doctor stated that the post was good and she felt well supported. Another SHO confirmed this. "The consultants are fine, the problem was with the 'old guard'". A previous obstetric SHO commented on how much it seemed to have changed. Discussion centred on the "old Obstetrics and Gynaecology post and the new Obstetrics and Gynaecology post". This was the first meeting when there had not been complaints about the post. There was an acceptance of the post, which contrasted with the comments made at interview two years earlier.

However, once again, by the middle of 1999 one SHO wrote how the post was:

- "Bloody crap."
- "Ward based teaching was non-existent."
- "Kicked out of clinic teaching sessions as midwifery or nursing students were there."
- "In three months there were four teaching sessions only."
- "Total lack of communication between consultants and junior staff."

A tutor in Obstetrics and Gynaecology also confirmed that the post was not improving and that attempts at change had produced some improvement that then reverted back.

The SEAP questionnaire continued to show no improvement in the area of teaching quantity, which was always rated less than two out of five, and this still stood out in contrast to other SHO posts. Discussion of clinical cases had fallen further and since 1998 no SHO had stated that they had discussed cases each week.

It remained possible to dispute both the anecdotal evidence and the SEAP questionnaire, but the timetable for teaching still showed only a maximum of

three possible teaching sessions. The session on the Friday afternoon was not related to the needs of the SHOs. A session on Wednesday morning was aimed at CTG recording, which again did not relate directly to the SHOs, but did if it was case based. The third session was run by a registrar and did not always take place. Thus the timetable fitted with the picture suggested by the SHOs and by the questionnaire.

Despite this, there had been a change noted in some areas. The SEAP questionnaire continued to show an improvement in the rates of induction, which consistently took place for all SHOs after 1997. The quality of the induction book was also given a higher score after 1997. Satisfaction scores for the post rose to 3 or 4 after 1997 (more similar to other posts), whereas they were 0 to 3 up until 1997.

One further finding over the whole period 1994 to 1999 was that the support from the educational supervisors and the quality of appraisal remained variable with scores ranging from zero to five on the questionnaire. This contrasted with daily support from senior staff, which was consistently scored highly. It appeared that some consultants were good at educational supervision and appraisal, but others continued to have problems.

OVERVIEW 1996-1999

Over the three year period, and the three cycles of action research, there was no large scale change in the quantity of teaching. This conclusion was based on the SEAP questionnaire data, the SHO timetables and the SHO verbal feedback. Interventions applied were feedback, interviews, letters, facilitated group discussion and external visits. These were associated with changes in other areas including induction, study leave and identified time for teaching, but not with changes in teaching quantity. Theories arising from this period are outlined in table 37 and are also referred to in the following text.

There are several possible reasons why the amount of teaching did not improve. These may have included:

- Teaching being overshadowed by other problems in the department.
- The key people to produce change were not identified.
- A lack of consistent focus on teaching especially between the external visitors and the local educationalists.
- The interventions did not offer solutions, but expected the department to produce them.
- The interventions were not sufficiently focused on defined targets and these targets needed to be kept under closer review.

During the interventions there was a sensation of knocking on the outside and tackling measurable items. The root cause of difficulty with teaching was likely to be deeper and probably related to relationships within the department and workload pressures. Addressing these may have helped to change the departmental ethos towards teaching.

In the absence of change an option was to remove official recognition of teaching status from the department, but the cost of destroying the Obstetrics and Gynaecology post was too high. Four out of 16 SHOs on the rotation went through this post and there was no alternative posts available.

Indeed, instead of an escalation in the level of intervention there was actually repetition.

Both the interventions in 1996 and 1998 were interviews. These did involve different people, but there had been no apparent learning or change in intervention. Evolution of the research cycle had been blocked. Possible reasons included:

- Interviews were the easiest course of action to take.
- Interviews were the quickest and least resource intensive intervention.
- An interview was a way of working alongside the consultants rather than acting in opposition.
- The interview gave an opportunity to hear the consultant's perspective and to soften the feedback.

- The interview was a way to offer a second chance (which verged on the border of collusion).
- The interview allowed fact finding about, for example, the timetable.

Educational supervisors

A variation in the standard of educational supervisors was noted. Every consultant in this department took on the educational supervisory role irrespective of their interest or skills in education. Some educational supervisors were good, yet others were evaluated poorly by the SHOs. Within those poorly evaluated there were some who were disinterested, some who did not know what their role involved and some who did not know how poorly they were doing. This led on to the theory that the approach for each educational supervisor could vary from stopping supervision, to clarifying their role or to just feedback on the standard of teaching. This is outlined further in table 62 of the discussion chapter.

The variation in educational skills between consultants will have a different impact depending on the size of a department. In a small department one consultant with good educational skills may be able to take on all the teaching, but in a large department the teaching has to be shared and cannot be monitored so closely. The lead consultant in a large department needs to have leadership skills to influence the other members in their department as well as skills in education.

The interventions in 1996 and 1998 targeted one person who then had to influence all members of the department. The intervention in 1997 targeted many more people in the department but produced no greater change in teaching. A midway point would be to feedback individually to each person involved in SHO supervision, to identify the educational supervisors of SHOs, provide an identity for them as a group and give each educational supervisor information and feedback.

Arbitration and screening role of the SEAP questionnaire

Turning to the system of monitoring SHO posts, the SEAP questionnaire acted as an arbitrator for both the SHOs, who said there was no change, and the consultants, who said the problem was resolved (appendix 8). For example, in 1996 the SHO verbal responses about the post were negative, but the written responses for discussion of clinical cases showed an improvement. Rather than saying there was no change the message for the consultant was “yes we agree you have produced improvement but it has not tackled all the issues”. The SEAP questionnaire helped to give a more consistent picture, but the lag time in reply and time taken to observe a trend caused problems. The consultants and course organisers did not feel that the SEAP questionnaire provided sufficient evidence of problems to act on if used on its own. Collection of corroborating information from the consultants and SHOs was required. The SEAP questionnaire acted as a screening tool that highlighted the need for subsequent, specific, focused monitoring of a detected problem.

Presentation of questionnaire feedback

There were two methods for detecting problems from the SEAP questionnaire data. One was to lay out the data in a manner that allowed easy comparison between posts. In this case the absolute figures were helpful to refer to, but a percentage allowed quicker comparison. Percentages alone could, however, lead to overconfidence in the data, because the absolute numbers were small. Absolute figures were therefore needed as well. The second method of identifying problems from the data was to single out those that were statistically significant. The issue of assessing statistical significance is discussed in the methods section (chapter 5). Even if the conclusions drawn from tests for statistical significance were not valid, because of small sample size, the tests still identified areas for further examination. Data was therefore presented as absolute figures and percentages, and screened statistically to aid detection of problems.

The format for data presentation evolved as the study progressed. The most useful format was a comparison of the post with all other posts in the local area and with the expected regional standard. Bar charts were used and had a visual impact but needed to be supplemented with figures. These figures were given as absolute numbers every six months with the proportions in brackets. An accompanying statement of the overall trends and main differences was given as well.

A regional and national problem

The issues discussed here, in the speciality of Obstetrics and Gynaecology, were relevant to other hospitals throughout the Wessex region (appendix 8). At a meeting of the Wessex Association of Course Organisers in September 1999 the issues around SHO training were discussed and Obstetrics and Gynaecology was cited as being the worst speciality throughout the region. There were 23 course organisers present representing all seven GP vocational training schemes in the region. A questionnaire was circulated asking which specialities were the “worst” and which were the “best” in each training scheme. Obstetrics and Gynaecology was always in the “worst” category and never appeared in the good category. It was the worst post overall in four GP vocational training schemes. Subsequently, a further survey of course organisers, asked for a rating of individual SHO posts and identified only one good Obstetrics and Gynaecology post at a hospital known for its supportive clinical tutor.

Problems with obstetric training have been highlighted elsewhere (Ennis 1991, Smith 1999, Field and Bahrami 2001). Yet in 1990, 89% of GP trainees had worked in Obstetrics and Gynaecology and in 1999 75% of JCPTGP applications included Obstetrics and Gynaecology posts (Crawley and Levin 1990, Field and Bahrami 2001). Lindsay Smith (1991, 1999) described a model of weekly release to general practice from Obstetrics training to overcome some of the problems. Specific pilots to tackle the problems in Obstetric and

Gynaecology training were subsequently set up in other schemes within Wessex and elsewhere (Smith 1999, Rickenbach and Dunleavey 2000, Field and Bahrami 2001).

One reason for the difficulties in Obstetrics and Gynaecology may have been the introduction of shift systems within large departments. This took place in 1996 at Portsmouth and this time was associated with an increase in complaints about the SHO post. Shift work disrupted the ward team and made timetabling of teaching and co-ordination of patient care more difficult. A second reason for difficulties within Obstetrics may be that the role of the SHO is being lost between the twin onslaught of midwives taking on the care of low and medium risk deliveries, whilst the specialist registrars and consultants take on all the work of high-risk deliveries. The SHOs may have become marginalised with the consequence that the incentive to teach and support them was lost.

SUMMARY

The range of interventions applied in the speciality of Obstetrics and Gynaecology were interview, feedback and external visits with the threat of post withdrawal (tables 37,38,39). These produced change but did not increase the quantity of teaching within what were designated teaching posts. The options are to make the interventions more specific and focused with closer monitoring or to provide alternative educational posts. Specific targets could include:

- Ward and classroom teaching from a consultant or specialist registrar timetabled at least twice a week, for the SHOs only, with internal evaluation of each session to check quality and relevance.
- A core of enthusiastic educational supervisors is identified and supported to provide weekly supervision.
- That the department develops systems for internal feedback on the standard of teaching, and acts on these.

Interventions (and external visit assessments) should target specific, clearly stated objectives, which are closely reviewed.
Interventions should target named individuals and follow up with these individuals.
Implementing and checking systems for internal feedback within the department may encourage change more than external assessment alone.
The SEAP questionnaire acted as an independent arbiter, highlighted problems in the SHO posts and provided evidence of problems in the SHO post.
There was a lag time before data was collated and trends in the SEAP questionnaire data became apparent.
Statistical significance provided a means of screening data from the SEAP questionnaire.
Absolute figures with percentages and bar charts were the preferred methods to present the SEAP data for feedback.
The standard of educational supervision varies within one department and a smaller number of interested educational supervisors would be preferable.
There should be greater co-ordination between external visiting organisations.
There should be greater co-ordination between external visiting organisations and the local educationalists, including the GP SHO programme organisers.
There was a “honeymoon” period after a post had been criticised when the promise of action reduced criticism.
Withdrawal of an SHO post is an empty threat if there is no alternative post to replace it with.
There are problems with Obstetric and Gynaecology training throughout most of the region and are reported elsewhere in the literature.

Table 37 Theoretical principles arising from the action research cycles on teaching

Subsequently the department of Obstetrics and Gynaecology developed an alternative model for an SHO post, which provided experience in gynaecology, obstetrics, family planning and genitourinary medicine. There was more work in outpatients, labour ward and acute assessment of gynaecology emergencies and no routine ward admissions. SHOs actively chose this post during their elective period when they could choose any speciality to work in. In this way the post was filled on a regular basis. Evaluation was consistently positive (Rickenbach and Dunleavey 2000).

<p>Setting: A district general hospital Obstetric and Gynaecological department. Teaching monitored by questionnaire, focus group, timetable setting and verbal feedback.</p>
<p>Problem: Quantity of SHO teaching less than other hospital posts.</p>
<p>Interventions: Feedback to hospital consultants about educational standards, interviews, letters, facilitated group meetings, and external visits over the period 1996 to 1998.</p>
<p>Result: There was no large scale change shown in the quantity of teaching in the classroom or on the ward. A defined time was set aside for teaching for all the department, but it did not address the needs of the SHOs.</p> <p>There was an increase in induction and fewer complaints about study leave or contract changes after the 1997 to 1998 period.</p>
<p>Evaluation: The defined time for teaching is likely to have occurred because of changes in registrar grade teaching. The conclusion that the interventions did not consistently alter the amount of teaching is likely to be correct.</p>
<p>Subsequently: The interventions produced no longstanding improvement in teaching quantity. More focused interventions with specific targets for improvement, close follow up, named educational supervisors and internal department feedback are suggested.</p>

Table 38 SPIRES summary for the intervention to increase teaching

<p>Introduction and aims</p> <p>Service commitment overshadows education in hospital training posts and this has been of concern in Obstetrics and Gynaecology where changes in work pattern have increased consultant workload. The aim was to increase the quantity of teaching.</p>
<p>Method</p> <p>The SHO Educational Audit Project (SEAP) questionnaire, which has been applied six monthly since 1994, was used, alongside structured interviews and timetables to assess the provision of teaching.</p>
<p>Results</p> <p>Feedback to hospital consultants about educational standards, interviews, facilitated group meetings, and external visits over the period 1996 to 1998 produced no change in the quantity of teaching. There was an increase in induction and fewer complaints about study leave or contract changes after the 1997 to 1998 period.</p>
<p>Discussion</p> <p>Better definition of the problem, clearer solutions, setting of specific targets, closer follow up and better co-ordination of interventions are needed.</p>

Table 39 IMRAD summary for the intervention to increase teaching

Postscript: After a meeting of all SHOs, a letter and a further meeting of SHOs with the lead consultant, two, weekly, case based seminars with a consultant were introduced in 2002. The number of educational supervisors was also reduced by 2002.

RESULTS

CHAPTER 9 **ATTENDANCE**

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SUMMARY

PROBLEM – ATTENDANCE 1993 TO 1996

Low attendance at educational sessions is a problem throughout the NHS (Heyworth 1993, Baker and Sprackling 1994, Styles et al. 1994). Heyworth (1993) highlighted the problem at Portsmouth itself in the “British Medical Journal” with respect to Accident and Emergency teaching. Baker and Sprackling (1994) described low attendance at general practice teaching and noted a difference in perception of attendance by the SHOs and consultants.

Poor attendance can de-motivate both the organiser and those who do actually attend. Both may feel time has been wasted (Heyworth 1993).

In 1993 it became the policy of the Wessex Region Deanery to have a half-day release course for SHOs on general practice rotations. At Portsmouth this session was scheduled for the last Wednesday morning of each month. The choice of day was determined by the fact that the course organisers were only available on the Wednesday, when the GP registrars' course already took place. The format was small group work and learner centred. Discussions were intended to be based on practical problems faced by SHOs, usually starting from cases based in general practice. A poster was specifically designed to advertise the sessions. Each SHO and consultant educational supervisor on the GP rotation was individually mailed a timetable for the year and a flyer each month advertising the next session.

Attendance varied from one to nine SHOs out of the 16 on the GP rotation who were expected to attend. One or two additional SHOs who were doing their own self constructed scheme also attended. They were usually doing single posts and had an interest in a general practice career. The unpredictability of numbers attending made planning difficult and injected uncertainty until the last minute before the meeting. For this reason reply slips were introduced in 1994. These gave a better estimate of numbers attending, but some of those stating they would attend still did not attend. There was no change in attendance rates. Average attendance remained at five (31%) out of the expected 16 on the GP rotation.

Theory – reasons for poor attendance 1993 to 1996

To determine the reasons for the low attendance rate, all SHOs who did not attend were interviewed by telephone. There were five main categories of response, which were unaware/forgot, too busy, holiday, sickness and night shifts.

Quality of education was not mentioned in this survey of non-attenders. As this could have been a factor in non-attendance, all sessions were evaluated using anonymous written feedback. Both open questions, asking about suggested improvements to the session, and a closed scoring system for satisfaction were used. Examples of improvements suggested included sponsorship for coffee at the morning break and addition of slides. Satisfaction scores were always above 60% and usually around 80%. It was concluded that the education sessions were of sufficient quality to encourage rather than discourage attendance.

Out of the five reasons for not attending, identified by the SHOs, sickness could not be controlled for and holiday had a priority over a single educational session. Night shifts could be moved, but this required organisation within the SHO post. Similarly, pressure of work and timetabling needed to be addressed by the consultant educational supervisors within each post. The “unaware/forgot” category seemed the first to tackle.

Intervention in attendance 1996 – telephone reminders

The SHOs and consultant educational supervisors were already receiving poster advertisements, an annual timetable, and monthly flyers. The next step appeared to be personal contact and the quickest method was by telephone using the paging system of the hospital. On two occasions in 1996 and again twice in 1997 all SHOs who did not return a reply slip were telephoned to remind them about the meeting two weeks before it took place. It was stated that we “just wanted to check if they knew about the meeting and would they be able to come”. The telephone contact continued with discussion about the post and how the SHO was managing.

PROBLEM – ATTENDANCE 1996

There was no practical or statistically significant difference in attendance after telephoning the SHOs to remind them about the teaching session (table 40).

There were, however, some benefits.

- The number likely to attend became more realistic as those on holiday or night shifts declared themselves.
- Telephone contact collected information about the SHO posts and may have also helped to develop a rapport.

The cost was the time taken to determine the pager number of each doctor, actual time spent on the telephone for both parties and the time chasing up those who were not answering their pagers (usually because they were not in the hospital due to holiday, sickness or shift-work). Telephoning often generated other queries. These might have been dealt with elsewhere without the use of the course organiser’s time. The field diary records “a feeling of being a nuisance when doctors were busy”. The diary goes on to state, “To counter this I often found myself opening with a general query about how the job was going, leaving the question of attendance to last and then almost apologising for asking”.

	Telephone reminder	No telephone reminder
Number of attenders	28	30
Number non-attenders	20	30

Table 40 Attendance with and without prior reminder telephone calls (Figures combine both the 1996 and 1997 telephone intervention.)

In this setting, with a well-advertised course, telephone reminders in the two weeks before the meeting had no practical effect on attendance. The design and scale of the assessment of the intervention may have missed a change in

behaviour, but this would not have been of practical significance. The telephone intervention was repeated in 1997, but again produced no useful change.

It is possible that the telephone intervention lacked compulsion. The diary records suggest that the telephone contact was more informative than directive, the priority being to maintain rapport. A firmer line stating that the SHO must attend may have produced more change. In addition, the telephone contact had only involved the SHO and it may have been more effective to involve the consultant or hospital based rota organiser.

Theory – reasons for poor attendance 1996

Telephone contact with the SHO alone had been of little benefit. The unaware/forgot category was not a major contributor to non-attendance in this setting. The next step was to tackle the “busy” element. Other tasks were being given priority by the SHOs and consultants, so it was proposed that increasing awareness of the regional priority for attendance at educational sessions would help increase attendance.

Feedback to the individual and consultant on attendance was chosen as it personalised the issue, showed it was deemed to be important and demonstrated the situation was being monitored. The hypothesis was that local feedback on personal attendance compared to peers and a reminder of the contractual requirement to attend would increase attendance.

Intervention in attendance 1997 – feedback

Data from the attendance registers was collated in bar chart format to demonstrate attendance rate at the sessions over the whole of 1996 for each SHO and for each SHO post (appendix 9). The bar charts were sent to the relevant SHO and consultant educational supervisor with only the recipient's data identifiable. The names of other SHOs and posts were removed from the chart. A covering letter stated that it was a regional policy that SHOs should

attend the GP education sessions and explained the benefit of these sessions. The letter and chart were sent out in December 1996.

PROBLEM – ATTENDANCE 1997

After completion of the year's course an increase in attendance became apparent (figure 9). There was a time relationship between the change and the intervention, which took place in December 1996 and the change was statistically different when comparing the number attending over the same period of time before and after feedback (table 41). To look at the effect of seasonal variation and the effect of starting dates for new SHOs, the same calendar months were also compared and the change remained statistically significant.

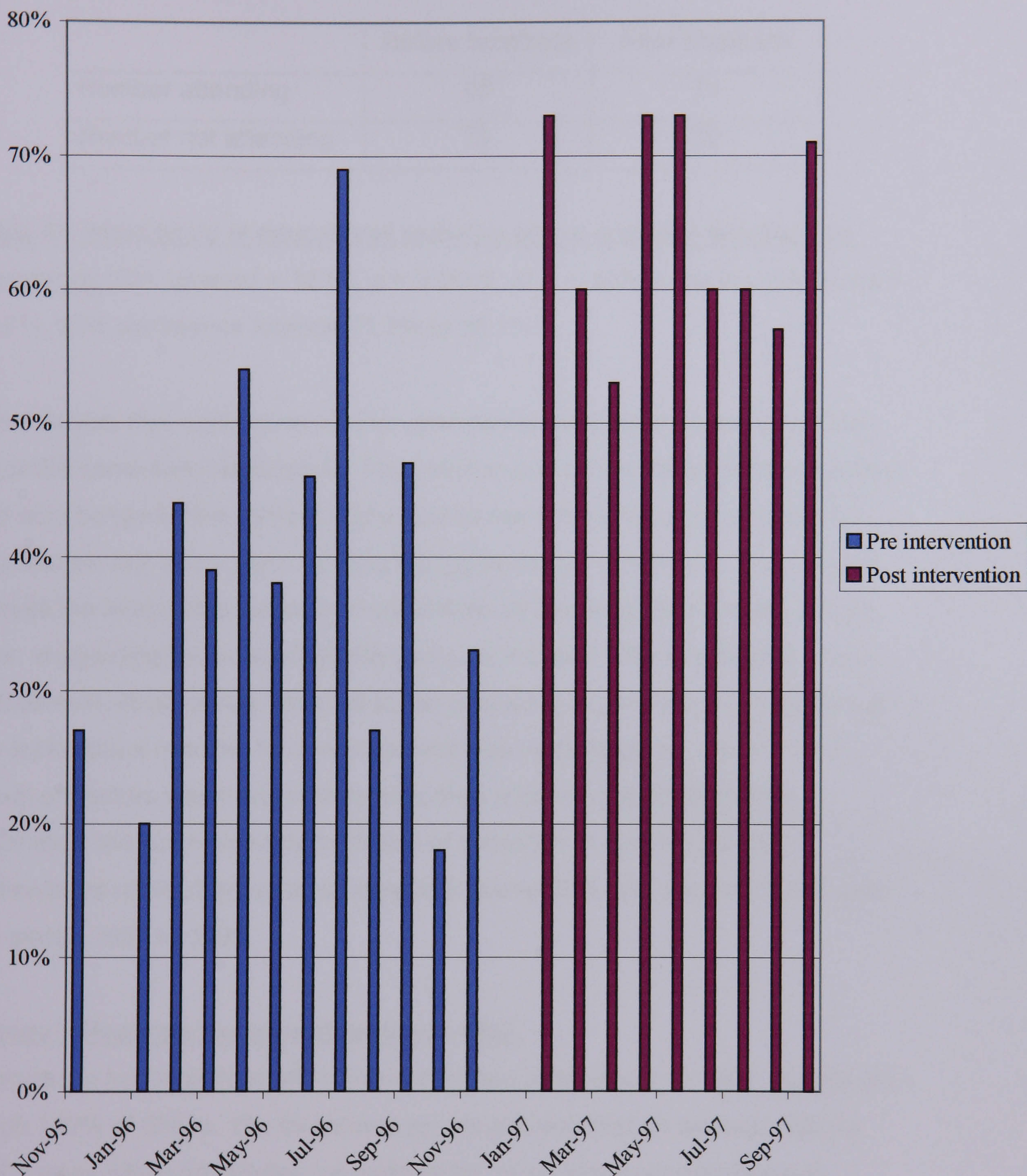


Figure 9 The proportion of SHOs who attended each month before and after feedback on attendance (100% is the total number of SHOs expected to attend.)

	Before feedback	After feedback
Number attending	50	71
Number not attending	72	39

Table 41 Attendance at educational sessions before and after feedback on attendance (Chi squared = 12.86, p = 0.0003, df = 1, difference in proportions = 23.6%, 95% confidence interval 11.1% to 36.1%.)

Other factors that could have altered attendance were considered but did not show the same time relationship. The location and group format of the sessions had not changed. The content of the course had produced some changes in attendance, but these were not long lasting and were confined to one session. Overall the evaluation scores and comments on the evaluation sheets did not alter, suggesting the session quality had not changed. The attendance of new enthusiastic doctors may have led to the persisting increase in attendance over the subsequent months. No measurement was undertaken to assess if one group of doctors was more enthusiastic than another, but other course organisers did not notice any evidence of a change in quality of doctor. Subsequent rates of attendance remained above 50% and averaged 60% over the period 1997 to 1999.

Theory – Reasons for poor attendance 1997

Attendance had improved after the intervention of feedback in 1997, but did not reach 100% of SHOs. The telephone survey showed that on average 30% of SHOs were either on holiday, on night shifts, or on sick/maternity leave in approximately equal proportions. It appeared that expectations of attendance were unrealistic and that a target of 70% of all SHOs was more appropriate. Indeed no GP vocational training scheme in Wessex had achieved greater than 80% attendance.

In October 1997 nine course organisers responsible for training hospital SHOs met to discuss SHO attendance. For the six GP vocational training schemes represented, annual attendance was 18%, 35%, 39%, 41%, 73% (Portsmouth), and 80% (Salisbury). One area had stopped its course due to poor attendance and Salisbury attributed its high attendance rate to enthusiastic local consultants. The reasons put forward by course organisers, within Wessex, for non-attendance are listed in table 42.

Perception of the day (essential, contractual, fun, relevant, interactive, non-threatening, seen as skive)
Other pressures – let down colleagues, guilt
No protected time
Work hangover
Lack of notice – advertising, reminders, both SHO and consultant
Lack of monitoring (register, feedback, certificate, evaluation, learning diary)
Not relevant to their needs
Location – distance
Continuity – of the course and effort of course organisers
Lack of awareness of study leave entitlements
Study leave swallowed by departments

Table 42 Quoted reasons for non-attendance – course organisers in 1997

To determine the relative importance of each reason a questionnaire was sent by the Director of Postgraduate GP education, to all known general practice SHOs (112) in the Wessex region, in November 1997. This asked them to rate the contribution of 13 factors that could affect attendance. Each factor was described by a statement and the SHO was asked to score the statement from 1, total agreement, to 4, total disagreement. At Portsmouth 9 out of 12 SHOs replied to the questionnaire giving a response rate of 75%. The response rate

for the whole region was low at 21.4%. The regional results were similar to those at Portsmouth.

The top three factors that most respondents agreed with were:

- Attendance being blocked by work.
- A feeling of dumping work on colleagues.
- No one to cover their work.

These factors have been found in other surveys of SHO attendance (Styles 1994).

No further intervention was applied at Portsmouth because it had now become a regional issue. It would have been difficult to determine if any change was due to the local intervention or the regional drive. The region sent letters to each vocational training scheme to encourage attendance. The letter stated that attendance was mandatory and it requested that records of attendance were sent to the regional office. The regional office also put forward the proposal that attendance was part of additional study leave.

OVERVIEW 1993 TO 1997

Over the three years of this part of the study, the Portsmouth vocational training scheme moved from an absence of career orientated training to 60-80% attendance at monthly general practice half-day education. The process was started by the identification of one person who would be responsible for the half-day release course. Identifying a specific role, with protected time and funding, would be the first step to establishing a course in other settings. There then appeared to be several steps to establish regular educational sessions:

- Set up regular sessions.
- Look at the quality of the session with evaluation.
- Increase attendance numbers by feedback.
- Monitor quality and attendance and give feedback on this to learners and organisers on a regular basis.

This action research cycle has suggested that feedback of data about previous attendance will increase subsequent rates of attendance. The criteria linking feedback to increased attendance are outlined in table 43. No other factor was identified which produced a persistent change in attendance or showed the same time relationship to the increase in attendance in this particular setting.

Criteria	Present	Absent
Change occurred after intervention	√	
The timing of change was close to the intervention	√	
The intervention was expected to produce change (face validity)	√	
There were no other known factors that could have produced change	√	
There was a well matched, separate control group showing no change		X
The change was statistically significant	√	
The change had practical significance	√	
Change was shown by more than one method of assessment	√	

Table 43 Criteria linking an intervention to change for attendance at teaching

The effect of the feedback to the consultant and the feedback to the SHO could not be separated. The SHO may have been encouraged to attend by his own response or may have been released to attend by the consultant. It also became apparent that the consultant was not always responsible for releasing the SHO. The rota organiser was the key person, particularly in shift posts such as Paediatrics or Obstetrics and Gynaecology. This rota organiser would need to be included in any mailing. For several posts there appeared to be a “glass ceiling” such that the consultant was unaware if the SHO had not attended or that the rota did not allow them to attend (table 44).

That there is a “glass ceiling” under the consultant level which reduces awareness about the problems SHOs face
Expectations of attendance may be unrealistic and a target of 70% is more appropriate
Four stages for establishing educational sessions i) to set them up ii) review quality iii) increase attendance iv) monitor quality and attendance providing feedback

Table 44 Theoretical principles arising from the action research cycles on attendance

These conclusions apply to the setting of Portsmouth where there was an established, advertised course. When educational sessions are initiated at other settings there are several factors to consider and these are outlined in table 45.

Regional
Named person to co-ordinate the course
Identified secretarial time
Identified financial support
Consistent support for objectives at all levels of organisation
Specific arrangements for learners to have leave to attend
Local
Quality course – applies to needs and wants of learners
Consistent time in day and in week
Advertise course
Adequate notice for each session
Minimise distance to work place
Maximise separation from service work with protected time
Know in advance about the expected non-attenders and their reasons. Use RSVP slips
Be realistic about attendance. 70% of the total number of SHOs is a suggested target
Prepare for a variable group size. Options to work in pairs, threes or fours to allow a low or high number
Establish a good rapport between organiser and learner
Record attendance
Obtain feedback and evaluation from each session to develop the course
Review content and format of course regularly
Continuing reminders about each session
Reminders go to learner, supervisors and rota organisers
Feedback to learners and supervisors about attendance rates

Table 45 Features that increase attendance at teaching

SUMMARY

In this setting with a well-advertised and positively evaluated course, telephone reminders had no effect on attendance at teaching. Feedback on attendance to the SHOs and consultants was associated with increased attendance. This is summarised in SPIRES and IMRAD format in table 46 and 47.

Setting: A group of SHOs on a general practice rotation working in hospital posts
Problem: Low attendance rates at a monthly educational session
Intervention: Personalised feedback on attendance over the preceding year with a statement of the importance of attending
Result: Attendance increased from an average of 41% in 1996 to 65% of SHOs in 1997
Evaluation: There were no other factors identified that would account for the timing and duration of the change
Subsequently: Attendance rates remained at an average of 60%

Table 46 SPIRES summary for the intervention to increase attendance

<p>Introduction and aims</p> <p>Attendance at prepared teaching sessions is a problem faced by teachers of SHOs in hospitals. Our aim was to determine if a simple intervention could increase attendance</p>
<p>Method</p> <p>Attendance at general practice educational sessions by hospital SHOs on a general practice vocational training scheme was monitored. The intervention applied was feedback on attendance over the preceding year and a statement of the importance of attending</p>
<p>Results</p> <p>Less than half of SHOs attended the educational session over the preceding two years (average 41% in 1996). Immediately after the intervention and since then more than half of SHOs (average 65% in 1997) have attended. The cost of the intervention was time for data preparation and mailing</p>
<p>Conclusion</p> <p>Feedback on attendance with a statement of the importance of attendance was a simple low cost intervention which, in this setting, improved attendance</p>

Table 47 IMRAD summary for the intervention to increase attendance

RESULTS

CHAPTER 10

MEETING THE GP TRAINER

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PROBLEM – GP TRAINER CONTACT 1993 TO 1997

The three year national vocational training scheme was set up to prepare doctors for general practice, yet, as stated earlier in chapter 1, the general practice component of the initial two years in hospital posts was very small or non-existent. At Portsmouth, for example, the SHOs were only scheduled to meet their GP trainer for a month at the start of their rotation then two years later when they joined their GP trainer in practice. They were in contact with doctors working in their chosen career for only one third of their training.

Furthermore, over these two years in hospital each of the SHO posts was run as a separate entity. There was no continuity of support other than from the Associate Director of GP education who oversaw the whole rotation, and the hospital personnel office who administered the rotation. Surveys in 1990 showed a similar picture across the United Kingdom (Crawley and Levin 1990, Kearley 1990). There was a need to introduce regular contact with a general practitioner throughout the vocational training scheme to provide more general practice input and some continuity during the hospital SHO posts. This was the stated aim of the Associate Director of GP education at Portsmouth when speaking to GP trainers in 1994. In a subsequent letter, the Associate Director of GP education explained that the GP trainer should fulfil the role of a "mentor" to the SHOs during their hospital years. The Associate Director of GP education noted it was a source of contention that there was no extra remuneration for this additional task, but pointed out that the GP trainers were already funded to provide support and education in the final year of the vocational training scheme. Support for the SHO during the hospital years would be an expected extension of their work in the final year. There would be a benefit to both the SHO and the GP trainer. The SHO would have support from, and a link with, general practice. For the GP trainer, these increased links could make the SHO more likely to stay with the GP trainer's practice. They would also give early warning of problems likely to occur during the training year in general practice. For the Associate Director of GP education and the course organisers there were two issues. Firstly, were GP trainers meeting their SHO at all and secondly, how could all GP trainers be encouraged to meet their SHOs regularly?

Prior to 1994 information about contact with GP trainers was anecdotal. The proportion of GP trainers who met with their SHOs was unknown, as was the content of any meeting. With the introduction of the SHO educational audit project (SEAP) questionnaire it became apparent that some form of meetings with the GP trainer were taking place for some of the SHOs (table 48). In fact

the proportion having contact was higher than in a national survey in 1990, which showed that only “9.1% of 1552 trainees had the opportunity for attachment to a named general practitioner during their most recent hospital post” (Crawley and Levin 1990: 913).

Year	Number meeting	Total on rotation	Percentage
1994	11	21	52%
1995	14	27	51%
1996	12	26	46%
1997	14	22	64%

Table 48 Number of SHOs stating they had met their GP trainer six monthly 1994-1997 (SEAP questionnaire replies, response rate 96-100%.)

This specific question on GP trainer contact had been shown to be reliable and valid in the context of this setting (chapter 6, appendix 5 and 6). The results showed that only about half of SHOs were meeting their GP trainer every six months and it was still unclear if they were meeting and achieving an agreed outcome or just seeing each other in passing. It was possible that they considered a meeting as a brief chat in the corridor on a chance encounter. The interviews with SHOs in 1997 gave information about the content of these meetings. The results suggested that SHOs had concepts about what constituted a meeting, but that the meetings were indeed brief and unstructured. SHOs were asked what they meant by the term "meeting". All except one, who was not asked during the interview, implied it should be a meeting in person: "sort of doing outpatients at the same time" (SHO 39), "physically meet" (SHO 37), "see him physically, see rather (than) telephone" (SHO 36), "to discuss about the job...rather than just passing in the street" (SHO 35), "seen and discussed...rather than just waved in a passing car" (SHO 34), "get together

and talk about how things are going" (SHO 41), "a get together...meet them" (SHO 45), "physically get together" (SHO 42).

In contrast to their concept of meeting, the reality was more casual: "I suppose I've met him, sort of er sometimes by chance" (SHO 39), "we'll meet up, um, but I just happen to sort of see him" (SHO 39), "we either meet for lunch or coffee in the practice basically" (SHO 37), "we met at sort of educational meetings and stuff in here" (SHO 41), "not formally arranged" (SHO 44), "when we break for coffee" (SHO 44), "speak on the phone more than actually go to a meeting" (SHO 39). The place also varied from the practice, the coffee lounge, a public house and the telephone. "Once in practice and um other times we went in a pub somewhere." (SHO 37)

The content was general or centred on the SHO post: we "talked about the job" (SHO 45), he would "ask how the job is going" (SHO 44), "chat about how things are" (SHO 41), "how things are going" (SHO 35).

There was uncertainty over the frequency: "I just happen to sort of see him more often than that really" (SHO 39), "I tend to meet up with...fairly frequently" (SHO 35), "about 12 months...the answer's strictly on average" (SHO 34), "I suppose I see him within six months" (SHO 44).

The duration was not consistently asked about at interview, but the casual nature of some meetings implied that it could be short. One SHO said "probably for about five minutes" (SHO 36).

No SHO described a formal meeting in any way. None gave the impression of any set time, content, place or frequency for meeting.

It was of interest that some educational terminology was used during the interviews by the SHOs: "before my next job starts we are going to meet up to talk about my next educational targets" (SHO 45), "(I would) discuss my needs and work" (SHO 40 who did not meet their GP trainer). The terms educational targets and needs were concepts that had been used by the course organisers, but not previously by the SHOs. The questionnaire, SHO reading or earlier meetings with the course organiser (MR) or other educationalists may have

influenced the use of terminology. Using the terminology implies some familiarity with the underlying educational concepts.

Theory – analysis of problems and solutions

The results of the SEAP questionnaire and interviews suggested that only half of the SHOs met their GP trainer and that the meetings were unstructured and casual. Possible reasons why this should be the case emerged from sessions with the GP trainers, the Wednesday morning general practice meetings with the SHOs and at the SHO interviews in 1997.

Comments by the GP trainers at a meeting on the 23rd September 1997 centred on the difficulty of arranging a meeting with an SHO. It was an administrative issue. The hurdle was making contact with the SHO and then finding out when the SHO and the GP trainer were both free. This was supported by previous SHO comments at interview in February 1997: I "have only had one (meeting)... basically pressures and antisocial hours", "I do not meet my GP trainer. I tried once, but he did not phone back. He was on holiday the next time". One SHO stated "I haven't met at the practice with her or (been) invited". It was almost as if there was a need for a formal invitation as the SHO viewed it as impolite or an imposition to invite themselves. There were elements of social etiquette to consider.

When GP trainers asked about the content of the meeting, the course organiser (MR) stated that the final choice was up to the GP trainer. One GP trainer expressly asked "but what is the best method, what do you advise?" The content of the meeting was a general concern amongst the GP trainers. If there was an absence of clear aims and structure there may have been less incentive to meet.

The steps taken to meet up were likely to include remembering to arrange a meeting, contacting the other person to fix a time, planning a structure, planning a place and then protecting the time to meet. If these steps were facilitated a meeting might be more likely to take place.

From the meeting of GP trainers and the SHO interviews it had become apparent that there was a need to identify protected time for the SHO and GP trainer to meet and to describe a suggested structure for that meeting. At the meetings with the GP trainers in September 1997 the GP trainers themselves had proposed that they could meet the SHOs on a Wednesday morning when the SHO was already scheduled to be released from their hospital training for their "monthly GP SHO meeting". For the GP trainer, Wednesday had been used for teaching in the past. If the meeting was based at the GP trainer's practice, their GP partners might object less to alterations in the GP trainer's timetable. For the SHO, the location at the practice gave them the opportunity to meet with all the practice team again and to complete a few consultations or sit in with the GP trainer.

The plan was to set the time (Wednesday morning), the place (GP trainer's practice) and to provide a structure for the session.

Intervention in GP trainer contact 1998 – setting a time, place and purpose

A letter was sent in January 1998 to all GP trainers and SHOs stating the proposal (by the GP trainers) and that the meetings were scheduled to take place every six months on the last Wednesday of the month. The date was selected to be at the start of each SHO post so that the GP trainer had the clear aim of discussing the SHO's learning objectives for that post. The letter sent was accompanied by a suggested outline for the meeting (appendix 10). This was a skeleton with objectives rather than a minute-by-minute prescriptive guideline. An RSVP slip was also sent to each GP trainer asking them to provide a substitute date if they could not make the chosen date.

All SHOs were also informed via the year timetable, by the usual monthly advertisement mailed to them three weeks before the meeting, and by reminders at the meetings with the course organiser prior to the GP trainer meeting. The SHOs also received the suggested outline for the meeting.

On the first occasion, attempts were made to telephone SHOs one week beforehand and to leave messages at the practices of GP trainers. It was not possible to contact more than three SHOs by telephone and on subsequent occasions this was not done.

PROBLEM – GP TRAINER CONTACT 1998

The SEAP questionnaire data subsequently showed an increase in attendance to 96% in the six-month period after the intervention. The one SHO who did not meet up with their GP trainer was working in Jersey as part of the rotation so was not expected to meet. All those based in England did meet their GP trainer. In 1998 confirmation of attendance was also requested to supplement the questionnaire responses. In April 1998 eight gave a stated time for meeting (total of ten with one in Jersey and one who did not reply). Five met on the proposed date of 29.4.98, three at 08.30am, one at 9am and one at 9.30am. Two met before the proposed date and one after the date.

Another method used to monitor attendance was to collect feedback/evaluation sheets. This was attempted on the first occasion, but no sheets were returned. One SHO said he did not realise the sheets were to be returned. This was despite evaluation sheets being sent out with an explanation of their use and a reminder for their return.

Interventions in GP trainer contact 1999 – reminders

Subsequent meetings between the SHOs and the GP trainer were timetabled twice a year. In September 1998 the GP trainers were reminded verbally at the GP trainer meeting and in writing that they would be expected to meet with the SHOs. SHOs were reminded in meetings before the date and by the usual monthly advertisement. At the GP morning for SHOs on the 30th September 1998 no SHO had a definite date or time for their GP trainer meeting. The Wednesday morning of October 28th had been set aside for the GP trainer meeting. Further reminder letters with an RSVP slip requesting information on

the expected date of attendance were therefore sent. This same pattern again occurred in April 1999 with no definite date set until a letter was sent out with an RSVP slip. As this was a pragmatic study aiming at maintaining regular meetings, a letter of reminder with an RSVP slip was always sent out and the number of meetings in the absence of a letter was not ascertained.

PROBLEM – GP TRAINER CONTACT 1999

The responses to the SEAP questionnaire stated that all SHOs had met again with their GP trainer in the autumn of 1998. Verbal confirmation of attendance was again sought. At the end of October 1998 ten gave a stated time for the meeting, and two said they were yet to confirm the meeting (total 12). Five met on the proposed date of 28.10.98. Times were not asked for. Three met before and two met afterwards. The ten (83% response rate) who replied gave the same response as they did on their SEAP questionnaire.

The data from 1998 did not describe content or quality. Evaluation sheets would have been one way to assess this if they had been returned. Of those SHOs who attended the GP morning after the meeting with the GP trainer, all said the session was of benefit ("excellent"). Of these all did a joint surgery and some had a seminar as well. It had been suggested that SHOs should discuss their learning objectives for the next post at these seminars, but this was not spontaneously stated as one of the outcomes. The next step in the process was therefore to look at content in more depth.

To look at the content of the GP trainer meetings, a single sheet was given out to each SHO in June 1999 with instructions to complete it immediately and return it to the course organiser. The sheets were anonymised. Eleven replies were received out of twelve SHOs. Again the time and date of meeting was asked. Six met on the proposed date of 28.4.99, two met after, three met before. All but one met in the morning starting at 08.30 (1), 09.00 (7) or 09.30 (2). The one SHO who met in the afternoon had just one hour of informal discussion and saw no patients.

Nine out of the eleven SHOs observed their GP trainer at work in surgery and in one case on visits. Only two SHOs actually conducted a consultation under supervision. Seven SHOs said they had protected time to discuss their hospital training and this was for at least an hour. Topics included current job (6), future job (2), study leave (2), the practice (1), clinical cases (3), and primary care services (2). Learning objectives were discussed by six SHOs, but no one wrote them down. All comments made were positive.

The conclusions drawn from this were that the SHOs continued to meet their GP trainers and that this usually constituted a full morning with patient contact and a seminar. Most discussed their learning objectives for the hospital post. Potential suggestions for improvement included seeing a few patients independently and making a record of learning objectives, which could be reviewed in the future.

Following presentation of the results of this intervention a similar intervention was applied at the Southampton vocational training scheme in 1999. Anecdotal reports suggested that meetings with GP trainers also took place on a regular basis as a result.

Year	Number meeting	Total on rotation	Percentage
1994	11	21	52%
1995	14	27	51%
1996	12	26	46%
1997	14	22	64%
1998	21	22	96% *
1999	22	22	100%

Table 49 Number of SHOs stating they had met their GP trainer six monthly 1994-1999

(*Comparing 1997 to 1998: Chi squared = 5.02, p = 0.01, df=1,difference in proportions = 32%, 95% confidence interval 53% to 9%.)

OVERVIEW

There was a slight trend towards an increase in the number of SHOs meeting their GP trainer over the preceding years (table 49). It is possible that the number of meetings would have increased anyway, but the increase seen at the time of the intervention was larger than any preceding year at 32% (seven additional SHOs). The increase was also maintained for the two years after the intervention.

Information on meetings was collected from questionnaires and from direct questioning. The questionnaire provided a more clear cut summary of attendance at GP trainer meetings that was quicker and easier to access. There was no additional time invested in obtaining the results on attendance. The collection of information on attendance from the SHOs themselves involved an additional investment in time. Some completed RSVP slips, some were contacted at meetings and some were telephoned to find out about attendance. Even then not all were contacted and it was not possible to confirm every questionnaire response stating they had attended. Collection of information was time consuming and lack of completeness could underreport attendance. In this situation the SEAP questionnaire had a considerable advantage. However when it came to the content of the meeting a supplementary questionnaire was needed.

It is possible that SHOs stated they met their GP trainer when they had not, which might increase the attendance figures. However, similar circumstances, and so a similar bias, also applied for the questionnaires before intervention (table 50).

Criteria	Present	Absent
Change occurred after intervention	√	
The timing of change was close to the intervention	√	
The intervention was expected to produce change (face validity)	√	
There were no other known factors that could have produced change	√	
There was a well-matched, separate control group showing no change		X
The change was statistically significant	√	
The change was educationally significant	√	
Change was shown by more than one method of assessment	√	

Table 50 Criteria linking the intervention to change for SHOs meeting with their GP trainer

Threshold of change

The intervention itself required comparatively little effort. The group of GP trainers and SHOs appeared to be on the "threshold" of change. It only required co-ordination to take the whole group across the threshold. There was already a proportion of GP trainers who were meeting informally and these may have been a critical mass to allow the initiative to work effectively.

The intervention took away some of the administrative effort for each SHO and GP trainer. The course organiser, instead of each pair of SHOs and GP trainers, had partially organised the time, place and structure. There was less effort subsequently required by the SHO and GP trainer to finalise the meeting. More effort was required now to cancel the meeting than allow it to continue. Cancellation would also require an explanation. Prior to the intervention not meeting could have been accepted as an oversight.

Explicit time

One concept arising from this intervention is the use of "explicit time" for a task. By making a specific statement about when and where a task should take place, there is a greater chance that it will actually take place. This would seem common sense, but the use of "explicit time" may be lost among other plans for the proposed change. Explicit time was the core of this intervention, but it could not work unless the time was appropriate to all concerned. The course organiser effectively co-ordinated the individuals' belief that this was the most appropriate time and converted it into a definite time for everybody concerned. Explicit time alone may have been sufficient to lead to more meetings, but was linked to a letter, reminders and an outline of content so application of all these interventions together are suggested in any replication of this intervention.

SUMMARY

A letter stating the explicit time, place and purpose of a meeting between the SHOs on a vocational training scheme and their GP trainers was associated with an increase in meetings with a more structured content to them (table 51 and 52). The intervention and change were likely to be linked. Reminder letters were subsequently required every six months to encourage regular contact with the GP trainer.

Setting: A group of general practitioners (GP trainers) with a prior expressed interest in education each with an allocated SHO (learners) who had implied interest in learning about general practice. A known potential for GP trainer and learner to meet at a specific time
Problem: GP trainer and learner not meeting regularly
Intervention: GP trainer's public agreement to meet with learners. Letter describing purpose and possible content of meeting. Statement of explicit time to meet in annual timetable, and in the letter
Result: Six monthly questionnaires showed an increase in meetings from 64% to 100%. Attendance was also confirmed verbally
Evaluation: It was likely that the complex intervention produced the observed change. There were no other known external factors that could have resulted in the change. The contribution of each component cannot be assessed and until further research is done the whole intervention should be applied
Subsequently: No learner spontaneously informed the co-ordinator that a meeting had been arranged for the next six months. The letter detailing date, time, purpose and suggested content was therefore applied every six months, along with a request to confirm the time and date of the meeting. A similar intervention was applied in adjacent vocational training courses.

Table 51 SPIRES summary for the intervention to increase GP trainer contact

Introduction and aims: Contact with general practice over the first two years of vocational training for general practice is minimal. Our aim was to determine if a simple low cost intervention could increase the frequency, duration and quality of contact between hospital SHOs and their future GP trainers within the Portsmouth vocational training scheme

Method: The SHO Educational Audit Project (SEAP) questionnaire, which has been applied six monthly since 1994, was used alongside structured interviews to assess contact between SHOs and GP trainers. The intervention applied was the setting of a time (Wednesday mornings) and place (GP trainer's practice) to meet with an outline of suggested content for the session

Results: Less than half of SHOs had any GP trainer contact between 1994 and 1997 and this contact was casual, mainly by chance, and with no structure. Immediately after the intervention and since then 100% of SHOs have met their GP trainer every six months. The meetings all have structure and aims, with the combination of a seminar and patient contact. A reminder letter detailing the suggested date, time, place and content of the meeting has been required every six months to maintain this contact rate. The only cost of the intervention was time for letter preparation and mailing

Conclusion: Mailing GP trainers with a suggested time, place and content for meetings with SHOs is a simple, low cost intervention which, in this setting, produces improved frequency, duration and quality of meetings between GP trainers and SHOs

Acknowledgment: Thank you to all the GP trainers in Portsmouth who invested their time in supporting the SHOs

Table 52 IMRAD summary for the intervention to increase GP trainer contact

RESULTS

CHAPTER 11

INDUCTION

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SUMMARY

PROBLEM – INDUCTION 1993 TO 1997

Induction for SHO posts had been described as inadequate and its introduction had been a consistent aim of the Royal Colleges and relevant organisations (Baker and Sprackling 1994, Paice and West 1994). In 1994 concern about the period of induction was sufficient to lead to changes in the start dates of all hospitals in England. Prior to 1994 all posts had started on the first day of the month, so that every member of the junior doctor team, from the house officer and SHO to the registrar, was new. Inexperienced junior doctors had also been starting at weekends and there was concern about patient morbidity and mortality at the start of each six month period. In 1994 the national start dates for SHOs were set as the first Wednesday in either February or August. The justification for this was that a midweek start allowed a better induction. House

officers would start on the first Tuesday and there would therefore be an overlap day when experienced SHOs could provide induction or ward cover for house officers.

At this time the induction rates in the psychiatry post at Portsmouth rose from no SHOs in 1994 to all SHOs from 1995 onward. This was identified from the SEAP questionnaire data. However, there had been an external visit to the psychiatry post over this period and a threat of closure of the post that may have been a more relevant factor. No other SHO posts showed a change in induction rates, but comparable data was only available for the year before the national change in start dates.

Overall, the proportion of SHOs receiving induction at Portsmouth was 50% for the period of 1994 to 1997. Accident and Emergency, Obstetrics and Gynaecology and Psychiatry had higher rates, usually with all SHOs stating they attended induction. ENT, Ophthalmology, Paediatrics, Orthopaedics and Geriatrics all had lower rates of induction, often with no SHOs having an induction. The figures on the rates of induction were based on the SEAP questionnaire. Within the limitations of this study the category questions on induction had been shown to be reliable and valid (chapter 6, appendix 5 and 6).

When induction took place, the SEAP questionnaire rating for the standard of induction varied considerably from the lowest of 1 to the highest rating of 5 where 0 was "poor" and 5 was "excellent". Only one post, accident and emergency, ever achieved a score of 5. The average rating was 3 out of 5. As an example of variation in standard, one SHO at interview stated he was "greeted on the first day and shown around and had the briefest of induction, but it was much more of an introduction". Another stated we "were shown round informally...ten minutes...very much ad hoc". In contrast the SHO in accident and emergency said the induction was "excellent...intensive two days...two weeks afternoons".

Induction booklets were seen by between 52% and 73% of SHOs over the 1994 to 1997 period. There was no trend and there was variation from year to year within each post. Psychiatry was the exception, because in this post every SHO saw an induction booklet each year.

Senior house officers were asked how well the induction booklet covered clinical problems and, as a separate question, administrative arrangements. The rating in 1997 ranged from 1 to 4 out of 5 with a mean of 2.6 for clinical problems and 2.4 for administrative arrangements. Comments at interview ranged from “quite practical” to “didn't cover clinical”.

At the interviews in February 1997, all ten SHOs on the rotation were asked about their preferred induction course. The emphasis was on “practical” and “simple” bits of information. This included who to “get hold of” and “how to call for help”; the “geography” of the place and “where everything is”; the “management of situations” such as “referrals”, life threatening things”, “resuscitation” and “departmental policies”. Most SHOs requested a “morning” or “half day”. Several asked for a “senior clinician” to lead the induction, but this could be a “registrar...who has more in common” with the SHO role.

With respect to booklets, requests were for information on “who people are”, “telephone numbers”, “who arranges tests”; “policies” covering “life threatening conditions” and “serious illnesses; “timetables” including “clinic and ward round times”. The booklet size suggested varied from “4 sides” and “pocket size” to “30 pages”.

In summary, half of SHOs were receiving induction over the period 1994 to 1997. The quality of the induction varied. Guidance stated that all SHOs should receive a good quality induction.

Theory – analysis of problem and solutions

The proposal put forward in 1997, by the course organisers and the Associate Director of GP education, was that the difference in starting dates between general practice SHOs and other hospital SHOs reduced the opportunities to

attend induction. This difference had actually increased in 1994. In 1993 all general practice SHOs had started their vocational training scheme with one month in general practice and in 1994 the rotations were moved to start two months after the other SHOs. This was said to give time for doctors to orientate themselves towards general practice, check on their career choice and ensure their educational aims were relevant to their chosen career of general practice (Crawley and Levin 1990). This difference in start dates also provided an overlap of trained SHO cover in each post.

The consultants complained that it was hard to provide double the number of inductions for the SHOs who joined two months later. For accident and emergency there was sufficient pressure applied for SHOs to be released from general practice to attend the induction sessions two months before they started in post.

Comments made by the SHOs also lent support to the theory that the difference in start dates affected the provision of induction. One SHO in 1996 wrote "as the GP SHOs are out of sync, no induction planned". Other interview statements included "SHOs that had just started on the first of February have gone through a formal induction course", "there has been more for them, because that has been grouped with all the new SHOs starting", I could "not attend...two month out of synchrony", "there is an induction...not when the GP trainees start".

The difference in start dates was the prevailing theory in 1997 to explain the low induction rates. There is no record of other reasons being discussed. Other potential reasons included lack of consultant awareness about the need for induction, induction not being seen as a priority compared to other tasks, pressure of work preventing induction and a lack of clear guidance about the format and content of induction.

In November 1997 a Royal College and Deanery visit to the hospital posts took place and discussed induction with the consultants and Associate Director of GP Education. The external visitors concluded that the hospital posts should be

in line with all other SHO start dates. The document produced in response to this was entitled the "Change of rotation dates for general practice vocational training" and stated that "there was concern that general practice trainees were not receiving a period of induction in accordance with EL/94/1". No other reason for the change was given in this document. In December 1997 the Associate Director of GP education responded to the report by stating that the posts would be aligned. This was arranged by the personnel department.

A presentation by the course organisers to the GP trainers then took place on the 10th September 1998. This was to explain the reasons for change. It became apparent that there were additional gains from the change in start date. It was stated on overheads:

"Problems:

- SHOs treated differently;
- SHOs felt inferior;
- Induction;
- Pressure on (subsequent) GP period – only 10 months at end.

Benefits of change:

- All "in sync" – feel the same, treated the same;
- Induction all together;
- Full year in practice (AND some morning visits)."

It appeared that SHOs planning to enter general practice felt discriminated against and aligning the start dates with other SHOs might reduce the perceived difference between the SHOs. Moving the two months to the end of the GP rotation would give a longer subsequent period in general practice. This would allow more time to complete the exams that had been introduced in 1996. A further stated benefit was that it might make allocation of holidays/rotas fairer. SHOs starting two months after the other SHOs have agreed their holiday dates may be less likely to get a wide choice of holiday dates. One SHO stated holiday was on "a first come first served basis" so "I wasn't able to take the

week that" I wanted. Another SHO stated they had to "arrange (holiday) before I even start the job".

Intervention in induction 1998 – alignment of posts

From the 1st of August 1998 all the four new SHO posts and all subsequent posts were aligned with all other SHO posts. The cost of this was £21,090. All four posts were filled. The option was to pay existing SHOs extra to stay on until the posts were in line or to overlap the posts. The length of training for each SHO could not be cut as they would not attain recognition of training from the Royal College so it was decided to overlap the posts. This did not require any contractual changes, locum costs or potential periods without any doctor in post.

Practical difficulties arose. The SHOs were effectively supernumerary as they were extra doctors for the first two months. No one person in the respective departments seemed to take this on as an issue and the doctors' felt left out and surplus. The educational opportunity of having an extra pair of hands to cover other doctors and to receive extra training themselves was lost.

Because the first two months in general practice had moved to the end of the rotation there was no focal point to introduce the SHOs to the general practice training. The general practice induction was now missing. The new SHOs joined the other SHOs at the end of the first month for the shared general practice morning, but they had lost their introductory eight week course and its associated advice.

PROBLEM – INDUCTION 1999

The SEAP questionnaire showed no overall change in the amount of induction when comparing the period 1994 to 1997 with 1998 to 1999 (table 53). Within each post the rates of induction also remained the same over the whole six years. The rating of quality was unchanged both for induction and for induction booklets. The proportion seeing an induction book was similar.

	Yes	No
1994 - July 1998	30	29
August 1998 - 1999	24	20

Table 53 Responses to the SEAP question 1994-1999 “Have you attended an induction course?”

Two documents were also issued soon after the change in start dates but these also had no impact on the amount of induction. In July 1998 a summary of the agreement for postgraduate training was produced in a leaflet form (Platt 1998). This stated that induction should take place "on the day of taking up the appointment, in protected time". It was circulated to the SHOs on the rotation. It was one of ten points on the leaflet and constituted one of 60 statements on the leaflet.

In December 1998 the document entitled "Educational Supervision: a handbook for hospital based educational support" was circulated to each department (Eaton et al. 1997). This contained two pages describing the content of induction. The document was 32 pages long and also covered appointments, interviews, appraisal and feedback.

OVERVIEW

There were two interventions overall. The first was the external visit, which triggered the organisational change of start dates. This was an effective intervention as the change in dates took place and remained in place. The second intervention was the change in start dates of each post to increase induction and this was ineffective as judged by responses to the SEAP questionnaire.

It is possible that another factor negated an effect on induction after aligning the start dates. An example included the change in the start dates for other SHOs in

elderly medicine. This may have altered the outcome for one speciality, but does not account for an absence of change in the other specialities. It seems unlikely that an opposing factor would completely neutralise a positive effect from aligning the start dates of all posts.

Although the change in start dates allowed joint induction of SHOs to take place it did not specifically encourage the induction. There was no statement to this effect made to the consultants in each post. There was no follow up targeted at this aspect in particular. Individuals who would be responsible for the induction were not identified. The intervention may have been more effective if these elements had been present. Setting aside additional funding for these aspects may have facilitated change.

External assessment visits

A follow on visit soon after the external visit took place may also have helped to address these issues. The external visiting body was concerned with policy and broad direction. Additional review was required to assess the impact of the policy and put detail on the proposals. The objective of such a follow up visit would have been to work alongside the local organisation rather than assess it from outside as the external visitors would have done.

This intervention involved the investment of large amounts of funds compared with other interventions in this study. Large changes took place from a single visit by an external body. This may have been because the change coincided with the objectives of those who controlled the funding. There were secondary gains and the intervention may have fortuitously fitted with them. For the GP trainer, the final GP registrar year was restored to its original length allowing more time to complete exams. For those consultants who already did induction for SHOs, time was saved, as two induction periods were replaced by one induction. Change can be encouraged if the secondary gain can be matched to the primary problems. The risk is that the secondary gain fuels the intervention without addressing the primary problem, as may have happened here. When an

intervention is planned it is likely to facilitate change if as many secondary gains as possible are identified.

SUMMARY

The amount and quality of induction was low over the period 1994 to 1999. Aligning the start dates of all SHO posts in 1998, at a cost of £21,090, made no difference to induction (table 54 and 55). An external visit to assess the SHO posts brought about this change in start dates and the secondary gain of a longer final year in general practice may have encouraged the change in start dates.

Setting: SHOs on a general practice vocational training scheme in two district general hospitals
Problem: Only half of SHOs receiving induction and variation in the quality of induction and induction booklets
Intervention: General practice SHO posts were aligned with all other SHO posts at a cost of £21,090
Result: No change in rates of induction or quality was shown
Evaluation: Aligning start dates alone does not increase induction for GP SHOs
Subsequently: There was no change in induction rates or quality

Table 54 SPIRES summary for the intervention to increase induction

<p>Introduction and aims</p> <p>SHOs on a general practice vocational training scheme in two district general hospitals had low rates of induction and variable quality of induction</p>
<p>Method</p> <p>The SHO Educational Audit Project (SEAP) questionnaire, which has been applied six monthly since 1994, was used to assess quantity and quality of induction. The intervention applied was the aligning of start dates for GP SHOs with other SHOs</p>
<p>Results</p> <p>No change in rates of induction or quality was shown</p>
<p>Conclusion</p> <p>Aligning start dates alone does not increase induction for GP SHOs in this setting</p>

Table 55 IMRAD summary for the intervention to increase induction

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CHAPTER 12

FUTURE SHO POSTS

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INTRODUCTION

This study has looked at problems within existing SHO posts and the existing recommendations for SHO education. Throughout the study, ideas and suggestions for the ideal SHO education have arisen from SHOs, course organisers, scheme organisers, GP trainers and hospital consultants. This chapter brings these together with specific reference to interviews with SHOs in 1997, a workshop with course organisers in March 1999 and a meeting of consultants, SHOs, and GP trainers in June 1999. The final section describes models for future SHO education.

Senior house officer opinion

In March 1997 all SHOs on the GP vocational training scheme completed semi-structured interviews with the course organiser/researcher (MR). SHOs were

asked why they would recommend a post, what problems existed in SHO posts, how they would improve posts, and how long posts should be.

Reasons given by SHOs for recommending posts fell into five main categories, which were: if the workload was not overwhelming, if there was outpatient experience, if the teaching was good, if the teaching was relevant to general practice and if the department was friendly and supportive. Examples of statements included:

- “outpatient makes it really good”
- “outpatient is most relevant to GP”
- “Lots of opportunity for education”
- “protected teaching brilliant”
- “how suitable it was for... GP”
- “relevant to what I want to do”
- “relevant to general practice”
- “friendly...approachable”
- “how well you're treated”
- “good...keen...supportive”

Problem posts were stated to have a heavy workload, routine clerking, poor teaching, no outpatients, poor support and bias against the GP trainee.

Comments illustrating this were:

- “workload”
- “you don't have time to think properly”
- “learn twice as much by seeing half as many patients”
- “just clerking patients”
- “teaching not happening”
- “hard done by in terms of workload or education”
- “lack of outpatients”
- “hours...lack of support”
- “the way you're treated”
- “busy...not supportive...no one sort of helpful”
- “refusing to answer bleeps”
- “not being covered”
- “relevance to general practice”
- “GP trainees are getting less”

To improve posts. SHOs suggested a reduction in workload, more outpatients, access to GP teaching, tailoring posts towards general practice, no neonatal

work, no pre-clerking, and more community work. The following comments were made:

- “free you up to go to outpatients”
- “go to other clinics”
- “free time up for...GP meetings”
- “more awareness (of GP) on part of teacher”
- “reduce...pre-clerking”
- “more in the community”

SHOs were asked at interview what duration of post was preferred and there was a spread from three to six months. The SEAP questionnaire showed that the most common preferred duration for SHO posts was six months but this varied from 1 to 12 months. One SHO stated, “six months is a good elective length...so much to do”. You “learn in the first three months, (then) consolidation”. One SHO pointed out that some specialities had a seasonal variation that should be experienced. You “see a lot more (in) winter” (paediatrics).

Elective posts

One three year rotation on the GP vocational training scheme in this study included a six month elective period when the SHO could chose the content of their own SHO post. They were supernumerary and funded by the Hospital Trust at rates of basic pay excluding on call. They were not the focus of this study initially because the emphasis had been on improving existing posts in single specialities. As the study progressed it became apparent that elective posts were potential models for future SHO posts as they were designed fully by the SHOs themselves. This made them more likely to suit the individual learning needs of the SHO. Elective posts covered every speciality already on the rotation and also included palliative care, family planning, rheumatology and dermatology.

Each SHO produced a report on their elective posts, and some SHOs also completed questionnaires and interviews relating to the elective posts. The main conclusion was the existence of two groups of SHOs. The majority of

SHOs were strongly motivated and would invest considerable time and effort into designing and putting into action their plans for an elective period. The other, smaller, group of SHOs had difficulty grasping the concept of designing their own SHO post. They needed regular encouragement and tended to prefer to use three month blocks of existing posts even though these were felt not to be ideal models for education. These SHOs were slower in completing the timetable for their posts and usually needed additional help in completing the timetable in the two months before the post was due to start. Identifying which group the SHO was in early on in the design of the post helped plan the amount of supervision required by the course organiser.

The elective posts were all scored highly with respect to satisfaction and support (4 or 5 out of 5). They were said to be “extremely relevant to general practice”. However, SHOs needed reminding to attend the GP training morning and to arrange appraisals. They usually did not get an induction, had no educational contracts and when they attended structured departmental teaching it was no different to the other non-GP SHOs. Some SHOs found themselves sitting in clinics and observing more than they wished and found this less stimulating than taking on patient management. It required effort by the SHO to push for more hands-on management. As one SHO stated, they had to “communicate with everybody about what they were doing”. SHOs did, however, get more outpatient experience, more outpatient teaching, more community experience and a wider range of experience in anything between two to five specialities. There was variation between using blocks of experience in one speciality only or experiencing several specialities simultaneously. For example, one SHO stated he would improve the post by “starting all specialities together”. In conclusion, the elective posts were rated highly and approached an ideal model for an SHO post. However, they lacked the educational structures of regular SHO posts (contracts, induction, appraisal, teaching sessions), did not include contact with the general practitioner and required supervision to ensure the SHO maintained impetus to develop each part of their post. An ideal was

therefore an elective type post designed by the SHO with educational structures in place and more general practice contact.

Course organisers’ meeting

In March 1999 four course organisers and the Associate Director of GP education met on Wednesday 24th March for one hour to discuss "what was the ideal format for the hospital based component of general practice training?" The researcher (MR) was one of the course organisers and facilitated the discussion. Comments were recorded on a flip chart to check agreement with all present. A two page summary was circulated to each participant to confirm that it was a correct representation of what was actually said. The discussion centred first on the types of posts and then on the patterns that could be adopted to put the posts together in a rotation. The types of posts proposed are outlined in table 56.

Post name	Post content
Disease centred	A post with a thread of one or several diseases running through the post. For example asthma and diabetes
Community	Community mental health, rehabilitation and elderly medical care
Mixed module	Modules of ENT, ophthalmology and dermatology
Multi-speciality	Posts with a thread of ENT, ophthalmology, dermatology, palliative care and rheumatology running through
Reproductive healthcare	Obstetrics, outpatient, medical gynaecology, family planning, genitourinary medicine and psychosexual medicine
Family care	A combination of obstetrics, gynaecology, paediatrics and child psychiatry
Community paediatric	General paediatrics and community paediatric clinics, including those based in general practice and child psychiatry
Community oncology	Combining oncology clinics with elderly medicine on the ward and community with input into urology and gynaecology outpatients

Table 56 Types of SHO posts proposed at the course organisers meeting in March 1999

The course organisers stated that the key to any post was the amount of support provided for the SHO by the more senior doctors. The structure of the posts was seen as important as their content.

When combinations of specialities were put together in one post they could either be in discrete packages (modular) or run alongside each other (longitudinal). There were stated to be problems with modular posts. Holiday or sickness tended to wipe out one module and it was difficult to re-run it. Also the

service input and continuity of patient care was likely to be less in a modular structure.

A "general practice educational supervisor" for each post was proposed. This person could oversee the general practice orientated learning objectives of the post and help maintain the relevance of each post to general practice. One potential candidate for such a post would be the GP clinical assistant who was already working in each post.

Multi-speciality meeting

On the 11th June 1999 a meeting of consultants (14), GP trainers (15), course organisers (6), Deanery team members (4), Hospital Trust team members (2), and GP registrars (2) took place. Several participants also had roles as clinical tutors. The Regional Postgraduate Dean and Director of Postgraduate GP education were present as budget holders for the deanery. Notable absences were the budget holders for the Hospital Trust and health authority and SHOs. All these groups had been invited. Participants were asked to design posts that were both realistic and an improvement on existing posts. Ideas for the structure of SHO posts and rotations are outlined in table 57.

Themed rotations rather than rotations of discrete specialities e.g. four months in each of medicine, women's health, child health, and special senses
Multi-professional input into the training of SHOs e.g. midwives and nurse practitioners
Ensuring rotations are in the same geographical area
Tailoring designated sessions each week to the learning needs identified for each individual SHO
More structured general practice input. Contact with the GP trainer and a GP trainer linked to each speciality
A co-ordinator for the rotation
A written record to pass between posts relating to the individual SHOs learning needs
Design of posts to allow for the evolution of learning needs of SHOs. Moving from observation to close supervision then independent work with supervision
Combining orthopaedics with elderly care as most orthopaedic cases required elderly care medical supervision
A woman's and sexual health module including obstetrics, gynaecology, public health, genitourinary medicine and psychosexual medicine

Table 57 Improvements in SHO education proposed at the multi-speciality meeting in June 1999

Funding was an issue brought out in 10 of the 43 evaluation sheets as well as discussed in the main meeting. At the time of the meeting there was stated to be no new money, but there was potential for a transfer of posts between specialities if a new SHO post was no longer required or recognition was withdrawn. Posts that employed SHOs who had a career plan for general practice, but were only advertised as single, six month posts could be designated as part of a GP rotation. Two such ENT and ophthalmology posts

were identified. A further option was to identify funding for one or two sessions from smaller hospitals, individual specialities, health authorities, Hospital Trusts or Deanery budgets and then put them together as a complete post.

THE IDEAL EDUCATIONAL SETTING

Despite the problems seen within SHO posts, the secondary care setting did provide concentrated experience in specific medical disorders within one speciality. The posts allowed contact with experts in those medical disorders who could give up to date information about management. The first two years of general practice rotations should therefore still include experience in secondary care.

However, the experience should be related to the future career intention of general practice, so it should have an emphasis on the outpatient setting and chronic care. Ideally the SHO should have contact with or be based in general practice, so that they are aware of the problems likely to present to them. The GP trainer is best placed to orientate the SHO towards relevant learning objectives in the secondary care speciality and can provide supervision of the SHO over their three years of training.

SHOs vary in their approach to their own education with some being highly motivated and aware of their own educational needs, whilst others require help to identify their learning needs and to put together a package of secondary care experience.

It is proposed that the ideal educational experience would be a choice of either specifically pre-designed elective posts providing experience in a combination of related specialities or an elective period where the SHO can fully design and plan their own secondary care attachments. Both posts should have general practice contact and require clear structures to support education including induction, appraisal, and structured teaching with supervision to ensure these are in place. From the existing literature, regional contracts, the SEAP questionnaire, SHO comments and discussion with those providing education, a

check list on the structure of an SHO posts was evolved as part of this study (table 58).

Educational contract	An educational contract describing the structure, timetable and educational facilities within the post and the expectations for each doctor in the post should be discussed and signed at the start of each post.
Working contract	An updated document relating to the main employment contract, describing the working arrangements for each post should be discussed and signed at the start of the post
Clinical tutor	Oversees the provision of education within each hospital Trust. Should be informed about the standard of training within each speciality
Speciality tutor	Oversees the structure of the posts and co-ordinates changes in the posts within the speciality. Route of appeal if there are problems with educational supervision
Educational supervisor	Should be supportive and in regular weekly contact, overseeing the education and welfare of the junior doctor
Clinical supervisors	A named senior doctor should be available for each part of the day to provide advice. This may be a registrar or consultant and can be by telephone. The senior doctor should attend in person when necessary
Speciality GP advisor	Each speciality should have a named GP who can advise on the general practice educational objectives for doctors in post
Educational objectives	Objectives relevant to general practice should be available and tailored to each new doctor after discussion with their educational supervisor

Table 58 The ideal structure of an SHO post

Appraisal	Appraisal at the start (as part of induction) three months and five months into the post. Appraisal should be supportive. The first session would review learning and knowledge and help set personal educational objectives for learning. The second and third session should give feedback on progress and review learning objectives
Induction	Induction at the start of the post should be relevant and not overwhelming. Accompanied by a booklet
Outpatient work	At least one or two sessions a week. Supervised and evolving at a pace in keeping with the ability of the doctor
Case based teaching	This should be weekly, related to the cases seen by the doctor and relevant to general practice. This may be teaching given on ward rounds, near the bedside or in protected time. It could be provided by the registrar or consultant
Teaching in protected time	This should be at least an hour a week. Half hour sessions are acceptable after the first hour. At least 50% of sessions should be with a consultant
Apprentice supervision	There should be a principle of initial close supervision. As the doctor gains experience they should take on increasing responsibility at a pace and level of supervision appropriate to their ability
GP contact	The SHO should have regular contact with the GP trainer in practice to orientate their learning towards general practice
GP teaching	There should be at least half day release for monthly GP sessions providing education and support for SHOs as a group

Table 58 The ideal structure of an SHO post

Study time	There should be at least two hours of bleep free time identified in each week for study. Some posts have a half day each week for study
Career advice	Each doctor should have the names and contact details of careers advisers in their own and other specialities. The educational supervisor and GP trainer should discuss the career plans of the doctor
Stress support	Each doctor should have the names and contact numbers of local and national counsellors. They should be able to approach the educational supervisor or GP trainer if they are under stress
Complaints	Each post should have a defined route for complaints. The educational supervisor and clinical tutor should be ready to discuss complaints and deal with them in a supportive manner
References	The educational supervisor should discuss the likely content of any references as part of the feedback during the last appraisal session

Table 58 The ideal structure of an SHO post

Each SHO post can be considered in terms of ten morning or afternoon sessions each week. For each session the aims should be clear and every session should be overseen by a named clinical supervisor, who is available to answer questions and provide support. The educational supervisor should provide weekly support and is responsible for the individual whilst they are working in the speciality. There should also be an overall speciality tutor who co-ordinates education across all posts in the speciality. The duration of the attachments to each speciality may vary from a few sessions sitting in and observing to 12 months of weekly sessions where the SHO works as an integral part of the team.

This model does not exclude a service component within any SHO post. Providing a service gives responsibility and encourages learning as well as providing assistance within the speciality. Service is an integral and essential part of the SHO post, but it needs to be relevant to the SHOs learning needs. Tasks that are irrelevant or no longer hold any learning value for the SHO should be ended and the relevant session should be modified.

SUMMARY

This chapter has looked at the opinion of SHOs, and those involved in SHO education, about the ideal SHO post. A modified elective post where the SHOs continue to design their own educational timetable, but which also includes structures to facilitate education and contact with general practice, has been proposed. This period of secondary care speciality education would continue to precede the GP registrar training year.

Ideally the doctor on a GP vocational training scheme will be based in their training practice for three years with an increasing proportion of time spent in the practice over this period. Initially doctors would predominantly attend secondary care speciality clinics and teaching on a regular basis. In the last year only one or two sessions would be in hospital and the majority would be in general practice.

The limitation to wholesale change in the structure of SHO posts remains, and this is funding. Over the period of this study, funding was limited so the approach taken had to be gradual, pragmatic and evolutionary, but modified elective periods continued to provide alternatives to existing SHO posts. As described in the postscript at the end of the discussion (chapter 14) funding was subsequently identified and the principles outlined here were applied in practice.

RESULTS

CHAPTER 13

PARTICIPANT RESEARCHER

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INTRODUCTION

The core of this study has been the interventions applied to SHO education, but the whole study described the use of action research by a course organiser involved in SHO training. As such, it was similar to a case study, and this chapter outlines issues that emerged from the case of a course organiser applying action research. The observations made are results from the study just as much as the questionnaire results or intervention chapters. As with the other results chapters, the concepts and literature are covered in the discussion chapters. This section is written in the first person and all quoted extracts are from the field diary.

The period of this study included several transitions for me both as a researcher, as a course organiser and as a general practitioner. In 1993 I had started working within general practice. As I gathered information about my patients I moved from their daily management to a more holistic approach to patient care, including the importance of their social links and social support. In parallel, as a course organiser, I moved from the role of focused teacher of SHOs about general practice to an overview of SHO training that encompassed the wider horizon of educationalists in the local area and region. As a researcher my changes in attitude included an increasing understanding of the concept of action research along with development of ideas about action research. This paradigm shift led to an increased acceptance of qualitative research methods and a move from the more technical approaches of action research to the more participant led, empowering, forms of action research. This chapter begins with the perspective of the individual course organiser in the role of participant and observer. It then considers the learning environment of the individual course organiser, followed by the learning environment of the SHOs as a group. The chapter ends with a focus on how action research is perceived within the discipline of medical education.

PARTICIPANT OBSERVATION

Gold (1958) outlines four types of observer involvement in the field: the complete participant, the participant as observer, the observer as participant and the complete observer. He calls the individuals who are the subjects of study “informants”. For the complete participant the informants are completely unaware that they are being studied. The researcher is pretending to be just a colleague. The participant as an observer is known by the informants to be observing them whilst in the role of a colleague. The observer as a participant has limited periods of contact with the informants such as at interview (Gold 1958). The complete observer has no contact at all with the informants and they are unaware of being studied, “like a fly on the wall” (Holloway 1997: 111).

I was appointed in post as part of the educational structure of the hospital so had the potential to be a complete participant involved in the day-to-day departmental work. In reality, it was physically impossible to be present as a complete participant at all times because of the extent of the educational settings, which included all the wards and classrooms of every hospital speciality.

In this study, my role as the course organiser and the researcher was predominantly that of the participant as observer, but there was some variation with each intervention and even as an intervention progressed. When encouraging change, such as facilitating a meeting to discuss problems faced by SHOs, the emphasis was on participation as observer. After an intervention I moved towards the role of observer participant to assess the effect of change. My aim was to record what was said whilst trying to minimise my influence on what was stated after an intervention.

For some interventions, such as the change of start dates to encourage induction, the planning and interventions were undertaken by others. My role was more observational. Others interventions, such as attendance and GP trainer contact, involved greater researcher participation including discussion with the participants and mailing information. The group meeting to discuss

problems in Obstetrics and Gynaecology training involved participation within group discussions, but decisions on action and completion of action were the responsibility of other members of the group. Involvement was more participatory than participant led.

Course organisers as colleagues or politicians

As a participant and as an observer I was in a position of monitoring each SHO post yet not truly able to alter the post. Changes had to be initiated by the consultants and general practitioners with pressure from the Deanery. I was therefore working alongside the consultants, general practitioners and clinical tutors to encourage change. I had worked with them in the past as their subordinate, now worked alongside them as an equal and yet monitored them as a supervisor. Did I adopt the position of a dove or hawk and what should other course organisers do?

The approach I aimed to take was to act as an equal colleague and convey feedback as a shared gift. I stated that I wished to let consultants know what had been said by the SHOs so that they could inquire further and act before the issues became a problem. The word GIFT became an objective: "Giving Feedback Thoughtfully". An actual wrapped present was used to illustrate the principle in other settings, such as teaching about the ideal content of SHO appraisal.

"It helps to maintain face-to-face contact and rapport. Trading on previous relationship and goodwill. Need to encourage and support at the same time as explain the preferred route" (MR 1997).

The issue of equality also arose in statements made by others involved in visiting SHO posts. They illustrate that both course organisers and consultants felt vulnerable.

"The surgeon representing the college wore pin strips and was very high and mighty as if he was from a central London college, but it was only a peripheral hospital" (course organiser 1997).

“You can tell the importance of the people who visit us by the food provided. We usually get coffee, when the managers come we get sandwiches, when the GPs come we get a full meal. One GP said that my job would not exist soon. That it would be done by others” (consultant endoscopist 1998).

On occasions the consultants denied there was a problem in the SHO post and then the feedback of data on SHOs effectively became confrontational. The relationship moved more from a colleague to a political negotiation. Issues such as impending external visits, distressed SHOs, improved productivity from happy SHOs and potential loss of funding arose. These were usually countered by the consultant discussing lack of time, staff shortages, work stress and lack of funding. There was an element of bluff as I had no power to change, add or remove posts. However, it became apparent that there was an “assumption of power” and an element of “implied compulsion” and this may have been a lever to change both with consultants and, in other settings, the SHOs.

“There are issues around the assumption of power. SHOs assume that attendance is compulsory if you say it. They do not have the means to check it or do not bother or do not wish to contradict. Consultants assume I have the power to change rotations whereas I am hampered by the contrasting priorities of those above me. The assumption of power appears to increase if I am in post longer rather than what has been done” (MR 1999).

The “assumption of power” was the expectation that a person who worked with SHOs, had collected data on SHOs and then visited the consultant would also have power to make changes to the funding of the post. At the time of the study this was not possible although there was potential to recommend changes to the Deanery organisation. Power has been viewed by some authors as an integral part of action research (Reason and Bradbury 2001). The concept is that information and feedback control power and that sharing information in an open, equal way can emancipate individuals in a hierarchy. Action research can then become an emancipatory process with a sharing of information and power.

“Implied compulsion” arose if a standard was set and described by the course organisers. This may have been a component of the interventions relating to attendance at SHO teaching (chapter 9) or meeting with the GP trainer (chapter 10). If a standard was set locally it may have been taken as compulsory even if it was not a regional policy. Similarly a standard set at regional level may not have national standing. There may be no penalty if the standard is not met, but when promoted widely and said with confidence it may be accepted as a compulsory requirement.

Another political aspect was the taking of opportunities as they arose. The changes in induction (chapter 11), which took place relatively quickly with an investment of funding, may have done so because they suited the aims of several parties. It simplified the timetables and training of SHOs for the consultants, it gave a longer period in the final GP registrar year for the GP trainers and gave a clear goal for the visiting body to set. The opportunity for change was therefore taken up by the Associate Director of GP education.

“Change requires the enthusiastic educationalist in the right place with the right circumstances. Good circumstances are external visits, pressure from SHOs, pressure from GP advisers, pressure from colleges, need to improve conditions for consultants. An enthusiastic educationalist alone is not enough and would be frustrated” (MR 1997).

Course organiser roles in GP and SHO training

There were time constraints for course organisers in the region. For myself there was a morning set aside each week to work as a course organiser. The teaching sessions for SHOs took up 25 out of the 50 mornings a year. The remaining mornings were spent on preparation of teaching and liaison with the SHOs, the consultants, the regional structure, and fellow course organisers. For other course organisers to apply interventions in a similar manner it would require time to be set aside. Other course organisers in the region were also responsible for the final GP registrar year, which further limited the time they could spend with the SHOs. There were four identifiable roles for each course organiser. These were support for the GP registrars, support for the GP

trainers, support for the SHOs and support for the SHO educational supervisors. Time needed to be set aside for each role. The scheme organiser role at Portsmouth set aside specific, protected time for SHO support, but this time was also used for SHO educational supervisor support. Clinical tutors were officially responsible for educational supervisors of SHO training, but their efforts were being directed towards the structured specialist registrar training and they were responsible for every SHO in the hospital. In addition, clinical tutors did not have the general practice perspective that was needed for SHO educational supervisors involved in the general practice vocational training schemes.

I concluded that two sessions were needed, with one devoted to the SHO and one to the educational supervisors. Identifying a specific session for educational supervisors would help ensure the support for them was actually put in place. If no specific session was identified course organisers would tend to drift towards serving the SHOs only. Supporting the SHOs was an easier task and already linked in with regular SHO teaching sessions stipulated by the region. Just as SHOs in post needed general, individual support and flexible experience, so did educational supervisors.

With respect to time, the course organisers also needed help with provision of monitoring systems, data handling, advice sheets for SHOs, information for educational supervisors and a co-ordinated regional policy. Course organisers responsible for SHO education would, themselves, benefit from a clearer identity and support network.

Acceptance of the unusual as a norm

Being a participant researcher gives acceptance within the group under study and an insight into the problems being faced by that group. However, the participant researcher may be less objective and accept situations which would appear unusual to an outside observer. A diary entry illustrates this.

“Easier to feel the data if you are in the system i.e. know the room or job being described. However it is also easier to gloss over the data or not

explore it as you assume facts and may not discuss them i.e. implied results" (MR 1998).

I was aware of pressures to accept the existing situation, and that these would be similar for others involved in SHO education, including educational supervisors of SHOs and course organisers. These pressures included the wish to avoid wasting time on a task that would not achieve change, and a wish to avoid adding to the tasks of others.

"The discussion about SHO posts was so similar to previous years. I felt myself almost having to let it pass over me as I had not achieved the change. I wonder if consultants get to the same point. It is not however my fault or my whole problem.

I did not pass all this on to the director of education because it seemed a tired record. He would shrug his shoulders or express anger but it would not change things. Waiting for the promised change is the easiest and most sensible option at this point. You need to always keep the promise of change alive to fend off criticism" (MR 1998).

I was in danger of colluding with the current situation and accepting it, and I wondered how much I had already accepted. I noticed that the attitude of consultants and even external visitors hinted at this. They made statements which suggested that things were so much better now than they were "in my day" and that SHOs should be grateful for what they have.

"SHOs are in a 'utopia', with only 10 clerkings a day" (external GP visitor 1998).

In the same way that a person comes to accept the appearance of the house they moved into despite plans to redecorate, educationalists may accept the problems in SHO training. A parallel in general practice is the patient who is chronically ill with thyroid disease. This is a diagnosis that is easy to make from appearance on first meeting the patient, but hard to make if the doctor has known the patient over several years and has not noticed the small incremental changes in appearance that occur.

Golby and Parrott (1999) encapsulated this observation when they stated, "being close to the action gives very good access, yet insiders easily overlook

matters, through familiarity, that outsiders find startling”. Gold (1958) describes this as “going native”. He states that the risk that a person faces when acting as a participant researcher is “incorporating the role into his self conceptions...and so violating his observer role” (Gold 1958: 220).

THE LEARNING ENVIRONMENT AND MOTIVATION

It was difficult, at times, to maintain involvement in the data and project so as to maintain enthusiasm. This is likely to apply to other course organisers and action researchers who take a similar approach. It helped to have regular contact with the SHOs to remind myself of the problems they were facing. A surrogate for this was to revisit the qualitative data and interviews. Returning to the core original comments made by the SHOs helped me to recharge and refocus.

Other factors that affected motivation were physical well-being and other life events. Action research often takes a period of several years and personal illness or change can affect the course organiser’s work role (a PhD often involves the older student and can be a period of **Physical Decline**). I was fortunate to be able to work throughout this period with just background reminders of my own mortality. Life events can help focus personal objectives and aims but may also change or obstruct them. They can both motivate and de-motivate. For me personally, birth of children, parenthood and illness of those in the family all competed with time for reflection on the action research process and will do for other researchers and course organisers. A balance is needed and a protected time and place each week helped to maintain the action research project.

Additional factors for course organisers included changes in the work environment. General practice in the 1990s continued to provide a secure job with relative financial stability. There were no threats of redundancy, but there were increasing expectations for standards of care with a clamour to control and oversee professional bodies such as doctors, lawyers, and teachers. This

increased the workload within general practice with longer and more difficult consultations and an increase in paperwork. The other changes in general practice for me were those for a newly established principle in general practice. The first five years were a transition from caring for the minor illnesses of the many to the chronic, complicated medical problems of a slightly smaller number of patients. Each consultation became more complex and relied on the database accumulated from previous consultations; a database that was improved by the developments in computing and data handling, within general practice, in the 1990s.

Facilitating reflection

Reflection is a core part of action research, but this is a process that can be blocked by competing activities including, for course organisers, their work as a general practitioner. For me, reflection was usually a spontaneous process that arose from meeting the SHOs and educational supervisors and looking at the data. There were periods when ideas arose readily and times when general practice and family became priorities and there was no time for reflection. It was difficult to fit reflection into a specified time, but this time was needed to draw together thoughts and plan further interventions. A Monday was the preferred time because the weekend allowed time to sort out any remaining issues from general practice and home-life. The key, for myself, was to be able to set aside other tasks and concentrate on the task in hand. However, for most course organisers and the NHS itself, Monday is a difficult time because a larger workforce is needed on a Monday to deal with patients' problems from the weekend.

Over the period of the study I noticed reflection was facilitated in certain circumstances. The most immediate was after coming into contact with the SHOs themselves or the data. This "active reflection" occurred after an event such as a meeting to discuss SHO problems. It was facilitated by writing down a summary of the event or thoughts about it.

There was a window of time after an event when I was more likely to reflect with enthusiasm and act on ideas. It helped to have specific time set aside for this after the event. This "window of reflection" also arose when starting a new task or developing a new idea. Once the window was passed there was a need to inject enthusiasm to reflect on the issues. Sometimes this occurred after a conversation about the problem, a presentation, or more formally, an external visit or viva.

In contrast, a more "passive reflection" occurred during a repetitive physical task such as digging, painting a wall or cleaning the car. These tasks appeared to free up the mind to dwell on and solve problems. They allowed lateralisation of thought around a problem.

The most passive reflection involved sleep. This "night reflection" helped to consolidate thoughts or aims for the next day. If the current day's tasks were cleared away and some time was spent considering the next day's tasks then the mind appeared to help prepare for those tasks overnight. If the previous days tasks were being considered overnight then it was hard to move in to a mindset to address the new tasks the next morning. Time was lost in getting into the correct mindset, when this could have been done overnight with less effort.

"Thinking on an issue overnight gives more clarity of vision in the morning. I have a better start and can get into it quicker. It helps to clear away the previous tasks, plan the next day and have a few issues in my mind e.g. Wed 8.9.99 morning for PhD I had a mental block. I got going around 11am and then failed to progress. However having slept on it by the next day it had fallen into place what the next steps were. ...Mornings are always better for ideas as well. Flood out with a misleading association that it is all perfect" (MR 1999).

"The course challenged his concepts about the value of lectures and gave him time to discuss this. He reflected on this overnight and realised it was correct when he considered his own training" (consultant 1997).

There was, however a need for "selective reflection". It was not possible to reflect on every single event and it was a better use of time to consider the key issues and just record briefly other thoughts.

Spoon feeding or information access

There has been a trend in both schoolchildren's, nursing and medical education to move from rote learning to independent learning. At one extreme the student would be told exactly what to learn and then regurgitate it almost word for word in the exam. At the other extreme the student would be left to find all the information or to rediscover the basic principles by themselves. The issue was how much information and support should a teacher provide for an independent learner. This issue impacted on me as a course organiser doing action research and as a research student.

“As a student it helps to have a readable text, access to computer packages and access to an expert to ask relevant questions at the relevant time i.e. a learning package on each area” (MR 1998).

The block to learning was the speed of access to information. If it was not readily available then the delay in obtaining information reduced motivation and prolonged tasks. Computer access, internet and quicker access to journals and books all helped. For some areas the chase for answers helped learning, in others it just wasted time.

"For chi squared the initial advice, computer package was available. For Mann and Whitney the initial advice, readable reference, tables were available but the computer package was on SPSS so not immediately accessible. There is a contrast between the independent learner and the spoon fed learner. Spoon fed is given all this in one go. The independent learner knows that he or she needs to get all these components and does so when they are ready for each stage. A supervisor needs to be able to facilitate each stage when the student gets blocked, loses the objective or cannot access the relevant part (e.g. error in formula in book). The supervisor is there to avoid time wasting detours" (MR 1988).

There was a balance to be struck between making the learner find their own way and providing the answer. The role of the teacher is to find the correct balance and be available with the answers or to facilitate access to them when appropriate.

"Purpose of teaching is to short circuit the acquisition of experience" (D Rowlands 1997, Cardiologist, Manchester Royal Infirmary).

"Pattern recognition versus the systematic approach" (D Rowlands 1997).

Technological change

This study took place at a time of rapid evolution and expansion of the use of computers. These became available at a price that enabled home use. It became possible to edit and re-edit and type reports quickly with graphical presentations. There was a transition from transferring data manually to disk transfer. Text could be searched for single words or phrases to draw out themes or recall coded phrases. Email contacts increased markedly after 1998 and allowed quicker access to advice from colleagues and supervisors.

In 1993 research articles were collected from the library, but by 1995 it was possible to order them directly through the NHS community library. It then became possible to search for and look at abstracts via the internet and specialist search engines such as Medline. By the end of the 1990s many journals were available on the internet in full text and the range of databases had increased with local library funding for databases access.

"Issue of time to draw out data and present it well. Computer facilities to do it quickly" (MR 1998).

"Data handling clearer. Still easier to get a print out and scan it. However the computer can store and generate the data in the format I want" (MR 1998).

"As a student it helps to have a readable text, access to computer packages and access to an expert to ask relevant questions at the relevant time" (MR 1998).

"Access to a computer programme to do the test was very helpful" (MR 1998).

Computer technology facilitated the work of action research. However there was a need to keep facilities up to date and the benefits had to be set against the time spent setting up a system, the costs and the need to control an information overload. Technology and access to computers became a key part of action research and this would need to be considered in any action research funding application.

WORKING RELATIONSHIPS

There were problems evident within existing SHO training, but the essential elements of a good SHO post were unclear. There was guidance about the structure of the SHO post, but the perfect structure did not necessarily lead to an excellent SHO post. The quality of support and relationships with others in the SHO posts appeared to be important. The field diary recorded several statements about this.

“Strong feeling now that communication, feeling supported, being listened to, having a relationship with one senior, is the key to a good SHO post. Appraisal and induction are all methods to introduce this but don't ensure this is achieved. A good post will provide this on several layers. Positive relationship with other SHOs, a registrar, a consultant” (MR 1998).

“The key issue of relationship between supervisor and learner is coming to the fore. If the two meet often enough to understand each other and appreciate their difficulties they are more likely to work towards each other's goals. The problem worsens when there is a glass ceiling that prevents exchange of information due to lack of time, pressure of work, intervening levels of administration (registrar)” (MR 1998).

“Importance of a team. Seen in the practice, the Primary Care Group and Portsmouth. Team building occurring in all areas. Need to know the team members roles and have a shared aim and goals. The good SHO post quoted at SHO lost tribe conference (Ipswich medical) was good because of a good communicating team. SHO posts need to have a team to work well so that energy can be diverted towards the SHO not towards just internal politics” (MR 1999).

SHOs appeared to be able to work long hours under difficult conditions if they felt supported, yet with better conditions they became disgruntled if they felt they were not being listened too. There was a parallel with the GP registrar year. The GP registrar met the trainer on a weekly basis and had individual support. The GP trainers had a recognised role and peer group support. In contrast, the SHO had no defined person who they met each week and the

educational supervisors who were consultants had a less defined role and no specific support group.

“...concept that need support and peer group for consultants, SHOs, trainers, course organisers – consultants are missing out in this group” (MR 1999).

A good SHO post might therefore have good consultant support, good communication between the hospital team and individual support for the SHO. This is discussed further in chapter 12, future SHO posts and in the discussion (chapter 14).

Monitoring

As an NHS Research and Development funded research student I was also in a similar situation to the SHOs and consultants. I was part of a system monitoring my own education and progress. Monitoring looked at the process (frequency of meetings with supervisors), supervisor's progress reports, output (summaries and published or presented work) and responses in oral vivas. However, for myself as a course organiser and action researcher there were other organisations involved.

“I now have two bosses. The university wanting reports on research, presentations and training on one hand and the Director of PGME asking for attendance figures and appraisal information. Can the two be reconciled? There is a research wing and the educational wing pulling on the course organiser” (MR 1998).

Rather than two there were actually were four organisations involved in monitoring. The NHS funding body had to ensure they had value for money from the providers of education, in this case the university. The university had to ensure the supervisors were providing good education. The Deanery had to ensure their course organisers provided support for the SHOs. Finally, in the background, my work as a general practitioner was being monitored by the Health Authority. Each organisation requested some evidence of process or

output and several times the work of reports overshadowed the actual work being supervised.

It would assist the action researcher if the funding bodies and university could combine forces and share information and reports, for example if the funding bodies could accept a university report and a copy of the student's report.

In the same way the SHO posts were monitored by four organisations, which were the Royal Colleges, the JCPT, the Deanery and the local course organiser. I viewed monitoring as a necessary process unless it became overwhelming and intrusive. Monitoring did focus my approach, especially the summaries of work done, the viva and meetings with individuals. Monitoring is appropriate but consideration should be paid to streamlining the process.

ACCEPTED RESEARCH METHODS

Throughout the study there was conflict over how to discuss the methods within the positivist environment of medicine. Action research as a concept was either not understood or had connotations attached to it. For this reason the term was usually avoided when results were presented in a medical setting. The field diary records examples of responses to discussing action research.

"When action research was mentioned his/her eyes became downcast, his/her voice quieter and the implication was that it was of no benefit" (MR 1999).

"It is making it up as you go along" (Director of Education 1997).

"So it's just a management development tool...It's not really research" (research student 1999).

These statements reflect the background of those people who made them and may also reflect the skills of those who present action research. I was also trying to define action research more clearly in my own mind as the study progressed. An extract from the diary in 1999 illustrates this.

"The issue is when does action learning become action research. The answer is when the research component reaches a recognisable standard of research. It is difficult to criticise others in this area because

you feel uncomfortable about your own efforts at action research. They do not represent perfect research. It must be said however that this is the important point. This is why the medical and research community have not taken to action research. When it is clear that the research components are strong then action research will be accepted. There also needs to be clarification of the process and documentation of reflection and action. In brief it needs to be explicit, clear and in enough detail for the reader to repeat the process (as applies to the research component)."

This issue of what is action research and the use of terminology is revisited in the next discussion chapter under action research.

Conflict of background and terminology

"Language is the key to each discipline. Speak the language and those in the discipline will believe you are one of them. However it may be that to speak the language is to understand the principles. Is it calcium deposits or limescale on the kettle?" (MR 2000).

One of the blocks to understanding the perspective of other disciplines and other research methods was the terminology. Language was a barrier between disciplines and yet helped to identify each discipline as a distinct entity. Language not only defined a discipline, it was also a way of showing a discipline was mastered. The learning theorists, social scientists and medical scientists each had their own style of speaking and writing. It struck me that the earlier the language and terminology barrier was overcome then greater would be the exchange of ideas between disciplines. A source of definitions for each discipline could help overcome this barrier. Immy Holloway's (1997) book "Basic Concepts for Qualitative Research" is an example of this. However, when definitions are explained using the terminology of the same discipline, they may only be understood by members of that discipline. Ideally such a resource would be written by a person using the language of the reader's discipline to outline the terminology used by other disciplines that apply action research.

SUMMARY

This chapter has drawn out issues that arose for the course organiser working as a researcher applying action research. It has looked at the study from the insider's viewpoint as a case study of the application of action research. The course organiser was a learner in an educational environment and was responsible for developing a learning environment for others. Key factors within the learning environment were time, access to information, motivation to learn, reflection and support from others. The next discussion chapter explores these areas and the concept of the ideal learning environment further.

DISCUSSION

CHAPTER 14

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INTRODUCTION

The main theme of this study has been the investigation and implementation of change; both change facilitated externally, in others, by planned interventions and change facilitated internally, as an individual, using a reflective cycle.

After a criticism of the methods, this discussion chapter begins with external facilitation of change. It covers the interventions applied to produce change and has particular emphasis on the setting for change. Discussion then moves onto the individual and how internal change can be facilitated using reflection and an action research model. The final section draws the two strands together by looking at the future of action research in the context of both external and internal change.

The other emergent theme in this thesis has been the use of a supportive structure to facilitate learning and change whilst allowing for individual professional autonomy; a balance between a structured positivist approach and the individual perspective of an interpretivist approach. Within this study there was the structure of action research supporting professional learning, whilst allowing individual reflection and local, tailored solutions to problems. There were the structures of each intervention and the variation in their effect due to different settings. And, finally, there were theories put forward in the form of supportive structures, which could assist change. To encourage change at an individual or an organisational level, the correct balance of structure and individual autonomy has to be struck. Structures need to be in place to support learning and facilitate change, but these should not suppress individual effort and motivation to change.

Methodological problems from a positivist stance

In traditional scientific terms this was a longitudinal, prospective, observational study that used qualitative and quantitative methods in accordance with the principles of action research. The aim was to link the design and effect of

interventions to actual practice in a local setting. The results chapters (6-13) outline the details of this link and what follows later in this chapter is a debate about the depth of action research applied. That is, the form of action research taken, the degree of participation, the continuity of the action research cycle and the durability of the culture of action research.

However, before embarking on a discussion of the action research model itself, the overall criticism of this study depends on the ontological perspective that is adopted. This issue was first addressed in the qualitative methods chapter (chapter 4), but is revisited here because it is fundamental to the critical approach to this study and because there is further relevant literature. With modern technology, society has moved towards a positivist perspective and the medical community is initially trained with this perspective (Golby and Parrott 1999). The positivist view is that all phenomena can be broken down into simple rules, which will apply in every situation, and that research is about defining these rules. Because the participants of this study and the intended audience are within the medical community, this criticism starts first from a positivist perspective. Action research is being judged in the context of traditional science so there are several issues that need to be addressed.

The most basic question is whether the methodology and actual methods applied were appropriate for the objectives of the study. Barton illustrated this issue when he wrote that there was

"a hierarchy of evidence with randomised controlled trials and derivatives at the top, controlled observational studies in the middle and uncontrolled studies and opinion at the bottom. The best evidence to use in decisions is then the evidence highest in the hierarchy" (Barton 2000: 255).

However, this assertion has faced ongoing debate in the literature. Two meta-analyses in the "New England Journal of Medicine" showed "no major differences were found between estimates of treatment effects in the observational studies and randomised controlled trials" (Barton 2000, Ioannidis et al. 2001). Although Barton concluded that, "high quality randomised

controlled trials trump any number of observational studies", he did point out that where there are "limited randomised controlled trials, other forms of evidence need to be appraised" (Barton 2000). There is limited data of any type on educational interventions for SHO training and at present no randomised controlled trials or controlled observational studies either.

Within medical education itself there has also continued to be debate about relying on randomised controlled trials alone. As Prideaux (2002) stated,

“advocates of best evidence medical education, have moved away from grading studies according to the gold standard of randomised control to a scheme based on criteria such as quality, utility and strength of evidence” (Prideaux 2002: 127).

Prideaux (2002) goes on to point out that “while randomisation is theoretically possible in educational research it is often not feasible or justifiable”, that “maintaining blind allocation is rarely possible” and that “it is theoretically possible to control for variables, but in so doing the key factors that determine the success or failure of the intervention may be removed” (Prideaux 2002).

A larger, higher cost, randomised controlled trial might have provided more quantitative evidence of a causal link between interventions and outcome, but such a trial would have needed careful planning since the setting was likely to alter the effect of an intervention, and aggregation of data may have missed a change in one local setting. In addition, the link between local intervention and actual local practice would have been lost. This was the main aim of the study and for this reason this study was intended to be a "small trial in terms of numbers, but a big trial in terms of care taken during follow up" (Oxford Pain Research Unit 1997: 3).

Therefore this study has not generated a physical law that can be applied to produce an assured educational outcome. It does not test hypotheses about interventions to improve education on a large scale and the results of each intervention are not generalisable. Instead it is a demonstration of how the effect of local interventions can be assessed. It is an example of how decisions

can be informed by local research, rather than made on intuition alone. It is the framework of action research and the range of interventions that remains applicable to other similar settings. The successful interventions in this study are examples which others may consider applying in similar settings on the basis that the outcomes are not assured.

Where change has been shown by this study, it cannot be concluded that the intervention was the sole cause of change. Evidence was collected in support of a causal link, but the study was not designed to prove cause and effect. The aim was to facilitate change, reassess the local situation and then develop theory to design further interventions. The numbers in this study were too small to prove causation, as they would be in any vocational training scheme. It was possible that other unrecorded factors produced change, for example, regional or government initiatives. The study took place during a period when there was no change in government policy with respect to SHOs. Regional directives encouraged improvements in SHO training, but no specific initiatives were funded. Other parameters, which were not targeted by interventions in the study, such as the amount of career advice and stress support, did not show a change over the period of monitoring. The main environmental change was a reduction in contracted hours of work, which had the effect of increasing work intensity rather than improving training conditions (NHS Management Executive 1991, NHS Executive 1998, Kapur and House 1997, Wise 1997). This absence of change was fortunate for the study, but unfortunate for the SHOs nationally. From the positivist perspective, a small effect resulting from an intervention could not be ruled out when one was not detected. Larger numbers in the study would have given a greater chance of detecting a change, but the change detected would not have been of practical difference. It was the amount of change that was more important than a statistical difference in association with slight effect. Secondly, the intervention could have been effective in a different setting. For this reason the study described the interventions and the settings that they were made in. It explored why an intervention may have had an effect

or not had an effect in one setting to allow others to decide if it is worth trying the intervention in their own setting. Most were low cost, simple approaches that could be applied and assessed locally.

The study can also be criticised for looking at process, for example meetings, rather than outcome such as actual learning. In practical terms the course organiser can measure the process more easily than the learning outcome (Rickenbach 2001). The literature also supports the concept that the process of teaching does result in learning, although researchers have found it difficult to demonstrate this conclusively because of the variation in motivation of the student and the number of variables in the learning environment (Jolly 1996, Griffith 1997). Studies have shown an association between SHO satisfaction or recommendation of a post and the processes of meeting for induction and appraisal (Paice 2000).

All groups involved were not examined with equal emphasis, what Golby and Parrott (1999) have described as “observer triangulation”. The teachers (GPs, course organisers and consultants) were consulted less than the learners (SHOs). Opinions of teachers were included but not formally collected by questionnaire. This can be contrasted with the Ford Teaching Project where the perspectives of the primary school teacher, pupil and participant observer were recorded (Golby and Parrott 1999, Elliott 1991). There has been a debate about which perspective is more relevant and, indeed, an interpretivist stance would be that all perspectives are relevant and different. Baker and Sprackling (1994) had shown a wide variation between the perception of the SHOs and those of consultants with respect to issues such as attendance, protected teaching time and educational objective setting. The learners were those closest to the outcome of what was learnt. Their opinion was therefore more likely to reflect what actually took place. It was also the perception of the SHOs that was more important since they were the consumer and would tell colleagues about the post. If the perception of a post by an SHO was poor it was the responsibility of

the consultant to correct that perception. Other studies have also used SHO opinion alone and justified this approach (Paice 2000).

Validity and reliability were assessed using a small cohort. This may have lead to bias but with the numbers available it was more likely that reliability was underestimated. The validity of the questionnaire was assessed using interviews with the SHO, which demonstrated that they were valid measure of SHO opinion, but not necessarily a valid measure of the post. There was evidence accumulated in this study that suggested that SHO opinion, when aggregated, did reflect the post. However, the scope of the study did not allow for systematic comparison of the questionnaire data with an external gold standard measuring each post. Indeed there was no gold standard, given that the problems were identified with the conclusions of external visiting organisations. The original aim was to rapidly obtain SHO opinion on the post, and the study shows that the questionnaire was appropriate for this. However, one of the conclusions is that the questionnaire provides an overview and that a problem, once detected, needs clarification by interview.

The interviews to assess validity took place after completion of the questionnaire and it could be argued that the replies to the interview were biased by the need of the SHO to justify their answer. Rather than validating the questionnaire reply it could have been replicating it. To minimise this, the questionnaire and interview could have been more separated in time. However, if this had been done the difference between the interview response and questionnaire response may have related to changes in the post.

There were two other centres looking at SHO education over this period and work published by Hand, in East Anglia, and Paice, in North East Thames, during the study also described the use of questionnaires (Hand and Adams 1998, Hand 2000, Paice and West 1994, Paice et al. 1997, Paice 2000). These other surveys were larger and used similar questionnaires. Indeed, the SEAP questionnaire was shared with both centres as part of discussions about SHO training. They have used similar statistical methods, and obtained similar

figures for validity and reliability (Hand 1998, Paice 2000). All these other surveys have provided a snapshot of the situation at one time. Some have reviewed the position after an interval of two years or more, but none have continually monitored posts at a local level with feedback. No other studies have described questionnaire use as part of local initiatives to resolve identified problems and produce changes at the interface of the SHO and educational supervisor. Other studies have been surveys of the problem with no specific suggestions for solutions.

The contribution of action research

The criticism of this study so far has been taken from a positivistic aspect, and now turns to a more interpretist viewpoint. Firstly, this study lies towards the more technical or rational end of the action research spectrum, which is why it has to be considered from both the positivist and the interpretivist point of view. This study did constitute action research as it has fulfilled the requirements set by Carr and Kemmis (1986) and Lewin (1946) that it should be a study on "social practice", that involved a cycle of planning, acting, observing and reflecting. It has fulfilled the "triadic relationship" of research, theory and practice described by Wilson-Thomas (1997: 568). This study did also fulfil another essential principle of action research put forward by Carr and Kemmis (1986: 165), which was "an improvement of a practice", "an improvement of understanding of a practice" and "an improvement of the situation in which the practice takes place". This has been possible because of the collection of information about change of practice from questionnaires and interviews. These set "criteria for evaluating the relation between effort and achievement" with the aim of trying to "prevent us from making the wrong conclusions and prevent us encouraging the wrong work habits" (Lewin 1952: 35).

The action research used in this study was at the more technical end of the action research spectrum because it used quantitative methods of data collection, was relatively more researcher led and was not always fully group

participative. Within the typology of Hart and Bond (1995) this study fell into the categories of organising or professionalising, where the researcher was a participant within a group of loosely linked professionals. This study was not, however, at the extreme technical or experimental end of the action research spectrum, where the researcher was separated from the setting, and the group was fixed or controlled. Indeed, the intervention was facilitated by someone other than the researcher in four of the action research cycles (appraisal chapter 7: 154, teaching chapter 8: 177 and induction chapter 11: 234). Carr and Kemmis (1986: 615) put forward participation as their second essential principle of action research and said that it should "involve those responsible for the practice". This study was not participative for all the providers and recipients of education at all times when the action was planned or assessed. It was participative for the course organiser/researcher at all times. For others, participation varied. For teaching in the Obstetric and Gynaecology post (chapter 8: 184), all participants were involved in a process similar to that employed by both Lewin and Kemmis. However, this intervention produced only partial change and this was short term. There might have been a greater effect if there had been a smaller group meeting more often. An effective intervention that was participative was the meetings between GP trainers and their SHOs (chapter 10). The GP trainers as a group suggested the time to meet and agreed the principle. The participation was not continuous, but the action had been decided on so the group did not need to continue, although the group met subsequently to discuss other issues. The course organiser coordinated the GP trainers, and finalised and organised the intervention. The participation was focused and this may be appropriate where there are considerable time pressures on the participants as there were in the NHS in the 1990s.

Participation and the degree of participation remained issues amongst those describing action research. Golby and Parrott (1999: 54) actually described full participation as an alternative "participatory enquiry paradigm" that was distinct

from other paradigms of positivism, interpretivism and the “critical paradigm” of action research. Meyer (2000: 179) stated that “participation is fundamental to action research” and contributes to the second important feature of action research – namely, its democratic impulse”.

Waterman et al. (2001: 17) suggest there can be a range of participation running through co-option, compliance, consultation, co-operation, co-learning, to collective action. Some researchers participate fully in the groups they are trying to change, others start as observers then become participants and some remain as observers. All use the group to obtain information in some way. The researcher may collect information informally, but the key is that information comes from the group being researched. This study did obtain information from the group both at meetings and with individual feedback. In this study, the group as a whole did not always make decisions and plans on action, but the research was on the whole group and the action was applied to the whole group.

This issue of participation in the action research cycle leads onto the next point of criticism, which relates to attempts to create a culture of action research. In the absence of a fully participative study group, the process of action research will usually only occur if the individual action researcher facilitates it. Once the action researcher leaves the setting it is likely that no further action research will take place. As discussed later, the continued application of action research principles by the study group itself is an ideal to move towards, and could be at the core of the ideal SHO post. This study alone did not engender an ongoing culture of action research locally. Even in those research cycles where the researcher was not the key facilitator, change was initiated by one or two individuals rather than by a group consensus (appraisal chapter 7: 154, teaching chapter 8: 177 and induction chapter 11: 234). Feedback cycles were initiated in other settings such as SE Scotland, but these were also researcher dependant. The challenge for the future is how to generate ongoing action research cycles within systems once the original action research project has ended. This is a question that will be addressed later in this discussion.

Lewin (1952) stated that in action research the intervention evolves and develops as the cycle is repeated so that it is cumulative, with each modification building on the next. Action research is a cycle of activity and the cycle should continue until the original problem that was identified has resolved. The number of cycles described in this study for each problem ranged from one to three and the overall number of action research cycles outlined in detail was seven. The total number of action research cycles was determined by time and also the need to collect data after completing one cycle before embarking on another. Action research cycles took between 6 months and 12 months to complete and the number of cycles was intentionally limited to prevent interventions overlapping and contaminating an existing action research cycle. In this study all interventions completed one cycle and three completed more than one cycle (teaching chapter 8, attendance chapter 9, GP trainer meeting chapter 10). This was usually because the problem had resolved sufficiently for it to be an acceptable outcome so that no further intervention was required. However, for two interventions in this study, the action research cycle never reached a satisfactory outcome. These were the interventions to improve teaching in Obstetrics and Gynaecology (chapter 8) and to improve the provision of induction (chapter 11). This demonstrated the difficulty in identifying and planning effective interventions from the literature and existing local expertise. To the casual observer the number of action research cycles described in detail might be perceived as being low, but there were ongoing cycles of monitoring that determined if problems had resolved. The SEAP questionnaire gave continuous data on SHO education with, for example, information on attendance, teaching, and GP trainer contact. The situation for each intervention therefore continued to be reviewed every six months. The SEAP questionnaire enabled a wide range of problems to be assessed with no additional investment in time. Research cycles were effectively continuing every six months without any intervention taking place. They were silent or inactive cycles. Furthermore, most published action research studies involve only one

cycle of action research and the median duration of studies was 12 months with none going beyond 48 months (Waterman et al. 2001: 17). When compared to the review by Waterman et al. (2001), the number of research cycles completed in this study exceeds previous published studies and the duration of observation over six years is greater than action research studies published before 2001.

So far, this section has criticised the study in comparison to existing literature on action research. The discussion now moves on to consider the results of the study and theories arising from these. The topic of action research is revisited later in this discussion chapter with respect to theories on the development of action research, both within the setting of medical education and the wider context of social research.

Monitoring education

During the study, high profile legal cases such as Harold Shipman and the deaths of children undergoing surgery at the Bristol Royal Infirmary fuelled public demand for improved training and evidence of adequate training (O'Neill 2000, Smith 1998). There was an overall reduction in the total number of hours worked by junior hospital doctors and a reorganisation of education at the house officer entry level, and registrar exit level (Kershaw 1997, GMC 1997, Bache 1999, NHS Management Executive 2000). However, the structure of training for the middle, SHO grade in the United Kingdom remained unchanged. The General Medical Council (1999: i) had stated that

“the current system can be greatly improved through a change in attitudes and through innovative approaches to educational and service issues, without necessarily requiring additional resources”.

The interventions applied in this study showed that local changes in SHO training could be achieved and assessed within the current cost constraints of the NHS.

The first objective of the study was to develop and apply a system to monitor education in hospital posts. The three components of the monitoring system were recording of verbal comments, verbal feedback during group discussions, and a regular standardised structured questionnaire. The monitoring system was applied in practice over a period of six years using minimal resources and it produced information that allowed both comparison of a post over time and comparison between different posts. The monitoring system has continued after this study ended.

The financial costs of monitoring were low. They formed a small part of the cost of interventions, particularly where alterations in staff employment took place, such as with the change in start dates to increase induction (chapter 11). The financial cost and time used were potentially offset against the cost of reapplying an intervention that had no benefit. For example, the application of telephone reminders to attend was stopped once it became apparent there was no benefit (chapter 9). Once the key personnel were identified, and a routine for assessing posts was established, data collection to monitor SHO education continued in the background.

The SEAP questionnaire

The main component of the monitoring system was the SEAP questionnaire. The questionnaire helped to identify problems and provide evidence in support of problems identified by other methods. It was the core of the monitoring system, and the part that allowed comparison. The SEAP questionnaire gave a regularly updated overview of the key aspects of every SHO post. However, because it provided an overview and gave only the perspective of the SHO, it had to be supplemented by qualitative methods. Problems identified by the questionnaire needed to be confirmed by brief interview and discussion with all involved parties. Once problems were identified and interventions applied, the SEAP questionnaire allowed ongoing follow up after the intervention without additional investment of time.

The results from the SEAP questionnaire highlighted the problem of relying on opinion alone. For example, in the Obstetrics and Gynaecology post in 1996 the questionnaire showed some improvement when the SHOs had only expressed discontent, and again in 1999 it showed change when the course organisers thought there was none. Over this period it also showed an increase in teaching quantity had not taken place when the consultants said it had.

The main block to application of the SEAP questionnaire on a wider basis was the data handling. The data entry personnel, computer programmes and means of laying out the feedback data are unlikely to exist in most departments of education. This can be overcome with the use of more centralised optical reading systems and standardised formats for feedback. The standardised format that evolved during this study included use of the original figures in tables, use of percentages for comparison and the production of graphical printouts in bar chart format. It was of note that statistical tests were useful as a means to screen the data for changes that merited further assessment, rather than just adding to evidence of change.

The SEAP questionnaire has been taken up at other sites in the United Kingdom, including SE Scotland, Dorset and Southampton, but its use has remained dependent on the enthusiasm of the local organiser of the system. When the organiser changed in SE Scotland and Southampton, the questionnaire was used less or not applied. To maintain use of the SEAP questionnaire and maintain the overall system for monitoring requires an enthusiastic local organiser and encouragement from more senior educationalists. It will help if there is a regional expectation that time is set aside to collect and examine data and if there is support with any intervention in response to the data.

Other centres that used the SEAP questionnaire did not use the same overall system of monitoring. For example, in SE Scotland there was no regular face-to-face contact with SHOs, but there were visits made to the relevant hospitals. Other centres did not have a formalised “soapbox” session for group SHO

feedback and did not record anecdotal comments. If each department of education held a record of information about each SHO post it would assist the process of collecting verbal feedback. This would allow pooling of information coming into the department of education and better comparison with the questionnaire data.

With respect to the SEAP questionnaire itself, it will continue to require modification as the environment of SHO education changes. Some concepts did not exist at the start of the project and were not therefore covered in the original questionnaire. For example, the questionnaire will now need to ask about the second and third appraisals in each SHO post. In future it may need to ask about study leave weeks in general practice. Although some questions may have to be modified, the majority should keep the same wording to allow comparison over time. To assist this it is better to add or remove question subsections rather than reword questions. Some centres may also wish to add local questions at the end or block out questions inappropriate to their area. For example, not all centres have regular contact with GP trainers yet and some have additional appraisals with course organisers.

EDUCATIONAL INTERVENTIONS

This study has identified a range of interventions that may be applicable in other educational settings and other organisations (chapter 6). In the setting of SHO education at Portsmouth there have been some interventions that were effective, some that were ineffective and some whose effect could not be determined. Interventions were applied in relative isolation to assess the effect of each over time so the total number applied was small. The number of interventions did not allow comparison or generalisable estimates of efficacy, but such estimates would not be applicable elsewhere because the outcome will be so dependant on the precise setting and circumstances.

Effective interventions

One of the effective interventions that may merit application on a wider scale includes the letter to improve contact between SHOs and GP trainers. The setting and stage of change is likely to be similar in other centres in Wessex and the United Kingdom. The cost benefit ratio favours application of this intervention as the gains in contact between SHOs and GP trainers are great in the face of the cost of a single mailing. The interpretivist approach would be to repeat the action research cycle for this intervention in nearby favourable settings. The positivist approach would be to conduct a randomised controlled trial to demonstrate evidence of generalisability, but this would still need to be followed up by local action research to determine effectiveness in each local setting.

This meeting between SHOs and GP trainers was one between the learner and teacher. The aim was to initiate a meeting and introduce more structure to the meeting. Another intervention which, instead, aimed to increase the number attending an existing meeting, was the use of feedback on attendance at meetings between SHOs and course organisers. This was a further effective intervention that may be of benefit in similar settings. It was of note that the majority of the proposed solutions to problems in SHO training related to increasing personal contact between learner and teacher, examples being attempts to increase appraisal meetings, teaching sessions or induction where the consultant was in the role of teacher. This theme of personal contact is revisited later in the discussion, where the hypothesis is that contact between learner and teacher is a key factor in a good educational post.

Ineffective interventions

The information that an intervention had been ineffective was as important as an effective intervention. It prevented a waste of resources by repeating the intervention. It encouraged reflection on why the intervention did not work and redesign of the intervention, examples being the use of telephone reminders to

increase attendance, the alignment of start dates to increase induction and the interventions applied in the Obstetric and Gynaecology post.

Some of the interventions that produced no evident change in this setting may actually be effective in other settings. For example, the use of telephone reminders may be more effective elsewhere if a course has a lower advertising profile. However, some ineffective interventions were relevant in a wider context. The lack of improvement in induction and Obstetrics and Gynaecology teaching has implications for the structure and format of visits by external organisations, because these organisations concluded there was change when little or no change took place.

External assessment visits

The intervention of external visits did produce changes in this study and one of these, the rapid investment to change the starting dates of SHOs, was large. External visits provided a focus, and specific time was set aside to consider the educational standard of the SHO post. However, external visits could have been improved. In the case of induction for all SHO posts the intended change was not achieved. In the case of Obstetrics and Gynaecology, teaching did not improve although it was concluded that it had. The presentation skills of those being visited and the promise of action may have prevented penalties. External visitors may not always follow up problems or may see a change in process (e.g. start dates) as evidence of resolution of a problem (e.g. induction).

Co-ordination of visits

The study highlighted a lack of co-ordination and shared aims at local, regional and national level and this remained a block to improvement. Regional, Royal College and national visits overlapped and an example of this was the assessment of Obstetrics and Gynaecology. Douglas Carnell (2000) has described this as “poly-visitosis”. In this study, reports were not returned to the local course organisers who were often unaware of the visits and not involved in

the process either to provide information or be assessed. External visits could be improved by co-ordination between all visiting organisations. This is also reflected in the current literature (Carnell 2000). The General Medical Council (1999: i,ii) stated:

“There are opportunities for greater co-operation and co-ordination between bodies involved with postgraduate education and training, as well as scope for certain functions and services to be rationalised... What matters most is that clear lines of responsibility, appropriate to local circumstances, are established, and that these are universally understood”.

The evidence for the conclusion that the system of external visits could be improved in this study is based on only a few cases, but the conclusion has face validity because the system has inherent design faults. The visiting body consisted of two or three people to assess a hospital in, at most, three days, with limited links to the local educational structure. The people in this visiting body were different on each visit and were unlikely to be able to follow up a problem. It was a group that had to form and work together to produce both an assessment and recommendations on change in limited time with relatively limited information.

Targeted follow up of external assessment visits

It is concluded here that time needs to be invested by external visitors to ensure interventions are targeted to specific objectives, targeted to specific people and followed up (table 59). This may require a small team that is brought in after the external visit to give detailed support and formalise a detailed, specific intervention. This would split the external visitor's role into assessment with a statement of aims, followed by an intervention support team to help plan local objectives and ensure their review.

Target the intended change
Tailor the intervention to the intended change
Follow up the specific target
Use local information
Pool resources of regional, Royal College and national visits

Table 59 Proposals for development of the structure of visits by external organisations

The ultimate intervention with any SHO post was a withdrawal of funding, but this was a difficult intervention to apply because there were no alternative posts in the locality. Any post was better than no post in the local context. For some specialities, withdrawing approval would also jeopardise several SHO posts and disrupt several training rotations. The Deanery only funded 50% of the SHO posts so there were also insufficient funds held to rebuild a full SHO post to replace it. These factors discouraged withdrawal of post funding and encouraged the status quo. If withdrawal of funding is to be a viable option, the Deanery should have access to all the funding of the posts and have alternative SHO posts designed and available in the same area.

THE SETTING FOR CHANGE

The setting of an intervention has already been discussed in the context of transferability of interventions and outcomes, but the emphasis has been on the intervention itself and the idea of a list of interventions that may be applied elsewhere. However, this study suggested that the period before an intervention, the setting, was as important as the intervention, if not more important. The setting appeared to be an integral part of the intervention that could be planned and assessed as closely as the intervention itself. With some interventions, relatively little effort produced change and with others considerable effort produced little change. If the setting was favourable it took a relatively small intervention to facilitate change.

An example of this was the introduction of a meeting with the GP trainer (chapter 10). The intervention was a statement of the time to meet, where to meet and an outline of the content of the meeting (time, place and purpose). This was a single letter to each GP trainer and SHO, but the letter alone would not have produced change unless the GP trainers and SHOs were prepared to consider meeting.

What were the features that made this setting ready for change? Both the SHOs and GP trainers were aware that they had been asked to meet before and both stood to benefit from the meeting. The letter crystallised existing good intentions and gave a structure to the meeting. It clarified the who, where, when and what components of the meeting which each SHO and GP trainer may not have individually set aside time to consider.

The setting favoured a meeting as the time identified had already been set aside for the SHO training and was known to be the most ideal for the GP trainer. Being mid week, the Wednesday meeting day had less pressure of work associated with it. The GP registrar attached to the practice full time was usually away from the practice on course teaching that day. The GP trainers had a precedent set for that day as they were occasionally expected to leave their practices as part of an update course on training.

GP trainers also met as a group and had discussed training. They had a shared ethos to improve education and with it an identity of what a GP trainer was. For the course organiser there was access to most of the group through meetings and there was access to all of the group through mailings. There was some financial incentive for the GP trainer, and benefit to his own practice organisation in terms of future workforce, when the SHO eventually came to work full time in the practice as a GP registrar. The SHOs were also part of a group that had become more clearly identified over the period of the study. SHOs also met regularly and received regular mailings from the course organiser.

The core of the setting was the attitudes and beliefs of the individuals involved rather than the environment they worked in. This leads to the hypothesis that a facilitator of change should invest time in identifying and providing support for the group of people who will be involved in change. There may be several groups of varying size, which need support and identity. These include the recipients of change, those who will make the change and those who control the finance and administration for the organisation in which change is taking place. The facilitator of change should co-ordinate action between these different groups so that they do not block each other's efforts.

The introduction of a meeting with the GP trainer was successful because it coincided with a favourable setting. It was an opportunity for change. Indeed, most of the changes in this study were brought about by facilitation when an opportunity arose. Perhaps, if the financial resources had been infinite, change could have been imposed or "incentivised", but even then it may not have endured if the setting opposed change.

Gladwell (2000), in his book "The Tipping Point", describes the setting as one of three rules that are necessary to trigger change, the other two being a person to sow the behaviour or idea, and an idea or behaviour that is "sticky" and passes on to other people (Gladwell 2000). For GP trainer contact, the setting was favourable, the course organiser sowed the idea, and the idea of meeting was "sticky" as it benefited all parties. Bandura (1986) also stressed the importance of environmental or situational factors in his social learning theory. Davis et al. (1995: 704) talks about "the interplay of change, setting, type of health professional and intervention". Preparing the setting does appear to be as important as the intervention.

Thresholds for change

Part of the setting is the individual people within it and their readiness to change. Prochaska and Di Clemente (1986) have described stages of change in an individual and in this study it was noted that some interventions appeared

to move participants across a threshold between one stage of change to another. For example, the intervention of a letter moved each GP trainer and SHO over a threshold to a point where they acted to arrange a meeting. The intervention was successful, because the setting had reached the threshold of change and the intervention was targeted at factors that tipped each individual over it.

If interventions are targeted at areas where the setting is on the threshold for change, the resources required to produce change can be used most effectively. Time may be better invested in moving the setting towards the threshold of change, rather than used on interventions that are unsuccessful because the setting was not appropriate. As the field diary recorded:

“The ground needs to be prepared then the sowing of one intervention can bear a great crop” (MR 1999).

The threshold for change in an individual such as the GP trainer or SHO can be viewed at several levels. The most obvious and desirable outcome is that of action. The individual decides they want to meet and an arrangement is made. However, the outcome may be less obvious and may consist of becoming aware of an issue or accepting that there is a need for change. Outward action may not result, but movement is made in the direction of eventual action. The setting for change has become more favourable.

Within this study there were interviews with consultants that produced no overt action, but may have increased awareness or moved the consultant towards accepting a need for change. As discussed later in this chapter and in chapter 7, it was helpful to categorise individual doctors in terms of their readiness for change because the interview approach could be tailored to the category. One category of doctor lacked knowledge of what was required to be done and another lacked awareness of the SHOs problems. Interventions such as information and feedback were aimed at increasing awareness, but not necessarily action. This led to the concept of several thresholds for change

(table 60). An intervention may apparently fail but it may help to prepare the setting by moving individuals across one of the thresholds for acceptance.

Threshold for awareness (Yes now I remember they said that...)
Threshold for recall (They said that.....)
Threshold for acceptance (Yes I should do.....)
Threshold for action (I did.....)

Table 60 Individual thresholds for change

Most of the literature on behavioural change relates to addictive behaviour and similar observations have been made in this area. Prochaska and DiClemente (1986) pointed out that behaviour change is not a binary phenomenon and instead described stages that an individual went through as they stopped alcohol misuse or smoking. They described a "pre-contemplative" stage where people were not considering change, a "contemplation stage" where they were engaged in a decision making process to change in the future, and an "action stage", when change actually took place. These same changes could be applied to behavioural change in education and the thresholds arising from this study can be seen as the points of transfer between each stage. The “threshold model” for change in education emphasises the transition from one stage to another rather than the stage itself. Those interventions in this study that produced action, moved individuals from Prochaska’s “contemplation stage” to the “action stage”.

Prochaska et al. (1992) described these "stages of change" as the "transtheoretical model". He proposed that treatments or interventions would be more effective for some stages than others.

"Action orientated therapies may be quite effective with individuals who are in the preparation or action stages. These same programmes may be ineffective or detrimental however with individuals in the pre-

contemplation or contemplation stages...There is a need to assess the stage of the client's readiness for change and to tailor the interventions accordingly" (Prochaska et al. 1992: 1106).

In short, it may be a waste of time and resources to apply an intervention in a setting that is not ready for change. Extending Prochaska's model to SHO education, the type of intervention needs to be tailored to the setting. An intervention intended to produce action should be applied to a setting in which action is likely to occur. An intervention to move individuals towards a setting for action should be applied if a setting for action is not yet present. An example from this study is that it would have been of no benefit to fix a time and place for GPs to meet SHOs if they had not even considered the reasons for meeting. Instead, effort would need to have been directed at increasing awareness of the reasons for meeting. The intervention would then aim to cross the threshold of awareness or move the individual from the pre-contemplative to the contemplative or preparation stage.

Follow up of change

Improvements in SHO posts showed decay after 6 to 12 months, which may relate to the change in SHOs every six months. Examples included attendance at GP trainer sessions (chapter 10) and the change in case based teaching in Obstetrics and Gynaecology (chapter 8). The proposed period to recheck the effect of an intervention was six months and that check should be made early on in the SHO post to allow time to reapply the intervention. This conclusion about decay in the effect of interventions was supported by statements from course organisers and consultants in 1999, who expressed their frustration that changes did not last. This loss of effect can be seen in other studies of interventions, which showed that improvement was not maintained after the monitoring and feedback ended (Hayes et al. 1999). Holter and Schwartz-Barcott (1993) proposed that this decay was more common in the "technical collaborative" forms of action research where previous structures and practices

re-emerge. They also proposed that where action research was more of a “mutual collaboration” between the researcher and other participants, changes were short lived because the individual practitioner responsible for them changed. It is possible that a greater participatory approach in this study involving the entire study group in the planning of change would have produced more durable change. However, in practice, this was limited by time. Where full participation took place, such as in the Obstetric and Gynaecology meeting (chapter 8), there were durable outcomes (fixed teaching sessions), but these did not resolve the original problem (standard and relevance of teaching) and appear to have been related to other factors outside the group control.

Because decay in the effect of interventions did occur, the review and follow up of change were important parts of the intervention. This study has shown situations where the course organisers concluded there was no change when the SEAP questionnaire demonstrated some improvements (Obstetrics and Gynaecology case discussion, chapter 8) and situations when an external visiting body concluded there was change whilst the SHOs and SEAP questionnaire suggested that change was minimal (Obstetrics and Gynaecology teaching, chapter 8).

Although decay of effect and review were important, follow up was not often discussed in the literature on interventions to change behaviour (Waterman et al. 2001). Most interventions in the literature were limited in time. For example, Davies et al. (1995), in their meta-analysis of interventions to alter physician behaviour and outcomes, do not mention follow up with repeated interventions. Waterman et al. (2001: 17) noted most action research studies were a median of 12 months duration and the longest was 48 months. Prochaska et al. (1992, 1994) did not include a follow up stage until six years after their first publication describing stages of change. They then concluded there were five stages in all (Prochaska et al. 1992, Prochaska et al. 1994). They observed an additional “preparation stage” where change was planned in the next month and a “maintenance stage” which continued as long as there was no relapse back to

the addictive behaviour. This study on SHOs has emphasised the importance of follow up, which would be the equivalent of the maintenance stage. Change has to be maintained or there is a risk of relapse to the original state. As Prochaska et al. (1992) stated:

"traditionally maintenance was viewed as a static state. However maintenance is a continuation, not an absence of change" (Prochaska 1992: 1104).

The periods used by Prochaska et al. (1994) for each stage of change were six months. Pre-contemplative was not considering action in the next six months, contemplative was considering action in the next six months, preparation was action in the month, action was overt change over six months and maintenance was persistent change after six months of action (Prochaska et al. 1994).

Change therefore requires longitudinal observation over time as in this study.

Six months is also the time period used in this study, but it could clearly be argued that this is artificial as this is the length of each SHO post. It does, however, illustrate the issue that change cannot be observed for one SHO in one post but has to be observed in one post over several SHOs. The threshold model proposed earlier in this chapter fits with the extended Prochaska model, and a further threshold can be added which is a threshold for review "I know I did" (figure 10).

Threshold for awareness (Yes Now I remember they said that...)
Pre-contemplation
Threshold for recall (They said that...)
Contemplation
Threshold for acceptance (Yes I should do...)
Preparation
Threshold for action (I did...)
Action
Threshold for review (I know I did...)
Maintenance

Figure 10 Thresholds for change and the Prochaska stages of change

There exists a triad which consists of setting, the intervention and follow up. All should be considered both when planning change and when reading the literature on change. The literature describes interventions to change behaviour, but has relatively less emphasis on the setting and the follow up of change. All three components should be addressed. If the setting is not appropriate, the intervention may fail. If the intervention is not followed up the change may decay.

SETTING – INTERVENTION – FOLLOW UP

Figure 11 The three key components that contribute to change

In conclusion, to facilitate change, the setting must be favourable and near to the threshold for change, the intervention should be appropriate for the desired stage of change, the outcome measured should relate to the stage of change, and there should be follow up of the intended outcome.

The setting for follow up

Within this study, reminders were used to maintain the effect of interventions. For example, with respect to meeting the GP trainer (chapter 10) a reminder letter was required every six months to encourage contact. For Obstetrics and Gynaecology teaching (chapter 8) the case based education did not continue. The course organiser had no direct influence on structure or reminders within the post, and these appear to have been absent.

Another mechanism for follow up was forward booking of tasks. With respect to appraisals (chapter 7) the booking of a time for the next appraisal helped to continue them on a regular basis. Those who did not set time aside in advance returned to the start position of having to renegotiate a time to meet.

Reminders and forward booking are examples of structures to facilitate educational processes such as teaching and appraisal without influencing the content of the process. This is the first point at which the theme of structure versus individual variation emerges. The structure can be an appointment, a diary entry or a secretarial reminder. Investing time in preparing the setting for follow up as well as the setting for the intervention may prevent decay of the intervention.

For the GP trainer meetings, the setting for follow up was a regular letter from the course organiser repeating the time, place and purpose of meeting. Within a hospital department, the objective would be to have one designated person committed to following up the task. This may be a departmental secretary, educational supervisor, or speciality tutor. If a post has a structure in place to remind consultants and SHOs to set aside time for appraisal, remind them of

the content, and record that the next date to review the appraisal is set, then appraisal is more likely to take place.

Personal contact and change

Returning to the setting for change, there were several occasions where communication and access to information would have brought the setting nearer to the point of change. A lack of awareness about problems faced by SHOs was an issue that recurred throughout the study. Consultants stated they were unaware that SHOs had not been released for teaching, or that they faced problems with the standard of teaching or the induction. This was described as a “glass ceiling” (chapter 9, table 44). In most situations it appeared to arise because the registrar grade was often responsible for rotas and teaching, and these doctors may have filtered out information about problems faced by the SHOs. It is also possible that the pressure of work or other factors overshadowed consultants’ concerns about the SHO’s problems or pushed them to one side.

Communication was an issue at other levels as well: communication between the regional office and the educational supervisors to give guidance on best educational practice; communication between consultants and registrars about expected SHO education and actual SHO education; communication between the SHOs and educational supervisors about actual learning needs (chapter 13); communication between educational supervisors and their consultant colleagues about improving posts. Indeed, this issue of communication and contact with senior staff by SHOs has been cited as a problem in most surveys of SHO education (Reeve and Bowman 1989, SCOPME 1991, Little 1994, Paice and West 1994, Baker and Sprackling 1994, Styles et al. 1994, Baldwin et al. 1997, Kapur 1997, Bunch et al. 1997, Council for Postgraduate Medical Education in England and Wales 1987, GMC 1999). Recently it has been highlighted as a key factor accounting for the difference between the NHS and other organisations, such as Kaiser Permanente in Canada, that provide a

higher standard of medical care, but at similar cost (Feachem et al. 2002). The NHS has been described as providing poor front stage continuity (one person to one patient) due to shift systems and poor back stage continuity (all carers are fully informed about one patient) due to lack of information technology and organisation (Krogstad et al. 2002). Following the events at the Bristol Royal Infirmary Paediatrics unit between 1984 and 1995, Professor Ian Kennedy's report called for greater communication and teamwork and the BMA and GMC have called for the development of doctors' communication skills where they impact on the working relationships with other doctors (BMA 2002: 15).

The larger departments in this study, such as Paediatrics and Obstetrics and Gynaecology, appeared to have more problems with communication, and the shift systems in these departments that replaced ward teams in the 1990s further discouraged communication. Similar observations about shift systems were also made in other hospitals in England (Dilworth and Mitchell 1998, Kapur 1997, Carnell 1998, Baldwin et al. 1997, GMC 1999). Posts that had regular communication between consultants and SHOs appeared to be of a better standard. Psychiatry and Accident and Emergency and a new women's health post were local examples (Rickenbach and Dunleavey 2000). Induction, appraisal, weekly teaching, access to senior support and day-to-day contact were features of these posts. Innovative posts in other parts of the country were also cited as being good because of the communication in the department and support for the SHOs (Wise 1997, Field and Bahrami 2001). The GP registrar year was another example of good practice both locally and nationally. In the final GP registrar year, each doctor had their own personal trainers who they would have access to most days and meet weekly for a seminar.

In a survey of the factors that stressed hospital doctors, Firth Cozens and Morrison (1989) found that the second most common stressors after dealing with death and dying were relationships with senior doctors. When coping strategies were examined, "asking for help" was one of the five strategies used (Firth-Cozens and Morrison 1989: 123). Alexander et al. (1985) also described

social support as the most important coping strategy for stress used by medical postgraduates. Paice and West (1994: 124) in their interviews with 303 SHOs concluded, "this relationship (with the consultant or registrar) seemed to colour their whole approach to the job". Baldwin et al. (1997: 743) stated there was a need for closer support and concluded from a questionnaire survey of 252 SHOs that efforts should reinforce "a closer working relationship between the SHO and supervising consultant".

This leads to the conclusion that communication remains the key to a good SHO post. Communication can be written or verbal. Written has the advantage of wider dissemination and standardisation, but may have less impact if competing with other written guidelines and material sent each day. Educational guidelines or contracts were an example. Verbal can have more impact but takes time. With respect to each SHO, verbal communication broke down into support for problems faced during the working day and a regular review of progress and learning aims. A good SHO post had someone available to call if a clinical problem arose at any time and a defined time each week when the SHO, as an individual, had time to discuss questions that had arisen.

Communication also took place within the structures of induction, appraisal, and protected teaching time.

Once the educational supervisor and SHO met on a regular basis, a relationship was established which had the potential to lead to further improvements in the post. The educational supervisor may have become more likely to attempt change to resolve difficulties faced by the SHO and more likely to provide induction, appraisal, teaching and feedback. The SHO may have become more likely to attend these sessions and, feeling valued, look at residual problems in the post with a more positive light.

The same process may occur with patients and doctors. As the relationship builds between them, the doctor may try to do more for the patient and may modify their approach. The danger is collusion and failure to advise on difficult issues that may lead to conflict between the patient and doctor. The benefit is

continuity of care, better understanding of the present illness in the context of previous social and medical history, and a readiness to invest time. What may be an effort such as getting up at night to make a visit or phoning to organise an awkward referral is reduced to a task to help another fellow person. A mechanical task becomes an emotional transaction in which the giver may be in receipt of appreciation by the recipient. Completion of the task becomes an investment in the relationship rather than a routine task. Roger Jones (2002: 624) referred to this as “physician’s altruism”, which is “implicit...in medical professional values and attitudes”.

Introducing personal contact

Good communication and personal support is therefore a feature of a good SHO post and is likely to provide a setting that is more receptive to interventions to develop the post. A pattern emerges from both the interventions in this study and the SEAP questionnaire, which suggests there are steps that can be taken to increase personal support, such as induction and appraisal. A principle identified during the use of the SEAP questionnaire was that a question should ask about three components of any activity. The fact that the activity took place, the frequency with which it took place and the quality of the activity. This became evident in the interventions to increase appraisal (chapter 7), teaching (chapter 8) and meetings with the GP trainers (chapter 10). Initially the fact that the activity took place was the overriding consideration, but subsequently the content and number of times it occurred became more important. There was a natural progression from the first meeting to the establishment of regular meetings. Rather than modify the questionnaire, as an activity became established it was better to cover all three aspects when the questionnaire was first designed.

Hesketh (2001: 560) described similar categories, which were entitled “doing the right thing” (meeting) and “doing the thing right” (quality). This study adds the category of “doing the right thing – again”

Earlier in the chapter it was proposed that a setting that would encourage follow up of an intervention contained at least one designated person who was committed to reviewing the effect of the intervention. This appeared to be the point at which good posts succeeded and poor posts failed. This person would be able to bring the relevant people together, assess the quality of any meetings and then ensure a check is made on the frequency of meeting and attendance (table 61). They would be in a position to co-ordinate regular input from senior experienced staff for the meetings. Identifying this one person and giving them specific tasks and time to check an event and its quality were likely to achieve and maintain change. This follows the principle of explicit time that was illustrated in the intervention to introduce GP training (chapter 10). In this case, explicitly identifying the time, place, people and content of a meeting could encourage a meeting to take place.

Checking on quality and frequency of meetings as an internal cycle within a post is similar to action research. It is proposed that a feature of a good educational post is one in which someone working within the same department is identified to check and monitor structures such as appraisal and teaching. One person is identified to facilitate a cycle of internal action research. Ideally this would be an experienced administrator working alongside a named speciality tutor for SHOs.

Named person to co-ordinate meeting
Identify experienced teacher
Teacher reviews quality of meetings
Co-ordinator checks frequency of meetings

Table 61 Introducing personal contact into an SHO post

Internal review

An example of a post that monitored its own training was the Accident and Emergency post locally towards the end of this study. The educational supervisor developed a system of mentorship whereby each junior doctor was linked to a more senior doctor who provided support and advice on an individual basis. This filled the communication gap between the many junior doctors and the few most senior doctors. Instead of acting as a glass ceiling and stopping the flow of information to and from junior doctors, the identified role of a mentor encourage information flow in a filtered but relevant form. Because the Accident and Emergency department was able to demonstrate it was identifying and addressing its own educational problems, the external monitoring system that was part of this study became less necessary. Less input was required from the course organiser. The SHO scores showed increased satisfaction with the post.

Elliott (1991: 30) in the Ford Teaching Project described facilitators as having a "second order action research role for themselves aimed at facilitating first order action research" in teachers. In the example of Accident and Emergency, the course organiser provided the second order action research to facilitate the internal departmental first order action research. As the department had invested in the action research process it was more likely to continue and encourage enduring change after the second order action research process had ended.

Golby and Parrott (1999) point out that a similar process now takes place in some forms of school inspection. They propose that the OFSTED (Office for Standards in Education) stimulated independent schools to start arrangements for their own inspection through the "Headmasters' conference" in 1994 and this became recognised as equivalent to OFSTED in 1998. They also point out that the "European Council of International Schools" is a similar model but it has a requirement for a school to undertake and document its own self study in preparation for review. A similar scheme called Validated School Self

Evaluation is now functioning in the Channel Islands (Golby and Parrott 1999: 19).

“Self directed learning” is when individuals take the initiative in identifying their learning needs and evaluating their learning outcomes (Jinks 1997: 11). This is a goal to achieve independent learners. In the same way, the process of internal departmental review or educational audit can be termed “self directed teaching”. The teacher has designed and implemented their own cycle of feedback, which may follow the principles of action research. Once a department can be seen to independently evaluate their own teaching, the resources for external assessment or “second order action research” can be applied elsewhere. The equivalent in medical care is termed clinical governance so this would be “educational governance”.

Pressure to change

So the ideal setting for change and follow up is one with good personal support and with a designated person to follow up and show improvements are maintained. A further issue, which arose from the interviews with consultants and SHOs, was how much pressure should be applied to produce change. As described in chapter 13 the interviews were approached as an equal colleague, but in the face of denial, occasionally progressed onto political negotiation. The issue was how much pressure could be applied before the effect was opposite to that which was intended. The consultants were in a learning environment in the same way that the SHOs were on the wards or in teaching sessions. In this case the consultant had the opportunity to learn about SHO education. How much pressure was required to encourage learning and how much would inhibit learning? SHOs were met who seemed under little pressure to plan their education and seemed to put little effort into it, others seemed to be under too much pressure and did not attend or plan their education. This in part reflected their character and personal beliefs, but for each person there appeared to be point at which too much pressure or too little pressure discouraged learning.

The analogy was a bubbling cauldron pot of ideas. Not enough heat and the contents did not even simmer. Just enough heat and the contents simmered nicely to produce the ideal mixture of ideas that reacted together well. Too much heat and the contents either boiled away or coagulated in a messy lump. There appeared to be an ideal pressure at which the SHO or consultant took in new information and acted on it. Too little pressure and there was disinterest. Too much pressure and learning was blocked.

Producing change required the individual to pick up ideas, adopt them for themselves and gel them into a plan of action, which they then carried out. The heat for a consultant was workload, peer pressure, monitoring by the system, and junior doctor expectations. Too much and the consultant would avoid training and improvements. Too little and the consultant would assume there were no problems and continue unchanged.

As Ferguson (1989: 79) states "neither boredom nor panic zones are useful states for learning". She describes a "comfort zone", "in which you can receive maximum feedback from the environment without any stress interfering" (Ferguson 1989: 79). The "stretch zone" is given as your next goal. "The situation you have to face in order to progress" (Ferguson 1989: 79). To progress, the stretch zone becomes the comfort zone and another stretch zone is taken on. Progress will not occur if stuck in the comfort zone or the stretch zone. Ferguson (1989) related this to teaching sport but the principle also relates to teaching non-physical skills.

Prochaska et al. (1994) has also "suggested a systematic approach" whereby the "first interventions should target increasing the pros of changing" and subsequent interventions should "target decreasing the cons". Within this SHO study more time was spent during interviews on promoting the benefits of change. The theory outlined by Prochaska (1994) suggests more time could have been spent identifying blocks to change and removing these rather than outlining potential dangers of not changing. This, however, needed a greater investment in time with each consultant than was available.

Tailoring change to the educational supervisor

Rather than just apply pressure to change behaviour, the interventions on teaching (chapter 8) suggested that it might be possible to relate the design of intervention to the type of educational supervisor. Table 62 illustrates the types of educational supervisors met during this study. The table excludes the two ends of the spectrum. One end is the ideal educational supervisor who needs no intervention to change. The other end being the educational supervisor who has no interest at all in the process and who is best advised to end their educational role and to encourage a replacement educational supervisor.

	Lacks knowledge of what is expected	Lacks awareness of learners’ problems	Lacks time as over-committed
Lacks knowledge of what is expected	Requirements	Requirements and feedback	Requirements and delegation
Lacks awareness of learners’ problems	Requirements and feedback	Feedback	Feedback and delegation
Lacks time as over-committed	Requirements and delegation	Feedback and delegation	Delegation

Table 62 Educational supervisors’ problems and solutions

The remaining three categories of educational supervisor (table 62) may overlap, but broadly fall into lack of knowledge about the required standard or role, lack of awareness about what problems the learners face (the glass ceiling discussed earlier) or lack of time to resolve the problems faced by the learner. The interventions available are to either make the educational supervisor aware of the requirements, or feedback information about the learner’s problems or to encourage delegation of the work to improve the learner’s education (table 62).

Fox et al. (1989) in their book “Changing and Learning in the Lives of Physicians” identified knowledge and perception of need as factors in the progress of physician behaviour. This touched on the categories identified in this study. Fox et al. (1989) noted that physician-learners progress at their own rates depending on their motivation, their knowledge of a problem, or the perception of a gap between current knowledge and skills and those needed.

Ely et al. (2002) looked at obstacles to handling questions about clinical care. They identified a lack of awareness of need and suppression of a recognised information need due to time pressures, embarrassment, personal characteristics, or characteristics of the clinical setting (Ely et al. 2002: 711).

Rolfe et al. (2001) outlined the types of skills a supervisor might apply which included the use of feedback. The barriers to effective supervision identified included lack of policy, lack of training, lack of time, misunderstanding about the role of a supervisor and work pressures. Rolfe et al. (2001: 98) concluded that “access to adequate information and education regarding the purpose of clinical supervision” was crucial.

The interventions applied in this study each included some of the categories outlined in table 62. Attendance (chapter 9) was not altered by feedback about the meeting alone (telephone calls), but was altered by feedback on attendance and information about the regional requirements to attend the meeting (the regional contract). The GP trainer intervention (chapter 10) was effective and included information on requirements and a suggestion of monitoring. The appraisal teaching (chapter 7) gave information but there was no element of individual feedback.

THE IDEAL EDUCATIONAL SETTING

Returning to issue of SHO education the literature continued to show that the educational setting remained poor at the end of this study. There continued to be an excess workload in comparison with educational content (Field and Bahrami 2001, Mather and Connor 2002). The service pressures were too great

and were reported to inhibit learning (Field and Bahrami 2001). It was acknowledged that learning was often deeper and more relevant if it was based in a service environment, but the opportunity for practice based education was being lost with inadequate supervision and insufficient time for reflection on practice (Kemple 2000, Greenhalgh 2000). In addition, each post still needed to address the future learning needs of the individual SHO. It was acknowledged in the literature that most SHO posts did not address general practice educational needs, which include chronic care in an outpatient setting (Crawley and Levin 1990, Kearley 1990, Little 1994, Styles et al. 1994). This required a change in content of SHO posts and more clarity over general practice orientated learning objectives in each post.

One educational model that could address both service pressures and specific learning needs was a modification of existing elective posts. During the period of this study at Portsmouth, one SHO rotation contained a six month post known as an elective. The SHO was funded to be supernumerary and this gave the SHO free choice about the content of their educational post. Most SHOs in elective posts chose a combination of specialities to gain experience in and attachments to these specialities were either full time for two to three months, or for a few sessions each week in each speciality over the whole six months. The emphasis was on chronic outpatient care and the course organiser provided the supervision of the post. These posts were rated highly by most SHOs. The three criticisms about elective posts were:

- The SHO had to be strongly motivated to put in the effort to arrange the post themselves.
- There was still a lack of general practice contact as they were only hospital based.
- There was a lack of structure for overall support of the SHO, including induction and appraisal

Modified elective posts

An improvement on elective posts would be prearranged posts with general practice contact and regular support structures such as induction and appraisal. The SHO could be offered one of a selection of modified elective posts that were ready made leaving those SHOs who truly wished to arrange their own posts to take up an elective post. The previous electives were already providing the basis for a range of prearranged modified elective posts that could be repeated.

A GP Trainer already existed for the final GP registrar year of training, and could extend their supervision to the earlier years of training as an SHO. The GP Trainer could also be involved in the design and supervision of the modified elective period, which could include a regular period based in general practice. As the overall supervisor the GP Trainer could link with the educational supervisor in each speciality and ensure structures such as induction and appraisal were in place.

Models for improved educational posts have been reported in the UK. Most were single posts involving one speciality and examples include Airedale, Stafford and Portsmouth (Field and Bahrami 2001, Rickenbach and Smith 2000, Rickenbach et al 2000). These posts have all been based in the hospital only. The modified elective post would include regular contact and work within general practice. This contact would give the SHO a clearer idea of what they needed to learn from the hospital setting that is actually relevant to general practice.

With supernummary posts, such as modified elective posts, the emphasis changes from altering the approach of those educational supervisors in the existing post to providing a clear outline of the required ideal post. It is easier to encourage good practice in a new post than alter existing practice in an established post.

The limit is funding for the salary of the supernummary doctor and the educational supervisors. When funding is available these additional posts can

also contribute to the existing patient care services. In the absence of funding new modified elective posts cannot be established.

Where service work is controlled appropriately these modified elective posts should provide a good educational environment for the supernummary doctor and help release other doctors in existing posts for their own education.

The principles behind a modified elective post apply in a wider context:

- The learner should be based in the environment in which they will eventually be working so that they orientate their education towards their future career choice.
- The learner should experience contact with other settings to get a more concentrated exposure to specific areas of knowledge or skills.
- There should be an overall supervisor who has a good relationship with the learner and co-ordinates the education.
- Structures need to be in place to introduce the learner to the new educational settings.
- Arrangements need to be in place to feedback to the learner on their progress and to help plan the learner's next educational objectives.

Programmes of education

A vocational training scheme of the future could be a programme of modified elective type posts to cover several specialities. Towards the end of the programme SHOs might wish to design and construct their own elective post selecting those remaining specialities that they need to gain additional experience in. This model for a vocational training scheme is, again, dependant on funding so that the SHO is supernummary.

The SHO would be supported throughout the vocational training scheme by the GP trainer, during the sessions based in general practice. Each speciality would also provide appropriate induction, appraisal and day-to-day support in proportion to the time the SHO spends in that speciality. Each speciality educational supervisor would have knowledge of their expected role, have

access to feedback from the student, and have sufficient time to support the student.

Once a combination of posts is put together as a rotation it needs a designated person to over see that rotation and a clear management and organisational structure has to be in place.

At present, vocational training schemes can be criticised as being a series of disconnected SHO posts. The contact with general practice, and the GP trainer, in modified elective posts, would provide a continuous thread of support and assessment for each SHO, that would link each post. This continuity could be assisted by completion of a record of SHO learning needs that passes from post to post. A record, which includes feedback to the SHO and helps to plan their future education based on identified learning needs.

The previous experience of each SHO will vary and it is unlikely that every SHO will require the same combination of modified elective posts. Currently, however, most SHO rotations are in a fixed order and the SHO has to choose one complete rotation. An option to overcome this would be for each SHO to rank all posts in the order they most wanted to do them. After each SHO is accepted on a rotation there would then be a matching process in which posts are distributed to the successful applicants in the most appropriate combination. This should meet the educational need of more SHOs than fixed rotations would.

The criticism of such a system of allocation of posts is the administrative effort it involves. However, as Cuzzi et al (1996) found, when they compared a traditional one year placement for 26 social work students based in hospital with ten week attachments of fieldwork, the changes resulted in more positive views of the work environment. The benefit, of tailoring a rotation to the learning needs of each individual, is that it is likely to attract more applicants and higher quality applicants. This could improve the local services provided it does not move people away from existing less popular posts.

As Klessig et al. (2000) noted, in a questionnaire survey of 418 internal medicine program directors, the identified quality indicators of a training rotation were ;

“stability, completeness, supervision, clinical skills, and teaching commitment; institutional support; amount of resident evaluation and feedback” (Klessig et al 2000: 71)

The proposals here for modified elective posts and programmes of education should help SHO education move towards these quality indicators.

The apprentice cycle

The models of education described so far suggest a set template for an educational post, which each learner passes through. A template, which is designed to suit the learning needs of an individual, but is relatively fixed. This is not the case, however, as the educational environment is actually dynamic and should evolve for each individual. There will, at least, be an introductory period when the individual establishes relationships within the working team followed by an increase in confidence at managing the day-to-day workload. Benner (1984) outlined the work of Stuart Dreyfus, a mathematician and system analyst, and Hubert Dreyfus, a philosopher within the US Air Force. They developed a model of skill acquisition based upon the study of chess players and airline pilots. In the Dreyfus model "a student passes through five levels of proficiency: novice, advanced beginner, competent, proficient and expert" (Benner 1984: 13).

Benner (1984) looked at how novice nurse and expert nurses handled the same situation. She demonstrated that the expert viewed the situation:

” less and less as a compilation of equally relevant bits and more and more as a complete whole in which only certain parts are relevant” (Benner 1984: 13)

They had moved from “reliance on abstract principles to the use of past concrete experience” as part of “a passage from a detached observer to an involved performer” (Benner 1984: 13). This move from theoretical knowledge

to practical knowledge was also outlined by Rolfe et al. (2001). Both authors describe a transition from book-based knowledge to skill-based knowledge through supervised practice.

Benner (1984) compared the novice and proficient student in the same educational environment, but did not study how the environment could be changed to suit the level of proficiency of the learner. Within this study on SHOs both the ward setting and outpatient settings were educational environments. Some SHOs were just expected to observe. Other SHOs were expected to take on the full workload of an experienced doctor without any initial education about what the experienced doctor had been doing. Neither situations were ideal. Observation alone could lead to poor concentration and difficulty linking what was observed to actual practice. At the other extreme insufficient observation could result in the later adoption of inferior standards of care as well as anxiety for the individual doctor about choosing the correct course of action. It was important to move the doctor smoothly from the period of observation to increasing participation in patient care.

A model that outlined this transition, arose early in this study was named an "apprentice cycle". This is outlined in figure 12 and encourages the SHO to move from observation to participation then active decision making. As the SHO's knowledge and skills increase they require additional responsibility to encourage further learning. The learning environment is changed at an ideal rate, which keeps pace with the knowledge, confidence and experience of the SHO. An SHO who learns quickly may only require a short period of observation and reach independence early. Another SHO may need longer to observe before managing patients on their own.

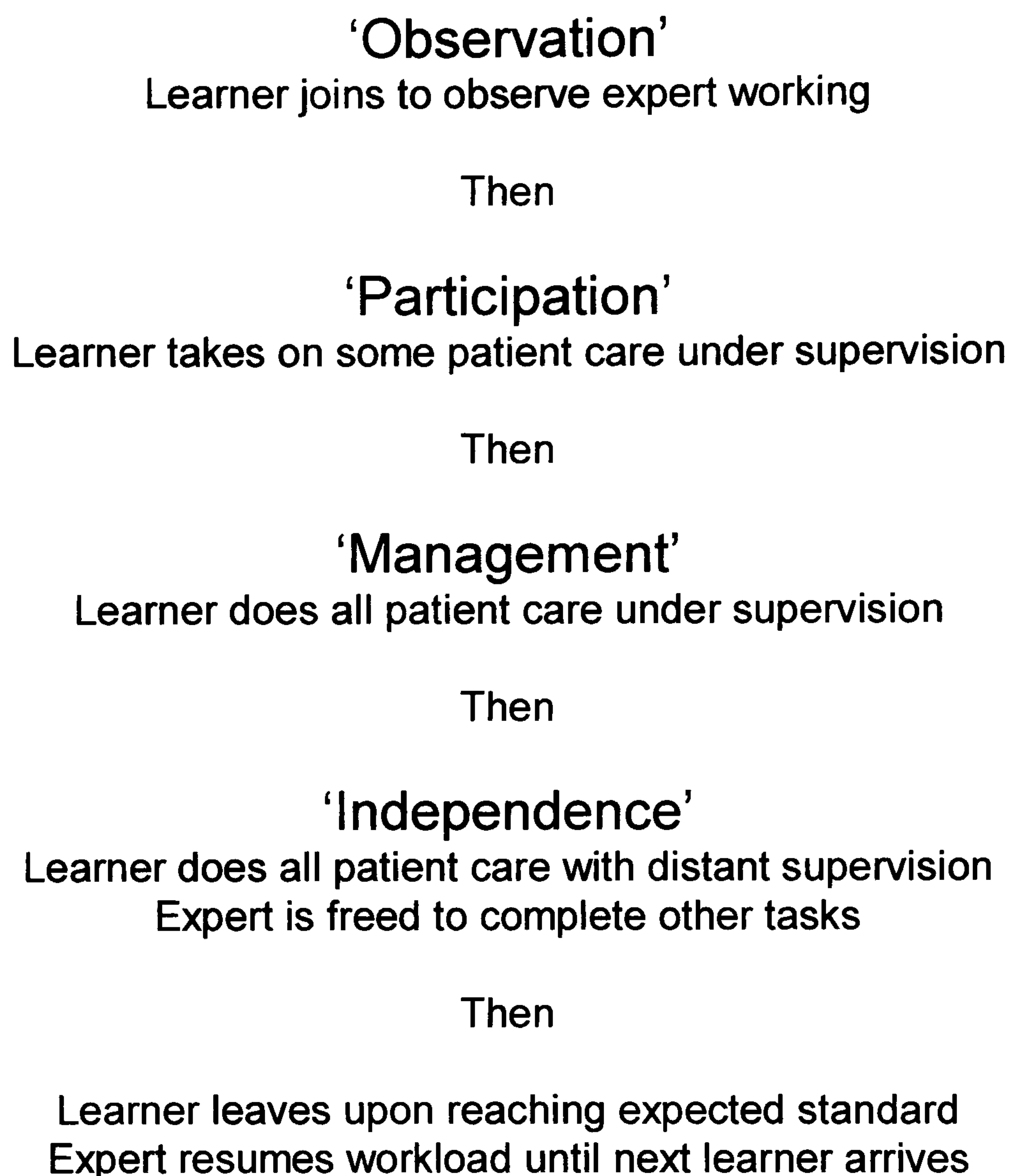


Figure 12 The apprenticeship cycle representing an ideal a balance between service and observation

Lave and Wenger (1997) described a similar process in their book “Situated Learning: legitimate peripheral participation”. They used examples of the butcher and midwife as apprentices. Initially the student participates on the periphery of practice then becomes more involved as they learn more (Lave and Wenger 1997). The supervisor controls access to experience so that the learner is not overwhelmed.

Kotecha (2002: 213), in a study on nursing students, identified an apprenticeship discourse as “the transmission of practical knowledge and skills within a clinical-based environment”. Kotecha (2002: 215) also described the apprenticeship role as “someone who was compliant (i.e. lacking any educational freedom to

direct their own learning) and a practical doer", but in this proposed model of an apprentice cycle that is not the case. The apprentice can be active in encouraging movement on to the next stage. The apprentice can identify when they feel competent enough to increase their level of patient management. The expert role is to suggest to the apprentice when they are ready to take on an increased role and encourage this where necessary.

The apprentice model outlined here describes the educational environment as the learner passes through the first four stages of the Dreyfus model from novice, advanced beginner, competent, proficient (Benner 1984:13). The novice is able to observe, the advanced beginner can participate, the competent doctor is able to manage patient care and the proficient doctor is able to work independently. The expert described by Benner is providing the teaching and supervision in this apprentice cycle. The expert is ensuring that there is sufficient space and opportunity for the learner to take on the role dictated by their level of knowledge. As Rolfe (2000:88) states the "process of supervision is developmental" and the apprentice cycle outlines the expert should manage the evolution of the educational environment to suit the stage of the learner. What the apprentice cycle (figure 12) adds to the literature is the practical element of how to tailor the learning environment to the level of the individual learner. This includes the release of the expert teacher to complete other tasks as the student assumes more responsibility and the subsequent resumption of all work by the expert practitioner to ensure that the next student is only observing when they start. One of the threats to the cycle is the tendency for the student to generate an additional workload that is then passed onto the next student who is forced to enter the apprentice cycle at a later point without observation.

The professional educationalist

Earlier in the discussion the importance of setting was considered with respect to GP trainers. It was proposed that the beliefs and attitudes of the GP trainers

contributed to the setting and made it more favourable to change. Within this study, and its limited number of interventions, it was easier to produce change within the GP trainers than the consultant educational supervisors. This was only an observation and must partly reflect the fact that the researcher and facilitator of change, as a general practitioner, potentially had more insight into, and influence on, GP trainers.

However, there were distinct differences between the GP trainers and hospital consultants as educational supervisors. There was an identified group of general practitioners that were "GP trainers" but the hospital consultants had no identified group with respect to education. GP trainers attended specific courses and were recredited as GP trainers every three years. Only general practices with GP trainers could teach GP registrars. In contrast, within hospitals, teaching SHOs was seen as a skill all should have, but none more so than others. There was no identified list of consultant educational supervisors and therefore no regular mailing route or formal educational teaching. GP trainers received a grant of approximately £5,500 per annum, but hospital consultants received no additional income or benefits for education. As Richards (1997) stated "hospital consultants are not paid to teach, nor are they given protected time to learn teaching skills". Furthermore, the educational agenda of hospital consultants was often overshadowed by other work pressures within the hospital and each department would usually have an SHO whether or not it invested time in education for the SHO.

In short, the GP trainers were an identifiable group with shared aims. The hospital consultants providing education were a more disparate group. In their own medical roles they were all known as professionals, but only the GP trainers could be considered "professional educationalists". The hypothesis proposed here is that it was the professionalising of the teaching role that had assisted change.

The term professional is used here because it implies something more than the individual teacher. It is the sharing of aims and values within an identifiable

group that contributes to the professional element, something that Lave and Wenger (1997) have referred to as a “community” and others have referred to as a “practice” (Carr and Kemmis 1986, Golby and Parrott 1999). The common feature is communication of a shared understanding, which then helps each individual to develop experience and knowledge about applying their own skills in different settings.

The term educationalist alone implies experience or expertise in teaching, but the addition of professional implies a code of ethics and an ongoing investment of time and energy in the teaching process; “an altruism” or willingness to go the extra mile” (Jones 2002); a readiness to view the whole teaching environment, rather than one teaching session and a willingness to reflect on the education being provided so that it can be improved further.

Carr and Kemmis (1986: 8) defined a professional as a member of a group whose "methods and procedures are based on a body of theoretical knowledge and research". A group whose members show a "commitment to the well-being of their clients...governed by ethical codes" and have "the right to make autonomous judgements free from non-professional controls and constraints" (Carr and Kemmis 1986: 8). Carr and Kemmis (1986) went on to state that, "professional autonomy usually operates at both individual and the collective levels".

This concept of professional autonomy is relevant to this study as it is in keeping with earlier discussions about maintaining change. It was proposed that the ideal educational setting has a structure for internal review of its own standards of education; that individuals, within the setting, feel empowered to identify and resolve local problems without the need for external intervention or regulation. A group of professional educationalists would therefore review their own practice and be ready to change to improve practice when problems become identified.

Another point that arose earlier was the absence of certainty or rules in the field of education. As Elstein and Schwartz (2002: 732) stated, “despite the

expansion of statistically grounded decision supports, expert judgment will still be needed to apply general principles to specific cases". Interventions do not always produce the same result and education has to be tailored to each different individual. It was Mintzberg (1983) who outlined the concept that professionals work in areas where there is no one clear correct path of action. He stated that, "professionalism is the exercise of discretion on behalf of another in a situation of uncertainty" (Mintzberg 1983). If the course of action was always clear then fixed procedures could be laid down and there would be no need for autonomy or for the professional. In education the course of action is not clear and the professional educationalist has to review the effect of their teaching or interventions on teaching before progressing onto the next step. As Golby and Parrott (1999: 7) stated, professionals have skills, but also know "when to employ their skills and how to vary them according to circumstance". This is what Fraser and Greenhalgh (2001) described as "capability". Golby and Parrott (1999) also outline a difference between the skills that are learnt as part of training and the ability to apply those skills in different settings in a way that is learnt during education. Training is about the teaching of specific skills that will be applied repeatedly in a fixed setting. Education is about learning skills that will then be adapted to different settings. A professional educationalist has learnt to adapt his or her skills to the setting.

In summary, the professional is part of a group that has a shared ethos, can adapt their approach to circumstance, can deal with uncertainty and reviews how he or she is progressing against the standards of predecessors in their own shared practice. Supporting the hospital based educational supervisors as a group of professional educationalists is likely to make the hospital setting more ready for educational change.

The mechanisms that are in place to support GP trainers as professional educationalists include being identified as an educationalist, meeting as a group, receiving information about education, having a one-to-one relationship with their student, having regular contact with their student, and having

protected time. It is proposed that putting these mechanisms in place within the hospital setting will help hospital educational supervisors become professional educationalists and that this will enhance the education of junior hospital doctors.

Triggers for reflection

A professional educationalist should therefore look at what they are doing, assess whether it is effective and alter their policies or approach to improve on what they have done. Something that Fish and Coles (1998:308) have called “insider practitioner research”. The professional educationalist would then be applying an action research cycle in a similar way to the researcher in this study. They would face similar blocks to the process that have been identified by this study. These were access to reliable data about practice and setting aside sufficient time to reflect on practice. Access to data can be provided by a system that collects and lays out data on a regular basis, but methods of encouraging reflection are not so clearcut.

The literature on reflection concentrates on the types of reflection. In particular reflection on action and reflection in action as outlined by Schön (1983). Fish and Coles (1998:68) describe reflection as “thinking about actions and thoughts related to actions”. Reflection can be encouraged by specific stimuli and settings (table 63), as outlined in chapter 13 (participant researcher).

Active reflection (table 63) may be encouraged by writing a brief report, discussion with peers, setting aside protected time or feedback. During this study the acronym GiFT was used. GiFT stood for the principle of Giving Feedback Thoughtfully. Feedback was a gift to be valued, but also had to be given with care to encourage reflection and learning. The danger being that inappropriate feedback, given thoughtlessly, can be destructive and demotivating. To illustrate the concept of GiFT, an actual wrapped gift was taken to meetings when feedback was discussed.

Active reflection	Occurs after an event. It may be helped by writing down a summary of the event or discussing it.
Window of reflection	A time when the practitioner is more likely to reflect with enthusiasm and act on ideas, e.g. when starting a new task or developing a new idea.
Passive reflection	Occurs during a repetitive physical task.
Night reflection	Occurs during sleep. This can help to consolidate thoughts or aims for the next day.
Selective reflection	Cannot reflect on everything. Need to use resources of time to think maximally.

Table 63 Types of reflection

Written records and reflective practice

This thesis has been about making reflection more explicit. The process of writing down what took place, the action taken and the subsequent effect has encouraged reflection. However, there was a risk that the actual process of writing down reflection then, itself, became a barrier to reflection. The writing of clearer prose that could be understood by others slowed the process of reflection.

The apparent need for lengthy detailed records that can then be reviewed by outside experts may discourage the reflective practitioner. This issue faced the field of general practice in 2000 onwards where written evidence of learning was becoming used to reaccredit practitioners. Previously, learning had been accepted as occurring purely on the basis of attendance at an educational

session. After 2000 there was a move towards learning being written down and collected in learning portfolios, which contained reflection on improving practice. This could be seen as a positive step that would encourage reflective practice, but there was likely to be variation between individuals about the degree of explicit reflection and theory that is written down as part of their learning portfolio. Some did this extensively, others minimally or not at all. The use of reflection and written reflection is also dependant on individual learning styles. Some learnt by rote and memory, others learnt by constructing theories that held together the facts that they describe. As Stephen Brookfield (1995) stated in his book "Adult Learning" the unanswered questions on reflection include the cross-cultural dimension (is self-directedness a universal characteristic or just a white middle class one?) and gender issues (does the independent, self-directed learner reflect patriarchal values of division, separation and competition?). Written evidence of reflection has the potential to encourage reflective practice, but may need to be used in moderation and tailored to an individual practitioners learning style.

This last section has looked at the educational environment. It has outlined how the environment can be adapted to suit the stage, which the learner has reached and to encourage the supervisor in their role of a reflective professional educationalist. These points are summarised in table 64.

Theory	
Apprentice cycle	Content: The educational environment evolves as the learner passes through specific stages from observation to full participation
	Effect: Encourages the educational supervisor to match the environment to the learners ability
	Impact: The environment of the learner is more appropriate for their level of knowledge
Professional Educationalist	Content: Professionalising the educational supervisors role will improve education
	Effect: Encourages provision of peer group meeting, time for supervision, feedback and information on practice
	Impact: Improved educational supervision
Facilitating reflection	Content: Reflection can be encouraged by specific activities and the use of time
	Effect: Encourages activities associated with reflection
	Impact: Improves the design of meetings and projects that use reflection

Table 64 Summary of educational theories

In 2000, the systems to support professional learning and reflection on practice within medical education were crude. The information available was not local enough, there was insufficient data about what others do, the research evidence about what should be done was missing, there was little help with change, the data for follow up was lacking and there was little time for reflection.

To encourage reflection on practice and professional development, provision of these components is required. Professional educationalists need data on existing practice (research component), information on what other practitioners

do and should do (literature search), options for change (facilitated reflection), help with changes (facilitated action) and data on practice after change. These are the areas that should be developed to support improvements in education both in the field of junior doctors and in the wider context of educational practice.

THE APPLICATION OF ACTION RESEARCH

The current trend in medical education is for increased recording of reflection on what has been taught and what has been learnt in practice. The action research cycle can facilitate reflection on practice and has been used as a method of self-reflexive learning in this study and in others. As Julian Burton (2000: 3), a pathologist, stated, he has used action research

"to increase my awareness of the value (and limitations) of self and student assessment, the use of peer review (both within and outside the faculty of medicine) and assessment of teaching by external agencies".

This thesis has been an example of the application of action research in the setting of hospital SHO training and the application of action research by a course organiser. The monitoring system of questionnaire, verbal feedback, interviews and focus groups was used to help identify problems, and check they had resolved. A triad of research (monitoring), theory (reflection) and practice (interventions) was applied over six years and this led to the conclusion that action research can indeed be applied to the setting of medical education. There are potential blocks to the action research cycle being applied at other sites including those sites in the United Kingdom that already use the SEAP questionnaire. The first was awareness of the existence of the cycle and acceptance of the concept. This issue is addressed later in this discussion chapter. The second block was time; time to reflect on interventions, lag time to the result of interventions, and time separating interventions (table 65).

Time for reflection

Time to reflect needs to be set aside by the course organiser to review the results of the SEAP questionnaire, to consider which area to tackle first, and to decide which intervention is likely to be effective. The intervention planning and execution will also take up time. The part time nature of course organiser work and the need to provide educational events for SHOs limits the amount of time set aside for reflection on, and planning of, interventions. This block can be partly overcome by providing as much support for the action research cycle as possible. This would include help with data collection, data handling, and feedback, as already mentioned.

In addition, time can be saved here by providing information relevant to each part of the action research cycle. For example, a list of the available interventions, theories on what settings these interventions best suited and advice on the timing of their application.

Time to reflect on interventions (data handling and planning interventions)
Lag time until the results of interventions are clear
Time separating interventions to assess the effect of each

Table 65 The time blocks to applying action research

Lag time to results

There was a lag time before questionnaire data could be acted on. This was partly because of delays in handling the data and producing it in a standard format. However, even when the results were immediate, time had to be allowed to accumulate evidence of change. The numbers in each SHO post were unavoidably small (as for any SHO post in the United Kingdom) and it required several SHOs in one post, or several consecutive posts with one SHO, before results could be taken to reflect actual change rather than the opinion of one SHO.

Time between interventions

Time also needs to be allowed between each intervention. The more interventions that are applied, the less clear it is which one produced change and which one is worth applying again. To apply local action research and be aware of which intervention might have produced what effect requires as few variables as possible. Time is required to see the effect of one intervention before applying another. As this may take six months to two years the course organiser requires commitment to complete the action research cycle. This also raises an ethical issue. If several problems are identified, the general population might expect all to be tackled immediately rather than deal with one and await an outcome before moving to the next.

In this study, action research was not just a circle of activity, or a spiral, but a spreading firework of action. With each cycle more ideas and issues were generated until several cycles could have been running at once. For example, whilst attempts were made to increase contact between GP trainers and SHOs, the idea of a study leave week in general practice and the issue of the quality of the general practice sessions arose. This produced three related action research cycles each competing for attention and time. One is described in this study and the cycle was yet to be completed for the other two. The action researcher has to prioritise and focus on the primary area for change.

Devolving the action research process

One way to overcome the problem of time is to devolve the use of the feedback cycle for data to the level of each individual SHO post. The ideal SHO post, described earlier in this discussion, may well be one that reviews its own educational standards. If each post is provided with tabulated feedback from the SEAP questionnaire on a regular basis then the educational supervisors in that post can apply their own action research cycle to problems identified. The course organisers could concentrate their use of time upon those posts that did

not review their own standards. This pattern of use took place with the Scotland data, which was applied locally by the Associate Director of GP education for SE Scotland, before it joined the data at Portsmouth.

An external research tool

Time can also be saved by providing the research tools to detect problems and assess the outcomes. The variables in this action research project were the problem identified and the tailored local solution. The research tool to collect data on the problem and any change was more standardised. In any system, such as this one providing medical education, there is unlikely to be sufficient time to develop the research tool to monitor the problems and outcomes. In this study, the development of the questionnaire and data handling took up more time than the interventions in total. If the research tool was provided for the individual action researcher then that individual could concentrate on the local issues and on tailoring the analysis to the local problem. With respect to SHO education, providing standardised sources of data would be likely to facilitate an action research process in other parts of the country. In the absence of any other data source, a standardised monitoring system including the SEAP questionnaire could be used along with examples of its application.

These findings apply to the more experimental typology of action research described by Hart and Bond (1995) and originally Lewin (1952). In the empowering or participative forms of action research the “data” comes from within the discussion between the participants themselves, but even in this form decisions can be assisted by additional data provided externally.

As well as saving time, the need for specific expertise in the research tool also favours the use of a standardised feedback system. Indeed, a research team with quantitative and qualitative expertise may be needed. This could be criticised as it moves towards the model of separate researcher and participant. However, in this case the researcher and participant can actually remain the same, as it would just be the research tool that is external.

The existence of an external research tool introduces the threat of the data being used for purposes other than local action research. Elliott (1991: 31) overcame this by using an "ethical framework" of data control by students, teachers and head teachers to reduce the amount of control others "could exert over teacher's thinking about their practices". Where data is not fully in control of the participants then there needs to be clarity and agreement over the use of the data.

In conclusion, action research can be used in a medical setting, but requires time, knowledge of the principles of action research, support for the monitoring system, advice on the intervention components of the cycle, and enthusiasm to complete the ongoing cycles of action research. An organisation that wishes to encourage change using the principles of action research should provide information about action research and the range of interventions available to produce change. The organisation should support monitoring of education and the use of those interventions. In particular, provision of confidential research tools to input and handle data will allow time to concentrate on planning and application of interventions.

The research component of action research

Turning to the positivist setting of medicine and medical research, there is a further block to the use of action research, which is the perception of the term action research. The researcher has been called "brave" (Head of Department of Qualitative Research 1998) because of venturing out on a limb away from the main thrust of medical research. This is despite the fact that action research principles are being applied in medicine every day as doctors review patients. Doctors know that a drug treatment may work for the majority, but do not know if it will work for an individual. The treatment is applied and the patient reviewed to assess the effect. The data is collected and the doctor reflects on the outcome. The process of intervention research and reflection is taking place.

The process has no label but comes under the umbrella of clinical care. It might also be called an n=1 trial or action research.

Action research also has parallels to the hypothetico-deductive model used in the individual care of patients in medicine. A doctor defines the problem (symptoms and signs) that a patient brings and reflects on it before proposing a plan of action (management) to solve that problem. The doctor then reviews the problem to see the effect and confirm the diagnosis on the basis of its response to treatment.

One proposal is that it is not the principles of action research that are rejected by medical research, but its terminology and association with "making it up as you go along" (Director of Medical Education 1994). There is a lack of clarity about what is action research and in this vacuum assumptions have taken over. "The uncertainty and debate over what is action research hampers its identity and acceptance" (personal communication Gary Rolfe 1999). The core is the definition of the research component in the term action research. The hypothesis is that action research has not been widely accepted in the medical profession because of the use of the word research. Action research contrasts with the expectations of the medical profession because research has specific connotations of structure and process. Those in medical research apply defined positivist criteria featuring mainly structured quantitative research, whereas other action researchers may see it in a broader definition of collecting data and include qualitative processes such as field diaries and focus groups. Research is hard to define. The Oxford Dictionary states:

"Research: Careful search or inquiry after or for or into; endeavour to discover new or collate old facts by scientific study of a subject, course of critical investigation".

At what stage does a collection of information reach a point that it can be taken to represent a valid picture of what took place? It is the attempt to collect data in a systematic way that makes it research. This study collected data and evidence of change, but it was not intended to reach the standard of certainty

that a large scale project might do within a closely controlled setting. It was intended to reach the best possible level of evidence within the limitations of a local practice based setting. The research component remains a fundamental part of the definition of action research.

The label of action research

There is an acceptance of principles of action research within the field of social science but it is proposed that the label of action research is tainted within the medical sciences. In marketing executive terms, action research has a poor market image in the setting of the medical community. Labels usually carry connotations such as hard to do or complex. Pavlov described how a dog given food at the same time as a bell is rung will after a time respond to the bell by salivating in expectation of food. Like Pavlov's dog, the name may conjure a reaction from previous experiences. In the case of action research the connotations appear to be lack of rigour, soft and inconclusive. The name stigmatises the process. As Hart and Bond state (1995), there is

“a lack of precision in the use of terms which is an enduring feature of social research and is not a problem exclusive to action research. The tendency to apply the label to almost any research which involves elements of collaboration or feedback serves to reinforce the criticism that the label is meaningless and that action research is not ‘real research’” (Hart and Bond 1995: 39).

The options are to change the name or clarify the process. Action research could be promoted as systematic review, systematic reflection, explicit reflection, or practice reflection. Reflection itself may have connotations. There could be the implication that someone is dreamily contemplating whatever comes into their head on a sunny day by a river. Thinking, theory or enquiry may be more appropriate (personal communication Coles 1999). The term theory emphasises the structured approach to thought and illustrates the issue that it is a change in personal theories and beliefs, which brings about altered behaviour and change in practice. Co-operative enquiry is a further term that

has been proposed. All these terms so far ignore the fact that there is actually a research or data collection component. Practice enquiry is a term, which begins to introduce this component. Other terms arising from the field of organisational development are “plan do study act” or “learn-work-learn” (Davis et al. 1999). Within medicine there is a move towards “evidence based medicine” (Greenhalgh 2000, Elstein et al. 2002, Ely et al. 2002). The application of results from large scale studies to medical practice. There is also an acknowledgment that learning from day-to-day problems is of value because it focuses on immediate learning needs and can generate answers relevant to day-to-day work. There is a gap between this “problem based learning” and “evidence based medicine” (Elstein et al. 2002). The decisions made in problem based learning arise from reflection on practice and the conclusions from evidence based medicine do not always apply to an individual in day-to-day practice. The gap is filled by action research, which could therefore be labelled as “problem based learning with evidence” (table 66). It is the collection of evidence or data at local practice level to serve problem based decisions.

EVIDENCE BASED MEDICINE	“Problem based learning with evidence” = action research	PROBLEM BASED LEARNING
Fixed setting, large groups, generalised data	Small groups or individuals. Local or generalised data	Focus on individual problems. Intuition or generalised data

Table 66 The gap between evidence based medicine and problem based learning

These alternative terms emphasis different components of the action research cycle and to some extent reflect the discipline they arise from (table 67). They also ignore a body of literature, which describes action research (chapter 2).

The preferred solution, adopted during this study, was to describe the approach in detail, and then relate it to the terminology used by the audience. Then, after the approach had been justified in the presentation, reference was made to the term action research and the body of literature relating to it.

Research	Theory	Practice
Study	Plan	Act
See	Think	Do
Information	Reflect	Action
Data	Enquiry	Implement
Review	Learn	Intervention

Table 67 Range of terms for the components of the action research cycle

As an example of labelling, the term action research has been taken up by a charity organisation that funds qualitative and quantitative research into a wide variety of diseases such as cot death, premature birth, epilepsy and meningitis. This organisation was founded in 1949 by Duncan Guthrie whose daughter Janet developed Polio at age 20 months, a time when 7,000 cases of polio were diagnosed a year and 700 of these died. It began as the National Fund for Poliomyelitis Research and was later renamed "Action Research" (Luther 1999). Their fund raising magazine is "Research in Action" and is published quarterly. Paradoxically, this active promotion of the term action research and its association with positivist research may change the sceptical approach held by the scientific community, despite the fact that the research does not fulfil the criteria set by Lewin and subsequent authors. The action within this charity is the doing of research rather than closely linking theory and research to practice.

What makes action research into research? It is systematic enquiry; the systematic collection of evidence of change or absence of change. What will

make action research acceptable as research in the eyes of a positivist medical research community? It is the systematic collection of data by accepted standard research methods with conclusions that are appropriate to the setting. This is the approach to be taken within the medical community where research is seen as positivistic data collection in an objective world of absolute truth; a community in which the term positivism is almost unknown and where alternative approaches are lumped together as qualitative research. Given this situation, one further way of tackling the acceptance of action research is to educate the medical community about the range of “enquiry paradigms” that exist and the principles behind them. Once the thinking behind the interpretive and positivist approaches becomes clearer then the position and practical relevance of action research will be apparent and in its correct context. This may be an ambitious approach involving more “deep learning”, as it has taken the researcher in this project several years to feel comfortable with this perspective. As Golby and Parrott (1999) point out, the texts that describe action research and related approaches can be “highly academic and use prepositional language that some students may find difficult to follow”. The short term practical approach outlined above, which is more superficial, is to describe the process and then offer the action research label after acceptance of the process.

From reflection to action research

Several terms have been proposed earlier as alternative labels for action research. Most of these included the term reflection and did not make the research component clear. There is a stepladder of activities between reflection and action research. This runs from "Reflection" to "Reflective Learning" to "Action Reflection" to "Action Research" (table 68). The individual can reflect on what has been done (reflection) or they can reflect and learn about what has taken place but not act on it (reflective learning). They can reflect on what occurred and change their behaviour (action reflection). They can reflect on the

data produced by research, act on it and then assess the effect of action on the data (action research).

REFLECTION	REFLECTIVE LEARNING	ACTION REFLECTION	ACTION RESEARCH
Reflection on what occurred	Reflect on and learn from what occurred	Reflect on, learn from and act on what occurred	Reflect on data, learn, act and reflect on data of change

Table 68 The steps between reflection and action research

These steps are parallel to the stages in behavioural change described earlier in the discussion as pre-contemplative, contemplative and action (Prochaska and DiClemente 1986). The earlier steps of reflection are seen in Schön’s (1983) work where he describes “reflection on action” and “reflection in action”. Reflection on action encompasses the steps of reflection and reflective learning. Reflection in action is similar to the action reflection step outlined here. Action research is the next step on from Schön’s reflection in action. These steps also illustrate one of the main reasons why action research has faced difficulty with its label and definition of content. Action research has been presented as, or interpreted as, being in the form of action reflection, reflective learning or just reflection, and this has tainted the perception of action research itself.

For action research as a term to be accepted in the scientific community the research component needs to be present and appropriate for the sample size and stated objectives. This includes all qualitative methods such as field diaries and focus groups, which are methods used by most action researchers (Waterman et al. 2001). Research includes knowledge about the subject under study and the existing literature. If the research component is clear and uses

accepted methods it is more likely to be accepted by the wider scientific community. Where reflection on action has been presented as action research it may have encouraged rejection of the concept by those in the medical research field.

The proposal is that action research without a research component is "action reflection". The individual reflects on what has been done and then alters his action for the next part of the cycle. Action reflection and other forms of reflection are an important part of development and learning, but have the potential to be misleading if the decisions are made on inadequate data. Examples of this include the assessments about the standards of SHO posts, made on the basis of anecdotal data, before this study began. Other illustrations were the conclusions drawn by visiting external bodies that there had been an improvement in induction when none had occurred. As Elstein et al. (2002: 730) pointed out, "informal methods of opinion revision still predominate (and) the strength of the evidence...is a major class of errors in clinical reasoning". As examples, they described how it was possible to "overestimate the frequency of vivid or easily recalled events" (Elstein et al. 2002: 730). They outlined how "Support theory proposes that the subjective probability of an event is inappropriately influenced by how detailed the description is" (Elstein et al. 2002: 731).

Reflective learning, action reflection and action research are all processes which have the potential to change individual practice. In the terms used by Wilfred Carr they contribute to the critical reconstruction of practice (Carr 1995). They help the individual move from being an employee who acts as an automaton carrying out tasks allocated by others, to a professional who takes on development of their own role and adopts the reasoning behind their actions as their own reasoning. The processes of reflection outlined here are part of being a professional and are a step on the way to moving from an employee to a professional. They move the individual from the passive transmission of the practice to an active ownership.

When considering practice there is not just the practice of the individual professional. There is the practice of the professional group that the individual works within, what has been described as the praxis or tradition of a profession (Golby and Parrott 1999). Dissemination of descriptions of reflective learning, action reflection and action research in the form of case studies can contribute to the tradition of the professional group as a whole. Fish and Coles (1998) have described this as deliberation or placing the reflection in the context of the whole world.

It is the educational supervisor or mentor who can facilitate these processes of reflection of practice by helping to provide an environment that encourages reflection, by verbal or written transmission of case studies and by providing feedback using observation or research. The educational supervisor can both help the development of the individual as a professional and help pass on the traditions of the profession of that individual.

Within this project reflection, learning and action have continued on two planes. One has been the overt documentation of change using research methods, and was also the action research. The other has been a continuous reflection by the researcher, and was also a combination of reflection, reflective learning and action reflection. The former, action research, was explicit, structured and external as described in the results section. The latter was more unstructured, reflexive and internal, but has still contributed to the development of the project as a whole.

Action research as a principle and framework

Another reason that the term action research is not widely accepted within medical research may be because it is being compared as a research method with other quantitative methods. Action research is not a method, but an overarching framework based on the principles of linking action, research and theory, what Meyer (2000: 178) has described as a "style of research". The principles can apply to all disciplines and any size of project from the individual to large populations. The framework is the action research cycle of moving from

an identified problem to planning an intervention, applying the intervention and researching its effect.

The framework of action research incorporates methods that are qualitative and quantitative. It draws from both the positivist and the interpretive methodology and is caught in the cross fire of discussion between the two. As it employs both, often opposing, methodologies it is likely to be criticised by both. It is the “general practice” of research employing the methods of several “speciality” disciplines such as learning theory, organisational development and formal research. Like general practice it can be criticised for not reaching the standard expected in each speciality and viewed as second rate, yet it links the specialities and provides a practice base for them.

A similar conclusion was reached by Golby and Parrott (1999) who described action research as an enquiry paradigm that is distinct from that of positivism and interpretivism. They describe action research as the “critical” enquiry paradigm, because “practitioners alter their actions as a result of critical and self critical reflection” (Golby and Parrott 1999: 53). Practitioners use knowledge that is neither purely subjective or objective, but a combination of both (Golby and Parrott 1999).

As a framework, each component of action research needs to meet the standards expected for each method used. Methods include the approach taken to reflect on and plan tasks as well as the research methods themselves.

When viewed as a framework there are implications for the process of bidding for, organisation and publication of action research. Each component can be handled separately and co-ordinated or put together as an action research project. Action research can be seen as a team approach with experts in each component (researcher, theorist and implementer) or as a framework used by an individual with expert advice.

The three disciplines of action research

Action research has been developed within several different disciplines which, to some extent, represent each part of the action research cycle. Research is strong within the scientific and medical communities, the reflexive process is a core part of learning theorists and the action component features more in the area of organisational development. The principles of action research can link each discipline and this leads on to proposals for further development within each discipline.

Within the scientific community, the emphasis is on assessing the situation or assessing the effect of action. The action, and theory behind it, is relatively less represented and is tailored to the specific controlled setting of the research project. There is debate about how to link the scientific research to practice, particularly in the area of quantitative medical research (Jacobson et al. 1997, Knottnerus and Dinant 1997). In the field of educational research, Carr (1995) argued that theory and practice were erroneously seen as being separate. The learning theorists emphasise reflection on learning and its contribution to changing behaviour, but have less input into research on what change has occurred and how to bring about change. Schön and Eraut (1994) have described the importance of reflection in learning, but have not looked closely at the data collection on which to base the reflection. Eraut (1994) coined the term "action knowledge" which is knowledge acquired in sufficient depth to be applied in action.

Those within the field of organisational development attempt to evaluate the impact of changes, but use formal research methods less and have less discussion of the thought processes that led to each intervention (Berwick and Coltin 1996, Garside 1998, Phipps 1999). The emphasis is on action and maintaining an impetus for change.

This is not to say that each discipline should move towards the same uniform approach. The benefit of working in one discipline is to move forward knowledge within a focused area with sharing of skills and experience. Rather,

these three disciplines can work together within an action research framework or may benefit from considering the action research principles. Where one or more components of the triad of research, theory and action are under represented then looking at those components may help to address issues arising within that discipline.

Wilfred Carr (1995) commented on the balance between the three components of action research in a chapter entitled “Whatever happened to action research”. His concern was that the reflexive element of action research was being lost as it was becoming dominated by the research part of action research and a positivist approach. He was expressing the tensions faced by action research as each discipline pulls action research in the direction of its own favoured approach. The principles and definition of action research are in danger of becoming blurred as each of the disciplines of scientific research, learning theory and organisational development redefine it in their terminology and emphasise the component they represent. The disciplines need to work together to produce a common understanding of the framework of action research.

Hart and Bond (1995) also pointed out that the emphasis placed on each component of the action research cycle can vary with the objectives at the time of the cycle. Initial cycles may emphasise the research elements as part of an experimental phase, then they may move to a more professionalising phase where the practitioners evaluate the conclusions. A final phase could be a more empowering action research cycle where the findings are applied on a wider basis.

“Action research can shift from being more outcome led to more process led and from being weighted towards research to weighted towards action.” (Hart and Bond 1995: 47)

Individual, group and population based action research

So the action research framework is common to several disciplines including medical researchers and learning theorists, but the emphasis on each component of the framework varies with each discipline. Part of the explanation for this different emphasis lies in the number of participants in the action research framework. Learning theory is usually applied to the individual and formal quantitative research is usually applied to populations. If the action research framework is viewed from the perspective of the number of participants, a pattern emerges which provides a different perspective on the role of the action researcher (table 69).

	Research	Theory	Practice	Discipline
Individual	Individual data	Individual reflection	Individual participant	Learning theorist
Group	Small scale local research (more qualitative)	Facilitated group discussion with individual reflection	Group action, several participants	Organisational development (action researcher)
Population	Large Scale research (more quantitative)	Networked meeting with individual reflection	Many participants	Formal researcher

Table 69 The action research framework and number of participants

There is a gap between the learning theorist who looks at the individual and the researcher who looks at populations. This is the area covered by the action researcher, working with groups of varying size. In addition, the action researcher can work alongside learning theorists and formal researchers,

because the framework of action research applies to all disciplines. The action researcher either brings the action and evidence base to learning theory or brings the action and reflective base to formal research.

The concept that the framework of action research can be applied to the individual or population appears contrary to the existing definitions of action research. Most descriptions of action research concentrate on a group (Hart and Bond 1995, Carr and Kemmis 1986, Waterman et al. 2001). The question that arises is what is the smallest number that can exist within an action research framework? The answer proposed is two: the action researcher who is usually a participant, and at least one subject, who is the target of the intervention. With this number it is still possible to fulfil the existing criteria for action research even though two does not strictly constitute a group. That is, a cyclical pattern of research, theory and action with an intervention and a research partnership that can range from co-operation to collective action (Waterman et al. 2001). The research component with an individual would be similar to a small group and would still involve collection of evidence that change has taken place. The methods applied could be interview, observation and collecting objective measures of change.

Reporting action research

For those looking at action research for the first time it is difficult to find clear examples, which encourage adoption of the same methodology. Many articles and texts concentrate on discussing principles behind action research and only briefly describe projects undertaken. Where action research is described in more depth, the detail of the qualitative or quantitative methodology, the reflection and theory become hidden in the overall process. In reality it is difficult to encompass all the stages and all the methods used in one paper. It may be more appropriate that an action research paper should be linked to papers describing the qualitative or quantitative components rather than attempt to describe all aspects in one article. The link must be clear otherwise the

action research paper will be open to criticism again, this time because the research component is not seen at all.

Action research articles encompass several methods and are therefore long. To encapsulate the whole picture, the authors may deal with each stage briefly. To provide the detail for each stage they may need to refer to a central text, provide extra detail on the internet or publish the stages separately. This latter approach has been known as salami publication and gained disrepute where the articles published elsewhere were too similar, so care has to be taken to be explicit about the links between articles.

What is an action research paper? It is an explicit description of the components of practice (problem, setting, intervention), reflection (diary of thoughts and hypotheses) and research (qualitative and quantitative). Few papers appear to encompass all these components and there appears to be no agreed framework for writing down the practice and reflection sections. For quantitative research the structure for articles is clearer, but still developing. Recent advances include more structured discussion sections (Begg et al. 1996, Docherty and Smith 1999). Qualitative research structure is less advanced than quantitative but there are now descriptions of the ideal content (Greenhalgh and Taylor 1997, Murphy 1998). The structure of articles on practice and reflection lag behind compared with quantitative papers.

The difficulties of defining action research and how it should be reported is illustrated by the fact that the organisation for Health Technology Assessment initiated a review to assess the extent and range of action research in NHS healthcare (Waterman et al. 2001). This was lead by Heather Waterman who had previously looked at action research in the context of nursing and eye surgery. Waterman et al. (2001: 48-50) produced a checklist of 20 points that should be covered by any action research project. The checklist covered points common to both quantitative and qualitative methods such as clear aims and objectives, ethics and rigour. Specific items relating to action research included the cyclical process ("Problem identification, Planning, Action and Evaluation"),

describing the context, and clarification of the participant-researcher relationship. Waterman et al. (2001: 50) talk about the phases of action research and ensuring that for each phase the aims, objectives, findings and outcomes are clear. Follow up was not specifically looked for in the checklist. As discussed in this study the duration of follow up is important. The median duration of study, and therefore follow up, identified by Waterman et al. (2001: 17) was 12 months and the range was from 1 month to 48 months. This study collected data over six years and data collection is ongoing.

A literature review revealed 285 possible action research papers since 1974, but only 59 met the criteria set by Waterman et al. (2001: 17) and 97% of these were published over the period July 1988 to 1998. It was of note that the term action research was still not a key heading within the search engines used. Only 36% of projects were funded and, when they were, the funding levels were low (Waterman et al. 2001: 18). Interviews, questionnaires and observation were the main methods used. Qualitative methods were used by 70% and only nine studies (15%) combined qualitative and quantitative methods (Waterman et al. 2001: 18). Few articles had evidence of theory development. Only 73% of studies specifically described the setting, and 70% of these were in the setting of nursing (Waterman et al. 2001: 22). The focus was professional education or skills training in 30% of studies, but only one related to education of doctors and this looked at the introduction of portfolios in general practice education (Waterman et al. 2001: 23). No studies looked at the training of hospital doctors and, in particular, none related to SHOs. No studies had an economic evaluation. Waterman et al. (2001) report that most projects were over-ambitious for the timescale they were given. The findings by Waterman et al. (2001) were consistent with the observations about action research made at the start of this study (chapter 2).

One conclusion arising from this study was that an action research project should have clearly described elements to it that stand out in any published description.

- The setting of the study should be clearly defined so that a similar action can be applied appropriately in a similar setting.
- The problem under study should be defined and confirmed within the cohort under study. It should arise from the study or ideally be identified by the participants. A specific aim and objective should be identifiable.
- The action or planned intervention should be simple, specific and targeted at the problem identified. Any other changes (confounding variables) should be minimised and identified.
- The methods of assessment should be clear and related to the problem identified. Assessment should take place before and after intervention with an explicit statement of the timing in relation to the intervention.
- The methodology of both qualitative and quantitative assessments should be rigorous and meet the standards expected by experts in both qualitative and quantitative research.
- There should be discussion about the likelihood that the intervention is indeed related to any identified change. This could be an external assessment.
- There should be sufficient detail in any publication to be able to determine if the problem and setting are similar to the reader's own area and to carry out the intervention in their own area. This includes prerequisites to change, infrastructure, and costing.

It is intended that this study meets all these criteria. However, the length of this thesis allows more information than there is space for in an article reporting action research. For a published article, each aspect has to be concisely reported to allow all criteria to emerge. These points are summarised in table 70 under the title of the “SPIRES action research summary”.

Setting
Problem identified
Intervention – information and methods
Results – outcome measures
Evaluation – likelihood that intervention is related to change
Subsequently

Table 70 The SPIRES action research summary box

This use of an action research summary box may be seen as an attempt to construct rigid rules for a flexible interpretivist process; an attempt to invade interpretivism with positivist structure. The action research summary box does indeed check that some structure is in place, but it is intended to be an attempt to simplify the presentation of the action research process and to provide a summary of the text description of the research.

The proposed structure is similar to that put forward in the “Journal of Quality Health Care” in 1999 and taken up by the “British Medical Journal” in 2000 (figure 13) (Moss and Thompson 1999, Smith 2000). These articles illustrated the point that the standard IMRAD (introduction, methods, results, abstract, discussion) format is insufficient for action research or “quality improvement reports”. They were also an example of how the quantitative medical journals are moving towards a more qualitative action research type of approach. The SPIRES action research summary box proposed in table 72 has the benefit of brevity and recall. The structure for quality improvement reports covers the same areas, but the SPIRES action research summary brings emphasis to details relating to intervention and follow up. Both have been used at the end of each action research chapter.

- Brief description of context: relevant details of staff and function of department, team, unit, and patient group
- Outline of problem: what were you trying to accomplish?
- Key measures for improvement: what would constitute improvement in the patient's view?
- Process of gathering information: methods used to assess problems
- Analysis and interpretation: how did this information change your understanding of the problem?
- Strategy for change: what actual changes were made, how were they implemented, and who was involved in the change process?
- Effects of change: how did this lead to improvement for patients and how do you know?
- Next steps: what have you learnt and/or achieved, and how will you take this forward?

Figure 13 Structure of quality improvement reports (Moss and Thompson 1999: 76)

The editor of the BMJ, Richard Smith, (2000: 1428) summarised the issues when he wrote that the

“IMRAD structure doesn't seem to work well for improvement reports. There are often repeated cycles of measurement, change, further measurements, and further changes. Interventions are often multiple, and readers may learn as much (or even more) from the interventions that didn't work as from those that did. The context matters much more than in clinical research, and the methods and the strategies for change are usually much more important than the results because they are generalisable in a way that the results are not. Even if authors can cram their messages into the traditional IMRAD structure they may fail to convey the messages that matter to their readers”.

In this editorial by Smith (2000) he did not mention the term action research, but the overlap with action research was evident. The principles were there but the terminology was different. A subsequent series of “Quality Improvement Reports” was initiated with structured abstracts with separate paragraphs for

the “problem, design, setting, measures for improvement, strategies for change, effects of change and lessons learnt”. This split the intervention into design, key measures and strategies. It did not include an evaluation section relating to the likelihood that the intervention produced the change.

Waterman et al. (2001) in their survey of action research used the heading of thematic concern, aims, target of change, location, sampling methods, length of study, information gathering, planning, implementation, evaluation, impacts and dissemination. Again this goes into more detail than the SPIRES action research summary. Like Moss et al. there is more emphasis on the methods or information gathering. The “intervention” part of the SPIRES action research summary should include this, and information/methods was subsequently added to encompass methods.

Where the description of reflection is placed within an article and how the description should be structured is particularly unclear. Traditional positivist researchers may include an element of reflection in the discussion section. This is retrospective, specific to the conclusions and related to existing references. In action research, reflection is ongoing, related to the problem at the time and independent of references. It can be a verbatim record of thought at the time, a distillation of points or just confined to the specific action planned to resolve the problem.

In 1995 Wilfred Carr put aside one chapter of his book “For Education: Towards critical educational enquiry” with the title “Whatever happened to action research” (Carr 1995). One answer is put forward as a summary to this section on action research. It has been proposed that action research continues as a framework under different guises in the different disciplines of the social sciences, organisational development, or medical research. The principles continue to arise from practice as they have done in this study. Carr was dismayed at the positivist evolution of action research and the loss of the reflective components. This remains an issue because the reflexive component may be overshadowed by the research element. A balance has to be

maintained so that no one component of theory, action or research dominates the other two components. Action research is an overarching framework and structure in which these three components can sit. The principles of action research are applicable to a wide range of settings and different disciplines. Action research applies to the individual, groups and populations.

Individual variation and a supportive structure

Throughout this study there has been a tension between putting forward structures or frameworks to work within and accepting that there is variation with each individual and each setting.

For the purposes of this study, this has been represented in terms of the positivist viewpoint and the interpretivist viewpoint. There is more depth to the debate about these definitions both within disciplines and between disciplines than presented here. However, in simplistic terms, the positivist approach is to break down change into patterns or rules to enable prediction of outcome. The interpretivist will accept that each individual's response will differ and cannot be predicted. The hypothesis put forward here is that there is a midway point between the use of rules or structures that may be seen as a positivist approach and the acceptance of individual perspective that is part of an interpretive approach. Both can be accommodated and are not mutually incompatible. The term proposed here is one of supportive structure. A supportive structure is defined as a framework that will assist change and still allow for individual variation. The action research framework is put forward as an example of a supportive structure. It takes an individual through the steps of assessing a problem, designing an intervention, applying it and assessing the effect. The framework does not specify which problem is to be tackled or which intervention is to be used. It is understood that the problem and the effect of the intervention varies with the setting. The local, individual variation is respected. Another example comes from the classroom. Teaching can be non-directive. The facilitator can bring together the students and allow their discussion to

guide their learning. It may take some time for the students to decide how they will approach the situation and what they wish to learn. At the opposite extreme the teacher can be didactic and give a lecture on a topic which allows no response to determine if the lecture is actually relevant to the student. Both approaches may delay learning. The midway approach is for the facilitator to provide an outline of the time available, some boundaries for the topic of discussion and an expert resource for this topic. This approach provides a supportive structure yet respects the student's individual choice of questions. Insufficient structure may not encourage learning or change. Too much structure may stifle learning or change. A supportive structure encourages learning and change without stifling it.

It is the role of the educationalist or teacher to provide this supportive structure for learning. To help the learner identify their own problems or learning needs, to provide access to facts that relate to these learning needs, and to give the learner access to feedback about their own performance in actual practice, induction and appraisal are examples of specific supportive structures that assist learning. They bring together the teacher and learner with particular tasks to complete. Induction is the provision of factual information, usually about the work environment. Appraisal involves identification of the learner's own learning needs and setting learning objectives. The threat of structures, such as induction or appraisal, are that content of each task is defined in too much detail and becomes a mechanistic process that is not tailored to the individual learner. The process itself can block the intended outcome of learning.

Barbour (2001) outlined this point with respect to qualitative research. He stated that, "Checklists have played an important role in conferring respectability on qualitative research and in convincing potential sceptics of its thoroughness. (However) if we succumb to the lure of 'one size fits all' solutions we risk being in a situation where the tail (the checklist) is wagging the dog (the qualitative research)" (Barbour 2001: 1115). A supportive structure for qualitative research

helps the process but rigid adherence to step-by-step detail may divert the research from its original objectives.

Earlier, the concept of a professional educationalist was discussed; a member of a group which has a shared ethos and a shared knowledge of the existing structures for education. A professional acts autonomously, but can benefit from supportive structures to encourage reflection and action. These structures are the tools for reflection on action. They can be the use of protected time alone, the discussion of a reflective report on practice, feedback or the cycle of action research described here. The individual professional variation comes in the choice of problems to be addressed, and the way each problem is addressed. An example of theory as a supportive structure is the apprentice cycle of evolving responsibility for the student, described earlier in this chapter. The apprentice cycle does not define what is learnt, but provides an approach that can be applied to each different speciality. The point at which each student enters the apprentice cycle varies with skills and knowledge of each student, and the rate they progress through the apprentice cycle is tailored to the learning pace of that individual.

Learning theorists such as Schön have argued against the fixed solutions or the technical rational approach to learning and resolving problems in practice (Schön 1987, Fish and Twin 1997). Schön proposed that the artistic reflective approach of a professional was crucial. This study suggests that there is a balance between the two and that a supportive structure can facilitate the artistic reflective component of learning. Theory, access to existing factual knowledge, and tailored feedback all assist reflective learning.

Structures can help the sharing of concepts, and they can provide an ideal environment for change or learning, but too much structure can stifle individual variation or individual effort. Structures can be a theory, a loose outline, an objective, a set time, place and purpose, or an outline of content. However, there is a point at which excessive structure leads to reduced empowerment, loss of professional roles, and disincentive to change. The ideal supportive

structure empowers the individual, disseminates ideas and encourages good practice.

There has been a tension between positivist structure and interpretivist artistry throughout this study. The conclusion is that both approaches have strengths and contributions. There is room for supportive structure in the process, framework and reporting of action research, whilst retaining the reflexive localised content that is essential to deal with the individual variation in our world. In this case of action research, within medical education, the framework of action research has introduced both the positivist element of structures and feedback and the interpretivist element of increased reflection. This has not been a case of positivist versus interpretivist, but a movement of both towards a more common ground.

Future research

The proposals for future research are outlined in tables 71 and 72. They relate to either work in the field of SHO education or the broader issues of professional learning and the action research framework.

The effect of interventions depends on the setting, and, in the United Kingdom, most vocational training schemes share a similar setting and face similar problems. Successful interventions, such as the graphical feedback of attendance figures to increase attendance (chapter 9) or the letter of time, place and purpose to increase contact with GP trainers (chapter 10), may be effective in other vocational training schemes. Action research cycles using the monitoring system outlined in this study will help determine if these interventions are effective elsewhere.

The alternative, traditional positivist approach would be to set up a large scale study comparing the interventions used here with other interventions or a control. As described at the start of the methods section this would be difficult to do, because it would require close matching of each setting. It may also miss a local effect and it would still require the application of subsequent action

research to determine the effect in a new setting. A large scale study would not therefore move knowledge forward.

This study has outlined the framework of action research, a list of interventions, and methods to assess their effect. It is proposed that this information will facilitate action research in other vocational training schemes and the next step would be to determine if this does occur within all vocational training schemes in one Deanery region such as Wessex. Other vocational training schemes have adopted the questionnaire monitoring system, but this has been dependant on the enthusiasm of the local course organiser. If the process of action research is facilitated within one local region, by providing information about action research, the monitoring tools and listed interventions, will the standard of SHO education in that region increase?

This study also outlined a future model for SHO education in the form of modified elective periods including several specialities, outpatient or community experience, greater general practice contact, and closer supervision. The next step in the research process would be to identify funding for these posts, establish them and evaluate them. Evaluation could use the existing SEAP questionnaire, focus groups and written feedback. This will help determine how the model can be improved upon and extended in application.

SHO education in Obstetrics and Gynaecology has been identified as a problem in this study and nationally. This study generated some hypotheses to explain why change did not occur in this speciality, but further qualitative research is required to explore the main blocks to change. This requires wider purposive sampling from all disciplines involved in SHO education including the midwives. This may lead to a complete redesign of SHO education in Obstetrics and Gynaecology, because the service role of the SHO has been replaced by the extended roles of the midwife and specialist registrar.

Assessment of SHO posts by external organisations, such as the JCPTGP, Deanery and Royal Colleges, has been criticised by this study. There is the potential to reduce duplication of assessment, to get a more accurate picture

using local resources, to share the results of assessment on a wider basis, to target specific problems more and follow these problems up more closely. Further research is required to confirm these criticisms apply elsewhere and to help design a better system for external assessment of SHO posts.

Question	Aim of future research	Approach	Outcome measures
Are successful interventions from this study effective in similar settings?	To assess the effect of successful interventions in similar settings	Action research using either local or larger scale qualitative and quantitative studies	Improvements in SHO education
Can other vocational schemes improve using action research?	To enhance SHO posts in other vocational training schemes	Provide the tools for action research for other vocational training schemes (framework and monitoring system)	Improvement in SHO education (focus groups and SEAP questionnaire)
Is the design of future SHO posts a good one? Can it be improved on?	To implement and assess new SHO posts	Fund and then assess posts using evaluation, focus groups and the SEAP questionnaire	SHOs agree posts are good. Theories on improvements to SHO post design

Table 71 Future research on SHO Education

Question	Aim of future research	Approach	Outcome measures
What is the best intervention to improve Obstetric and Gynaecology training nationally?	To improve Obstetrics and Gynaecology posts nationally	Qualitative assessment of obstetric and gynaecology posts with joint planning of effective interventions	Agreement on an intervention to be implemented
Can the effectiveness of external assessment be enhanced?	To assess the effect of shared information, shared resources and targeted follow up for visits	Qualitative evaluation of external visits	All participants agree system is improved

Table 71 Future research on SHO education

Proposals for future research in professional education are outlined in table 74. The action research framework has been put forward as a structure to assist professional development. The core of action research is access to information. This may be information about the setting, the local problems or feedback on the effect of information. Information needs to be tailored to the individual professional, sufficient to answer the question but not too much as to overwhelm the individual. Information also needs to be rapidly accessible. With respect to educational supervisors, useful information includes: the principles of SHO education, the expected standards of education and direct feedback from the SHOs. Information technology has increased the speed of access to information, but more research is needed on how to tailor information to the

individual's needs and how to make it rapidly accessible. With respect to educational supervisors this may mean desktop access to tailored web pages with a searchable record of previous questions and answers.

Specific forms of information and support for educational supervisors include an outline of the expected educational standards of each SHO post (an educational contract), feedback data about each post (the SEAP questionnaire) and an assessment of their SHOs' progress. The impact of these interventions on SHO education has not been assessed before and provides a further focus for future research.

As well as access to information, the support of educational supervisors as a professional group has been put forward as a means of improving SHO education. The question facing GP vocational training is whether a clear identity, support and regular meetings of educational supervisors would improve SHO education? The outcome measure would be the SHOs' assessment of their own education and could be determined using the SEAP questionnaire and SHO monitoring system. Again, the intervention could be assessed using action research with either observational local qualitative and quantitative methods or a larger controlled study.

Question	Aim of future research	Approach	Outcome measures
How can professional learning be enhanced?	To develop systems to access personalised relevant information rapidly	Develop systems of rapid access, recording and recall of key facts	Theories on improved access to information and application
How can educational supervisors be supported as a professional group?	To build a professional group of educational supervisors	Meeting of educational supervisors with information and support	Improved education
Can enhanced information assist educational supervisors as a professional group?	Enhance educational supervisors' access to information on their practice, their learners and expected standards	Introduction of an educational outline of a good post, feedback of data on the posts, provision of a system to assess learners' needs	Improved education

Table 72 Future research on professional learning

DISCUSSION

CHAPTER 15

CONCLUSIONS

Contents:

CONCLUSION

SUMMARY

POSTSCRIPT

CONCLUSION

As stated at the start of the discussion chapter, this study had two main themes:

- The investigation and implementation of change within complex social systems.
- The use of supportive frameworks to facilitate learning and change, whilst allowing for individual professional autonomy.

Action research has been the main example of a supportive framework to facilitate change and this can be used at the level of an organisation, group or individual. Action research has the potential to enhance the role of a professional in improving their own practice, because it involves collection and feedback of evidence of actual change.

The following pages summarise the steps taken to implement action research in practice and the main conclusions that arose. Bullet points summarise the conclusions.

The first step in this study was the design and piloting of a questionnaire to assess the content of SHO posts. This SEAP questionnaire was applied over six years and continued to be applied after the study ended. Other questionnaires to assess SHO posts had been developed in the United Kingdom, but the SEAP questionnaire is unusual in that it was standardised,

was regularly applied every six months, and provided comparison between posts and within posts over time. The SEAP questionnaire has the potential to be developed further with repeat larger scale studies of reliability and validity, whilst retaining the wording of the core questions to ensure ongoing comparability over time.

- A SHO questionnaire was designed and applied regularly to provide continuous comparative data since 1994.

The next step was to design a model to monitor SHO education, which combined the quantitative data of the SEAP questionnaire with qualitative data. Qualitative data was collected as part of ongoing SHO teaching by setting aside short periods of protected time before teaching to run focus groups. The data was augmented by field diary records and interviews. Both quantitative and qualitative data collection for SHOs in a vocational training scheme was achieved with relatively small changes as there was already regular contact with SHOs. The cost was low in terms of time and money once a system for handling the data was set up.

- A low cost model for collection of qualitative and quantitative data on SHO education was designed and applied.

The system to handle quantitative data should include a computer that can electronically read questionnaires and produce graphical and tabular data that is of direct relevance to the course organiser. For the qualitative data, a place to record information about each SHO post, their educational supervisors and the SHOs is required. This information then forms the personnel and post records for the local vocational training scheme. Formal analysis of the data does require additional help from a researcher familiar with the research methods applied.

- Systems need to be in place to collect and present data on SHO education.
- Records of each SHO and each post should be kept.

The study then went on to develop a taxonomy of interventions. This was applicable on a generic basis but in this study was specifically applied to improving SHO education. The taxonomy brought together the range of interventions available and allowed individuals to view the whole range, discuss their relative merits and choose those that were likely to be effective interventions. A playing card format for this taxonomy was used to facilitate the discussion and final choice of interventions.

- A taxonomy of interventions in SHO education was produced.

The interventions were applied within an action research cycle of problem identification, intervention and assessment of change. The monitoring system for SHO education, the range of interventions and the action research model used in this study were applicable to other similar settings. However, the outcomes in other settings would depend on local circumstances and have to be determined by using the action research framework in that setting.

- The action research framework was applied to SHO education and is applicable in other settings.

The problems identified in this particular setting of one GP vocational training scheme were similar to the national picture with low rates of induction, appraisal, teaching, supervision, career advice and stress support.

Interventions were applied over a six year period. There was an increase in contact with GP trainers in response to a letter stating the time, place and purpose of meeting. An increase in attendance was shown after anonymised graphical feedback on each individual's attendance was given, whilst telephone reminders to attend produced no change in attendance. The proportion of doctors receiving appraisal was associated with teaching sessions for those who provided appraisal.

- Problems in SHO education have been identified.
- Interventions have been associated with increased GP contact, teaching attendance and appraisal.

Within one speciality, feedback, facilitated group discussion, interviews, and external visits did not result in a sustained increase in career-relevant ward or classroom teaching. The problems seen in this speciality were reflected nationally and further research is required to identify how problems within this speciality of Obstetrics and Gynaecology can be resolved. These were problems which appeared to be exacerbated by the introduction of shift systems and loss of team structures in this speciality.

- Obstetrics and Gynaecology posts have specific problems that require additional research.

Most interventions were low cost with the exception of an intervention intended to increase the use of induction. Alignment of the start dates of SHO posts at a cost of £21,090 produced no change in the rate of induction. This was one of several illustrations of the need for local action research to counter assumptions by individuals or external organisations that change had or had not taken place.

- Collection of evidence of change, as in action research, is needed to confirm or refute assumption of change.

There was evidence that the system of external assessment of SHO education could be improved with resource savings. External visits did result in change, but the organisations involved in external visits could have combined the collection of information about each post and could have utilised local information about SHO posts held by the course organisers and clinical tutors. Sharing the results of external visits, support for subsequent interventions and closer follow up of the specific problem identified will enhance the impact of external visits.

- External visits do produce change.
- External visits should utilise local information.
- External bodies could share information and combine visits.
- External bodies should advise on interventions and provide targeted follow up of specific objectives.

The service work and education in each SHO post did not relate closely to the future career of general practice. Also, the content of learning emphasised the acute emergency care rather than the chronic outpatient care that is more commonly seen in general practice. The situation was summarised by the following analogy from the field diary in this study:

“General practice training is like learning to scuba dive on dry land. The first two years (hospital training) are spent beside the swimming pool looking in. After two years training you go into the pool (GP registrar year) and swim around with a supervisor (GP trainer). You are then thrown into the sea on your own and may go to great depths with sharks and no back up team.”

Despite this analogy, the learning environment of the hospital speciality does provide a concentration of cases with one disorder and contact with an expert on those disorders.

- SHO education for general practice is not directly relevant to general practice.

The preferred educational model that was identified for future general practice SHO training was an “elective” style period where the doctor selected several specialities to work in within an outpatient or community setting. The model included induction, appraisal and day-to-day clinical supervision, along with regular contact with general practice and the general practice trainer. This model would provide the necessary concentrated experience in several specialities, which would be relevant to general practice and exist alongside regular contact with general practice itself.

- An “elective” style model for SHO education for general practice is identified as the ideal.
- SHOs should have greater contact with general practice.
- SHOs should have more outpatient and community based experience of chronic care.

This study used an action research cycle to link the identified problems with planning of interventions, application of the intervention and review of their effect, linking action, theory and practice. This use of action research was

unusual because it represented the first description of ongoing cycles of action research, over a six year period, within the setting of medical education. It met the existing criteria for action research and was one of few studies to combine qualitative and quantitative methods, develop theories and include discussion of costs. Most action research studies have been outside medical education, involve one cycle of action research, are around 12 months in duration, use qualitative data collection alone and exclude discussion of theory or costs (Waterman et al. 2001).

- This study was the first application of action research in medical education for SHOs over a six year period.

This study set out to describe the range of interventions in medical education and to assess the local effect of some of these interventions by action research. This has been done, but the discussion has outlined the importance of the setting being both favourable for change and for maintaining change. Once change was achieved there was a danger that it would not be maintained. Effort needed to be made to achieve enduring change. Indeed there appeared to be three components of an intervention, which were the setting, the intervention itself and the follow up. The setting and follow up were as important as the intervention itself. Those who plan an intervention need to set aside time to consider the setting and follow up.

- Within the triad of setting, intervention and follow up all three components are important.

Theory has also been generated by this study about thresholds for behaviour change. Interventions should identify which stage of change an individual is at and then be targeted at moving that individual across the next threshold of change. An individual who is not yet contemplating change needs to become aware of the reasons for change. An individual who has contemplated change may just require facilitation to co-ordinate change and make it happen. The best use of resources is to identify which threshold of change is next and tailor the intervention to that threshold.

In the context of medical education, the stages of change became apparent within the educational supervisors of each SHO. Some were unaware of what the educational requirements for the SHOs were and needed information on these expected standards. Some were unaware of the problems faced by the SHOs and needed feedback from the SHOs about their post. A few were too busy and needed to delegate their role. This classification of educational supervisors was simplistic because no one person sat in one single category. However, it was useful in deciding the best approach to take to support each educational supervisor and helped tailor the intervention to the threshold and stage of change that the educational supervisor had reached.

- Each individual passes through a threshold before changing behaviour.
- A successful intervention will be tailored to the next threshold of change.
- Interventions that are not tailored to the next threshold of change are likely to be unsuccessful and waste resources.
- Thresholds of change were identified for SHO educational supervisors.

The learning needs of the individual SHO also moved through several stages and were outlined in this study as an “apprentice cycle”. Early in the apprenticeship, the main learning need was for information gathering and observation. The learner then took on some clinical work to apply their knowledge and start developing practical skills. As their skills increased the supervisor moved from close observation to ready access if problems arose. Finally, the learner reached a point where they were learning few new skills and were just consolidating their knowledge. In the ideal educational environment they then moved onto the next learning task and restarted this apprentice cycle.

- Apprenticeship is dynamic.
- As apprentice skills develop, learning needs change.
- The educational environment of an apprentice must evolve over time.

Professional values were thought to be a key element of readiness to change for those doctors such as GP trainers. Professionalism can be said to include a continual process of reviewing practice and this process favours change and

maintains change. Practice can be reviewed using reflection or a cycle of reflection on action taken. These are defined by Schön (1983) as reflective learning and action reflection respectively. Action research is a cycle that collects evidence for actual change in practice rather than presumed change. Action research can be described as the next step on from reflection on action, because it uses evidence for change generated by research methods rather than intuition alone. If personalised information and feedback, using acknowledged research methods, is provided for the individual only, action research represents an ideal model for professional learning. The potential pitfall of reflective learning or action reflection is the drawing of conclusions on the basis of assumed change.

- Reflective learning and action reflection may be erroneously based on assumed change.
- Action research bases reflection on evidence of actual change.
- Action research is an ideal model for professional education.

Action research brings together the disciplines of learning theory, scientific research, and organisational development within its three components of theory, research and action. Although action research has been mistaken for a method, it is actually a framework of reflection on action, which encompasses all recognised quantitative and qualitative research methods.

As a framework, action research can be seen as the bridge between individual and population based research because the framework applies to both ends of the spectrum. The individual action researcher can be collecting evidence of change in the behaviour of one person by means of interview and observation, or may be looking at evidence of change in a large population which is incorporated in a double blind quantitative study. In both cases the framework of action research can be applied, linking the theory to plan interventions with the action of the intervention and research to determine if change has taken place. The research is the collection of evidence of change. The research or evidence of change has to be sufficient to demonstrate to an outside observer

that change has actually taken place. If one person is under study this might include interviewing that person, observing their behaviour and using a measure of change.

- Action research is a framework, not a method.
- Action research incorporates all research methods and should be judged on the rigour with which each research method is applied.
- The action research framework links theory (reflection) with action (intervention) and research (collection of evidence of change).
- Action research can be applied to an individual, group or population.

Action research is, however, described most often in the group setting, because this is the gap left between the interpretivist area of individual learning theory and positivist area of population based research. Within medical education itself there is also additional terminology, which reflects these two ends of the spectrum. Problem based learning is reflection on individual patient medical cases to improve practice. Evidence based medicine is the use of large scale studies to inform decisions on the medical management of individual patients. Action research is the link between problem based learning and evidence based medicine, because it is “problem based learning with evidence”. The results from large scale studies on a medical problem do not apply to every single patient with the same problem. There is variation in response. Collection of evidence of change for that individual is action research and moves problem based learning on from assumption of change to confirmation of change.

- Action research is problem based learning with evidence.

Action research requires knowledge, which includes information on best practice and accurate feedback on actual practice. It is this that makes it more than action reflection. Action research can be encouraged by providing information on the process of action research, by providing systems to collect data on outcomes, by protected time and by the use of a range of triggers to reflection. Action research can be facilitated by a structure of support and feedback with an external research tool. This external research tool should be

in the control of the individual and should be used to address problems that arise from individual practice rather than those of an external agency. Systems to support professionals who use action research should include safeguards to prevent misuse of data, and should ensure sufficient individual flexibility and autonomy so that change in practice can actually take place.

- External collection of feedback data will facilitate action research.
- Individuals should have full control over data feedback within action research.
- Triggers to reflection have been identified in this study.
- Protected time, advice on the action research process and triggers to reflection all facilitate action research.

Despite the potential benefits of action research, the term has been rejected within the medical community because it has been confused with reflection and action reflection. Each published study using action research needs to show that it has reached accepted standards and that it has at its core an acknowledged standard of research methods. Publication of action research in a standard format will help demonstrate that the accepted standards have been reached and will help to disseminate examples of the application of the action research framework.

- A standard format for publication of action research is proposed and will encourage acceptance of action research in the medical community.

Action research therefore has a future. It has a clear niche and should be explained and disseminated because it pushes forward the current boundaries of learning and interventional change. These boundaries are set by access to accurate information and it is the research component of action research that pushes this boundary back. Action research brings together current learning theory, organisational development and research. Once accurate information and feedback is available to the individual, owned by the individual, and tailored

to the individual's needs, the process of personal learning and applying interventions will be enhanced.

- Action research contributes to the fields of learning theory, organisational development and scientific research.
- In the fields of learning theory and organisational development, action research brings evidence of change.
- Action research applies population based conclusions of scientific research to groups or individuals.

The current developments in technology facilitate the gathering of information and feedback. The challenge is tailoring the information and feedback to the individual question so that it is accurate, relevant and does not swamp the individual. This emphasis on fact and feedback is not a challenge to the interpretivist viewpoint of action research. The individual perspective and local nature of action research is maintained. Information and feedback allows the individual to build a better picture of their own environment and individual perspective.

- Technology facilitates the process of action research but feedback needs to be focused and in an individual's control.

Learning and change are supported by a system of "intelligent and meaningful monitoring" (Bell Haven Postgraduate Medical and Dental Conference 2002), which closes the loop of an action research cycle. The threat is collection of information for no purpose or to serve the purposes of those outside the system. The challenge both inside the NHS and in other organisations is how to provide both local feedback and professional support to each individual to facilitate investment by that individual in achieving enduring change.

The learning professional will improve their skills most if they have access to information that is relevant to their immediate learning needs and can subsequently be recalled rapidly by that professional. That information should include up-to-date knowledge relating directly to the question, and accurate

feedback on actual performance. How to tailor information and its rapid retrieval to the exact learning needs of the individual is the target to focus on.

SUMMARY

This study began with the problems faced by individual SHOs and it is fitting that it should end with the solutions available for SHO education (appendix 11). During this study, the hours of work for SHOs were reduced, but this increased work intensity and threatened communication and team support. Despite a national picture of limited change in the educational content of SHO posts this study showed that posts do change after some interventions and it outlines a way forward for SHO education with a modified elective model of SHO training. The arrangement used in this study, with a designated general practice course organiser to supervise the hospital component of GP training, and the monitoring of SHO education, has allowed the application of action research in medical education. Action research has contributed to the design and implementation of interventions in this study. The study has provided an outline of how the action research framework, interventions and potential outcomes can be applied to other settings.

The ideal setting for change is one that supports each individual person so that they can reflect on their actions and improve their own contribution. Each individual requires concrete information and feedback that is based on more than anecdotal observation. This is at the core of action research and an individual who uses the action research framework to develop their own practice can be seen as a professional in their role, whether this is as a teacher or learner, or even as a doctor or patient.

Individual day-to-day support, provision of the research tools and adequate information to allow a process of action research will encourage change. The ideal setting for change consists of a supportive structure within which the individual has sufficient autonomy to develop their own practice. A setting such as this can encourage change without any outside intervention.

In this thesis, the education of hospital doctors has been an example of a complex system in which the exact outcome of actions cannot be predicted. Even if every single component of such complex systems were to be determined, it would be impossible to view the whole system in a way that could predict outcomes accurately. The action research framework allows collection of local data to determine the actual outcome and link it to theories that then help plan further local action. Action research can be seen as a core part of assessing outcomes, building theory and encouraging change within complex social systems.

POSTSCRIPT

To facilitate the process of action research in the Wessex region, the SEAP questionnaire was subsequently made available in an optically readable format in 2001, with funding by the Wessex Deanery. The example of the course organiser role in this study fed into the decision in 1999 by the Director of Postgraduate General Practice Education, Dr Frank Smith, to provide funding for a designated course organiser/scheme organiser to develop SHO training locally in every vocational training scheme in Wessex. The scheme organisers became known after 2000 as GP SHO Programme Organisers as this outlined their role more clearly. These GP SHO Programme Organisers met regularly as a group to share good practice and plan interventions in SHO education. One GP SHO Programme Organiser was allocated the task of reviewing Obstetrics and Gynaecology training in particular, within the Wessex region.

A co-ordinated guide to the preferred structure for SHO training was produced based on guidance used during this study alongside discussion with the group of GP SHO Programme Organisers. In 2001, this became available as a paper guide and also a website on the internet at

<<http://www.wessex.org.uk/medical/genpract/sho/index.htm>>

An educational contract was also made available to each vocational training scheme and an assessment scale for the grading of SHO posts set against this was adopted by each vocational training scheme.

With the changes in regional funding in 1999 it became possible for Dr Frank Smith, to set aside funds for additional posts in GP training. These became known as GP registrar trust attachments (appendix 12) and GP registrar extensions because the funding came in full from the GP registrar budget rather than half being provided by the Hospital Trusts. These posts were similar to the modified elective posts proposed in this study. They were based in general practice and were either tailored to each doctor on the vocational training scheme by their own efforts, or were designed by the hospital specialities and GP SHO Programme Organisers to meet the learning needs of the doctor.

GLOSSARY

Appraisal: The setting aside of time for the educational supervisor and SHO to discuss the "progress and objectives achieved by the SHO" (SCOPME 1991).

Associate Director of GP Education: A doctor who supervises a team of course organisers and GP trainers in one local area. Previously known as Associate Adviser for GP Education up to 1998.

Clinical Tutors: Doctors who oversee the education of junior and senior doctors within a Hospital Trust. Usually a consultant.

Consultant: Hospital doctor who has completed their higher specialist training and was responsible for a team of junior doctors.

Course Organiser: A doctor who organises the half day release course for GP registrars. Usually a general practitioner.

Director of Postgraduate General Practice Education: An experienced general practitioner who manages the system of GP vocational training in each postgraduate deanery across Britain.

Educationalists: Those people who have a specific interest in education within the university, and in hospital education and GP education. Includes clinical tutors, educational supervisors, course organisers, directors of education, GP trainers.

Educational Supervisor: The person who oversees the education and appraisal of a junior doctor. Usually this was a hospital consultant.

Empiricism: View that reality can only be apprehended by the senses, and that all facts exist before they enter our mind so that theories can be generated as testable hypotheses (Golby and Parrott 1999).

Enquiry Paradigm: The combination of ontology (what is reality), epistemology (what is knowledge) and methodology (what is evidence) (Golby and Parrott 1999).

ENT: Ear nose and throat speciality of surgery.

Epistemology: The study of what constitutes knowledge. Theory of the method or grounds of knowledge (e.g. that words and text can provide evidence for the ontological property of what actually took place).

Ethnographic: Recording and analysis of observations on behaviour and events.

Participant observation, fieldwork and ethnographic research are similar (Webb 1989).

External Visitor: An assessor who is not involved in the local educational or medical structures. Usually representing a statutory body such as the Joint Committee of Postgraduate Training or a Royal College of specialist training.

Field Diary: A record of events, verbal comments and reflection on these events.

Focus Groups: A group of people brought together to discuss a specific topic that relates to their own area of experience. Examples included the initial part of the monthly GP SHO meetings and meetings convened with consultants or course organisers.

GP: General Practitioner. A doctor who has completed medical training for general practice.

GP Registrar: A doctor in training for general practice and based in general practice for their last year of vocational training.

GP SHO Programme Organisers: The term used for a scheme organiser after 1999 (a course organiser devoted to the SHO component of general practice education).

GP Trainer: General practice trainers who are responsible for the education of general practitioner registrars in their own general practice surgeries. They provide one-to-one teaching and support during the GP registrar year.

GP Vocational Training Scheme: A combination of hospital posts and general practice posts. Usually three years long and fulfilling requirements for certification as a qualified general practitioner.

Grounded Theory: An approach to data analysis that proposes that all explanations or theories are derived from the dataset itself rather than from a researcher's prior perspective.

Hermeneutics: The science of interpretation (Golby and Parrott 1999).

Interpretivism: The view that the subjective meaning that individuals give to their actions and the context is the reality that should be studied. A subjective reality involving study “about” people. Related terminology includes constructionism, phenomenological, anthropological, hermeneutic, ethnomethodological.

Interpretivist: Person or approach that follows the principles of interpretivism.

JCPT: Joint Committee of Postgraduate Training, which approves training posts and certifies completion of education.

Methodology: The kind of data and evidence that enquirers regard as worthwhile (Golby and Parrott 1999). The evidence that is accepted for the particular perspective of knowledge and reality that is being held.

Monthly GP SHO Meeting: At Portsmouth, the SHOs with a career plan for general practice met the course organiser responsible for SHO training on the last Wednesday morning of each month. This provided general practice orientated teaching and an opportunity to discuss each SHO post.

Objectivity: Limiting the effect of the biases, motivations, interests and perspectives of the enquirers.

Ontology: The study of the nature of being or what constitutes reality. For example, one view is that written words, documents and visual records are the core meaningful constituents of the social world.

Participant Researcher: A researcher who observes and records events but is also part of the group under study. This can lend an additional insight into the processes taking place.

Phenomenology: The philosophy that human consciousness is as real as any other investigable phenomena.

Positivism: A view that everything can be reduced to rules and structures that predict future response. Coined by Auguste Comte (1798-1857) to describe

scientific method (Golby and Parrott 1999). An objective reality involving study “on” people. Similar terminology includes empiricist, logical, analytic, mechanistic, Cartesian and scientific.

Positivist: Person or approach that follows the principles of positivism.

Purposive Sampling: A sample that is deliberately selected to include particular subjects for study.

Regional Postgraduate Dean: A doctor who manages the system of training for all NHS doctors in one NHS region, including all SHOs, consultants and general practitioners.

Respondent Validation: Involves cross checking interim research findings with respondents.

Scheme Organisers: A general practice course organiser devoted to the SHO component of general practice education.

SCOPME: Standing Committee of Postgraduate Medical Education was formed in 1988 to advise the Secretary of State for Health on the delivery of postgraduate medical and dental education, and was abolished in 1999.

SEAP Questionnaire: The Senior house officer Educational Audit Project questionnaire, that was applied from 1993 onward to each GP SHO at Portsmouth and other centres in the UK.

SHO: Senior House Officer. A person who has completed their first pre-registration houseman year after qualifying as a doctor and is now a registered medical practitioner. The period between houseman and registrar.

Sociology: The understanding of social action (Golby and Parrott 1999).

Reliability: The degree to which the findings would be consistently repeated if the inquiry were replicated in the same context.

Triangulation: Collection of data by different methods to look for evidence in support of or contrary to the conclusion.

Validity: Internal validity or face validity is how far those who have been providing the data and those who know the context of the enquiry also recognize the truth of the findings (Golby and Parrott 1999).

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APPENDIX 1 INTERVIEW PROTOCOL AND EXTRACTS

Check tape working
Seating, windows, no likely interruptions

Welcome
Explain about an hour
Check this is OK
Check consent form
Explain recorded and written record but will be anonymised
Results will help research on how to develop medical training
Check consent verbally

Explain overall plan
Three stages: to go through each question in the questionnaire, to ask about the post generally and then any other issues
Will aim to listening to what is said rather than talk or explain
Interview is about your thoughts and I don't want to bias you by talking.

Have you any overall comments about the questionnaire?

I am going to go through each question briefly for your comments about it.

For each question ask:
Your Comments on question....?

In addition ask the following

1) (nil)

2) What did you consider as "work"?
(on call or on the ward?)

Do you work shifts/ partial shifts/rota

3) With respect to heavy, what did you consider?
(time, business, mental stress etc?)

4) Is induction relevant to your post?
What would you wish for in an induction course - duration, format ,content?

5) What would you wish for in an induction booklet - length, detail, content?

6) Is on call room close to ward?
Do you have separate washing/toilet facilities?
What do you understand by "Linen laundry service"?
What do you understand by "housekeeper"?

7) What do you understand by "hot meals"?
What form is your hot meal on call?

8) Where would you go for careers advice

9) Where would you go if stressed or low?

10) What do you understand by "supportive"
Is he/she useful?

11) When and how often do you get an appraisal?
What form do you think an appraisal takes?
In what ways would an appraisal be useful?

12) What do you understand by educational targets?

13) What do you understand by "personal educational targets"?

14) If you did not apply for study leave, why not?

15) (nil)

16) What do you understand by "supported"?
(emotional or clinical?)

17) How often do you attend?
What do you do in outpatients?
(sit in, see reviews, see new etc?)
What do you understand by "supervise"?
How do they supervise you?
How relevant is outpatients to general practice?

18) What do you understand by "whenever you require the library"?
Do you use it?

19) Where do you discuss cases?

20) Who provides teaching?
How could you be interrupted during teaching?
How much protected time is provided for teaching?
What do you understand by "good teaching"?
Can you influence the content of teaching?
What do you understand by "How much teaching"?

21) What do you understand by "meet"?

22) What do you understand by a "route for complaints"?

23) What would be "satisfaction" with regard to a complaint being dealt with?
What do you consider a complaint to be?

24) Why haven't you attended?

25) If not why could you not take the holiday leave?
Could you take ALL the holiday leave you wished?

26) What do you understand by "satisfied"?

27) Why do you think it should be that length?
What is the ideal length for an SHO post?

28) (nil)

29) What do you understand by "competent"?

Would you recommend this post to a colleague?
Can you give your reasons why and why not?

What areas are not covered by this questionnaire?

Have you any other comments about this post?

How would you improve the post?

When do you get CPR training?

Have you any concerns about security for yourself or belongings?

Do you undertake any inappropriate duties?

Do you have any other questions or comments in general?

Thankyou for your help.

Are there any other areas we need to discuss?

M = Interviewer (MAR)
I = Interviewee

Now what I want to do is, the first bit, is just to go through the questionnaire and see what you think about that. And then ask a bit about each question and the wording of it and anything that spins off when you are thinking about your post. And then if there is any queries or questions that crop up from your point of view then answer them around the end.

So there will be three stages, one - to go through the questionnaire, one - to talk about the post generally and then any other issues that you might want to bring up at the end.

Um. For this I have to be fairly neutral so err. I will be more listening to what you're saying about the questionnaire then me talking

M First thing, have you got any comments overall about the questionnaire?

I. Right. Um. It is quite clear and easy to go through you know, there are a few questions where um, I think there needs to be more indication really, because I've attended Outpatients as an observer. That is our role and we don't have to do see patients there, so we watch and a bit of teaching Um. But that was the only one that was a bit unclear otherwise it's fine.

Mark. If we go through briefly, um, and again looking at the wording and the layout and the understanding of the question and anything that spins off, in the job. In number 1, any particular comments about that question?

I. Only that I signed it a year and a half ago and that I can't actually remember what is said. I'm sure they all did say about the educational content and clinical duties. I am sure there have been no changes in the department since I have started, partial shifts and so on.

.....

Mark. Number 10, then, we were talking about the Educational Supervisor just now, um, the terms 'supportive' what do you understand by 'supportive'?

I. Someone there who is sort of looking out for you, asking how you are getting on from time to time, you know, um, sort of perhaps, giving direction at certain times about what important things you should be concentrating on.

Mark. Okay. Now you have already commented on supervision, I have written down here. Is it really useful or would you comment on that?

I. Um. I mean it was. The only appraisal I have had was about three weeks into the job, so it wasn't really an appraisal, it is just like an introductory chat. So, um, I mean it was nice to meet up and so on, I think one is long overdue now.

Mark. Laugh

- I. Yes.
- Mark. So the answer is it useful? Not very.
- I. No.
- Mark. Number 11, any comments about that one?
- I. Um.
- Mark. What form do you think an appraisal should take?
- I. Um. I think there should be some structure to it, some sort of, you ought to work through it in terms of practically how you are getting on with the job, what you are doing, education you are receiving, problems you are having, um, areas that you feel aren't being covered and then setting goals.
- Mark. Yes. Great. Fair enough. (laugh) In what way would an appraisal be useful to you then?
- I. Um. Well I think it would be useful because you have such a short time on the job to actually focus and direct what I am doing, the job's busy and there is a certain amount of workload to get through but there are times when you have opportunity to go and learn and it would be nice to sort of have an idea what to do about time and focusing on there really.

.....

- M Have you any concerns about security for yourself or your belongings at all?
- I. Urm. I suppose as I said before, certainly when I am walking through the Hospital grounds at anything between 3.00 and 5.00 in the morning.
- M. Yes,
- I. It has occurred to me that isn't always the best thing to do. Urm. And certainly my car being left at various places and there are an awful lot of break-ins that you hear about. So.
- M. Do you ever take any inappropriate duties in the A and E Department.
- I. What do you mean by inappropriate?
- M. I suppose, I am leaving that open to you? Things that you think you should be doing?
- I. Urm.... Not particularly. Well, it depends what you mean? There are an awful lot of inappropriate attenders that you have to see? But that is not what you mean by the question.
- M. No, I am thinking of more, that things that you as a doctor do, which you think that someone else could do rather effectively or better.
- I. No. Because the nurses in A and E are very well trained and will get on and do things, whereas a nurse in a normal Ward wouldn't. So I think we are very well supported by nurses.
- M. So the nurses do it. Do the nurses see patients and discharge them for you at all, or.....
- I. They can do, there are some nurses/practitioners who can.
- M. And are they useful nurse/practitioners?
- I. They can be.

- M. But they can not be. Right (laugh). So in what way could a nurse/practitioner not be useful?
- I. Where they are allowed to say, for instance, see someone with a painful ankle and send them for X-ray, but they aren't allowed to interpret the X-ray result. Then we have to look at the X-ray and go back to see the patient. So it makes me wonder why we didn't see the patient in the first place and it would have been easier because it is difficult to pick up a patient's problem if you haven't started from the beginning.
- M. Yes.
- I. But there are helping us to get on and do it. So there are certain things that they are very useful.
- M. Um. Right. Any other areas you want to cover.
- I. One thing, I have thought about, is because the job is so pressurised, um, I don't think, I'm not sure, you didn't ask, have you written down your own personal educational targets but were these achieved and mine weren't.....I haven't achieved all mine.
- M. Okay. What sort of areas?
- I. One of my main ones, is to learn how to suture, not only learn but to practice and because that is a nurse role, I just don't have time to do that.
- M. Fundamental isn't it? But that is what you need in General Practice, isn't it?
- I. Yes, but I just haven't had time. But also minor ops, there is a staff rating for minor ops list, once a fortnight and I haven't been able to attend that either because I've been too busy.
- M. So, how are you going to address those two?
- I. I don't think that I am going to be able to, because there were not only understaffed and were always busy and you don't want to put additional burden on you other SHO's because you all have to pull your own weight. So effectively I could say, sorry, I am going to go off to the suturing, but you don't do that because of the pressure
- M. And the nurses do the suturing.
- I. Yes.
- M. It did strike me that that is the only place that you are really going to learn suturing is possibly A and E.
- I. I would like to do it and we had some as a teaching section but I haven't had the practice.
- M. You could end up in the GP year trying to come back to learn the suturing.
- M. Have you done any suturing before?
- I. No, well as a student I did a bit, but ...
- M. Is it worth trying to set up a session for your own educational needs, I'm not saying you should, but I am just interested?
- I. I don't think the suturing counts, it just depends what comes through the door.
- M. Right.
- I. They say I'll come back tomorrow and we'll do your suturing, whereas minor ops, I ..
- M. You could do that.
- I. I could do that.
- M. Presumably you could suture a minor op up.

- I. ??
- M. I must say, that does seem quite a crucial thing to do, because otherwise in General Practice it you might not suture so much because the nurses do it or you'd be referred up to casualty and you may have to supervise it.
- I. Yes. It was certainly one of the things that my trainer said you'd be needing. He goes out to see old biddies and who have cut themselves and saves them the hassle of going to casualty. He just gets on a does it. But he said it was very useful.
- M. What a nice trainer? (laugh) Um. Right. Anything else from your point of view, I mean your career arrangements, so and so forth, you are still happy about General Practice?
- I. Um.
- M. And the next few posts, you are quite happy with those?
- I. No.
- M. Which ones.
- I. (laughing) Obs and Gynae
- M. and that's the next one is it?
- I. Yes.
- M. Why are you dreading those two?
- I. Obs and Gynae because of the subject matter and paediatrics because children absolutely scare the living daylights out of me, or sick children do.
- M. Right.
- I. That would be a challenge.
- M. So the subject matter, obs and gynae being the, errr, I don't want to put words in your mouth here, which is the subject matter, obs or gynae, that you worry about?
- I. The gynae bit.
- M. Right. So just that, you don't like doing it or the idea or having to
- I. Yes.
- M. So it is more the subject that puts you off than the post from what you are telling me?
- I. Yes, I have to do it but being female but you have to do it, but it is a job to be endured rather than enjoyed.
- M. Yes, sure.

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Theme	Appraisal	Educational supervisor
Category	Content actual and ideal	Supportive defined
SHO 34	very informal one..I don't mind 5/8	how much contact you receive 5/37
	areas of deficiency 6/10	enquiring as to your wellbeing 5/41
	areas confident..picked up ..not confident6/1	time to meet..on a fixed basis 5/43
	honestly approached 6/19	day to day contacts 5/47
SHO 35	formal appraisal is best 6/41	listen to you 6/23
	say what job is like..feedback 6/44	try to do something 6/24
	think you're performing 6/44	
	none ..really got any feedback 6/47	
	constructive criticism 7/8	
SHO 36	different in different posts 4/13	whether they're available 3/48
	say if there's any problems 4/14	introduce themselves 3/48
	tells you if there's any problems 4/13	say come to me if you want to 4/1
	before it was a written form	important to have one 4/4
	find out how you are doing 4/20	someone you could always go to 4/4
SHO 37	introductory chat4/21	built up a working relationship 4/1
	(useful?) No 4/26	looking out for you 4/13
	it was nice to meet up 4/20	asking how you are getting on 4/14
	structure....problems..goals 4/34	giving direction.. 4/14
	focus and direct 4/38	things you should be concentrating on 4/15
SHO 39	sort of questionnaire..followed 4/33	he's been very good 4/17
	quite good.. wasn't rigid 4/36	meet regularly 4/19
	could discuss other problems 4/37	willing..answer questions 4/19
	highlight areas..weren't aware of 4/38	help you with ..problems 4/24
	an opportunity to mention 4/39	
SHO 41	supportive..good advice 5/35	available to be talked to 5/43
	format..chat..his input..planning 6/38	know.. what you're looking for 5/46
	reassuring..you're not ..terrible 6/44	direct you in that field 5/47
	knowledge where to go..exams 6/45	
	air grievances 6/48	
SHO 44	very good... prepared..list..went through 5/46	you can approach with problems 5/30
	check list and spent 40 minutes 6/4	well he is good, very good 5/42
	protected time..asked..what I thought 6/16	
	what I had to gain..hope to achieve 6/18	
	injection clinic..back pain 9/22..	
SHO 45	informal..chatty over coffee..snatched4/14	time to listen..useful comment 3/56
	useful,very useful 4/16	
SHO 40	should have ..log book 1/32	giving advice..being encouraging 1/30
	should ..review progress 1/32	
	useful if give feedback 1/33	
SHO 42	sitting with someone1/31	talk and work through a problem 1/27
	Useful if honest .. where its going wrong 1/3	someone interested and has time 1/29
	no consultants do this 1/33	
	what you can get out the post 1/31	

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Security	inappropriate duties
Concerns	
not so much myself. Belongings,yes 13/43	
doors left on latch 13/46	
no not really 15/45	
not for SHOs (locker in theatre) 15/47	
has been stuff taken 10/15	rushed into deliveries 10/21
	meconium deliveries..registrar meant to come 10
guards drive around 12/28	
car was vandalised 12/29	
very vunerable..set up of the ward 12/43	
teaching..to make yourself safe 12/43	
a bit frightened 12/47	
security problem where we live 14/36	
fire door..front door is open..car exit open 14/45	
Hospital grounds .. 3.00 .. 5.00am 8/48	interpret Xray..for ..nurse practitioner 9/10
car being left 8/51	easier tosee the patient first 9/11
lot of break ins that you hear about 8/52	
concerned..door lock put on 2/41	
concerned about security...personal 2/45	
no concern about ...belongings 2/45	

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Induction	Induction
Ideal	Booklet -current and ideal
senior clinician 3/34	pretty good really..jolly good 4/8
problems..meet on a day to day basis 3/34	registrars had done..4 sides A4 4/7
at least a morning 4/4	bleep..phone numbers
how to call for help 3/37	pocket sized (better) than A4 4/15
introduce to ..members of staff 3/39	
show around department 3/8	try and get it restarted 3/27
point out where everything is 3/8	fairly no all round 4/2
tell us..departmental policies 3/121	30 pages.. more than enough 4/10
handful of things ..management 3/18	hard going 100 page thing 4/8
two or three hours 3/36	
when you need to be in..where 2/34	like a booklet..don't often remember2/28
labs and things 2/31	not to big..3 or 4 pages 3/8
ask the questions you want 2/33	arrangements for beds..blood tests..on call 3/9
morning..hour a day 2/43	small things you would pick up 3/9
where everything is 2/45	
a morning probably 2/34	There isn't any 2/44
introductions..shown around 2/34	telephone... bleep numbers 2/47
basic recusitation... procedures 2/36	who people are... services..timetables 2/48
who to go to, who to get hold of 2/38	lifethreatening conditions 3/1
	20 pages 3/6
half day first morning 2/23	Very comprehensive 3/3
practically based things 2/27	lot didn't seem relevant 3/7
manage..certain situations 2/27	lot to wade through3/13
things that..seem very simple 2/29	forgotten what you've read 3/12
how..go..organising something 2/39	(needs referrable/index) 6 page 3/17
shown round..geography..clinical 3/45	
a day 4/7	
a registrar.. more in common 4/15	
the morning really 2/25	actually cover things quite well 1/22
senior doctors....nurses come and talk 2/32	no problems with the book 3/1
	30 pages 2/45
lifesaving things 2/35	didn't receive an induction booklet 2/48
appropriate referral 2/36	telephone numbers..who approach 2/51
2 days worth or ..spread over 2/44	policies 2/52
formal lectures and... practical 2/45	
one day..protocol..phone numbers 1/15	Ideally..10 to 20 pages, half A4 1/18
emergency management..organise beds 1/16	start..clinic..ward round times 1/19
select patients for CCU ITU 1/16	indications for thrombolysis etc 1/19
show me around 1/16	
half a day..informal meeting..junior 1/10	should be 20 pages, pocket size 1/13
a checklist sheet 1/11	cover treatment,serious illness 1/14
how to make life easier 1/11	blood tests, who arranges tests 1/15
tests..how the job is done 1/11	

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Career advice	Stress advice
Who provides it	Who provides it
implied.. verbally.. consultant 5/11	nobody is there 5/28
my GP trainer 5/15	implication is ..our mentor 5/29
careers for the job..not ..GP 5/20	not strictly said 5/30
I'd go and speak to (course organiser) 5/33	no-one's ever really spoken about 5/40
	most senior and easily approachable 5/41
	moan to my other half 6/1
	probably family 3/43
general practice..yourself..trainer 3/32	Somebody else that I got on with 4/6
not actually been specifically told 3/38	probably one of the registrars 4/14
Educational supervisor 3/40	
should go to the clinical tutor 3/45	told when we started 3/45
	I'm not sure you know 3/47
	given plenty of information 4/1
	sort of service..by ..the Trust 4/8
GP trainer, Corg, supervisor (3) 5/14	GP co-ordinator or GP trainer 5/18
could easily approach 5/14	hasn't formally been passed on 5/20
	BMA hammers out these things 5/24
I would approach him (clinical tutor) 4/48	Stuff... is sent..internal mail 4/25
	phone the secretary up, I don't know 5/10
	I am not entirely sure 5/14
assumed..educational supervisor 3/32	BMA counselling..not that I would use it 3/45
or my trainer 3/39	
not sure 1/25	not sure 1/25
	consider BMA 1/27
go to course organisers 1/24	go to course organisers 1/24

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Attendance	Study leave
Reasons not attend (GP morning)	Applying
nature of the shift system 11/13	I haven't applied 7/9
only been able to come the once 11/14	it was a Saturday 7/12
hadn't received timetable (post) 11/18	nothing formally that I was going 7/14
nobody for the ward round 11/28	O & G don't let you do the course 7/17
covering of some outpatients 11/27	
kept forgetting that it was on 11/32	nothin really to sort of do 7/43
holiday 11/30	haven't actually had problems 7/33
ward short staffed 11/37	probably would have difficulties 7/36
awkward with shifts 11/38	study time../half day each week 15/1
only three of us..other was away 8/47	its the first time I have done it 5/3
on nights 9/6	surprised..about giving those days 4/4
	I thought it would be really difficult to get4/7
	I didn't know how much I was entitled 4/8
	didn't have any particular courses 5/11
because you are on nights 8/7	I have not applied 5/18
nice to get some more GP mornings 10/44	day of..useful study time 5/23
should put names in the request book 10/45	
GP mornings advertised in the registrar room 11/2	
its a weekly ward round 9/25	I haven't actually applied 5/23
	fairly good..relevant things 5/24
	hasn't been anything I've wanted 5/27
	haven't been doing an exam 5/26
Basically bedlam..only one doctor 12/46	applied no..refused no..can't take7/32
my personal life 13/6	already rostered..not protected 7/34
	seems to me cheating 7/47
	I didn't apply for any study leave 7/1
	no reason to apply for study leave 7/5
on nights 7/11	haven't applied..2 months behind everyone 4/37
my own time 7/16	missed out..course subscribed before I came 4/3
never been..when working a day shift 7/17	only GP trainee..everyone else went on it 4/53
always attend... provided the prof sends me 2/23	in O&G...not give me time for DRCOG 1/40
if on holiday or ill 2/24	did not apply 1/40
	nothing I wanted to study 1/40

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Outpatient Content	Outpatient supervision
very relevant..GP referrals 8/5	senior clinician 7/45
what you don't see 8/7	come in and review the history and examination
follow ups..1 or 2 new 8/35	discuss problems if necessary 9/2
examine ..then discuss 8/40	
good cross-section of problems 8/47	
very relevant 9/10	
scarey because it's GP referrals 5/39	not the only person in the clinic 5/33
should this really be, is this good 5/41	can go in and ask if you've got problems 5/33
you're giving the GP your opinion 5/43	actually there to come and assess patient 5/37
good..sort of things GP's send 5/44	
	mean..someone to ask..watching..involved 6/6
I have..one new..9 follow ups	letters are read and signed by consultant 6/5
not as relevant as I thought 6/18	happy for me to go and ask 6/2
	consultant next door 6/2
	nobody particularly watches 6/3
	not..doing the clinic for you 6/12
good learn..willing to teach 8/38	liasing before..making..decision9/1
relevant ..to GP 9/13	
don't actually see patients 8/25	being there..you ask for advice 9/14
a lot of teaching 8/35	making sure you are doing things right 9/14
probably start seeing my own patients 9/2	
very relevant really..back pain 9/24	
	specific doctor..less patients 5/19
8	time to come and see if you need help 5/20
see review patients..15 -20 a clinic2/1	I can ask..if I don't know 2/3
	I go and ask 1/3
see 2 on my own then ..sitting in 2/2	someone there if I need to ask 2/3
mostly see new, with some reviews 2/2	examining afterwards 2/3 (patient?)
extremely relevant to GP 2/4	

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Teaching	Teaching
Understanding of good	Term meet trainer
relevant to general practice 9/29	answer's strictly on average 10/13
good academic standard 9/28	seen and discussed 10/18
two elemants to that really 9/31	
relevant to general practice (ENT)10/2	discuss the job 11/2
not high powered stuff..obscure (eye)10/5	rather than passing in the street 11/3
clinical things rather than theoretical 10/27	
relevant to you..interesting 7/28	see him physically rather telephone 7/35
	for about five minutes 7/40
relevant that you can remember 7/4	physically.. meet and have a chat 7/16
put to use..interesting..well presented 7/4	lunch or for coffee in the practice 7/29
	once in practice..in a pub 7/22
how relevant..well presented 8/5	sometimes by chance..more often 8/24
interesting..motivates 8/8	don't make specific arrangements 8/25
	speak on the phone 8/34
how relevant it is to me now 10/29	chat about how things are 11/24
opportunity to interact 10/30	at educational meetings 11/27
relevant.. to me in the future 10/32	happy with post..thing he could do 11/28
laziness.. to manipulate content 10/39	
good at getting across..what..they are teaching 10/30	not formally arranged 10/43
relevant as well 10/30	I suppose I see him within six months 10/44
	talk..when we break for coffee 11/2
relevant and good quality 6/1	a get together ..informal or not 6/27
well presented with handouts 6/1	talked about the job 6/37
is disease management 2/12	I tried once, but he did not phone back 2/14
	he was on holiday next time 2/17
	meet..I mean discuss my needs and work 2/16
relevant 2/12	meet physically 2/16
help..understand..apply to GP 2/13	discuss career 2/16

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Complaints Route of	Complaints content
strictly I don't ..know the route 10/23	aggrieved.. enough.. warrant writing 11/8
educational supervisor/mentor 10/31	
nobody..said at the beginning 10/32	
first person..then second in line 10/42	
I don't know..the head 11/7	rota and workload 11/12
senior registrar or consultant 11/14	
(course organiser) or your GP 8/10	gynae post..letter..wasn't dealt with 8/23
where to aim for 8/15	letter back..wasn't helpful..cheeky 8/34
how high you go, if you go to the manager 8/28	not learning..unhappy about anything 8/39
actually don't know of any specific 7/24	hard done by in terms of workload or education 8
probably go to my educational supervisor 7/27	
depends what the complaint was 7/29	
depends on what ..was about 8/38	raised in my first assessment 9/1
not sure..formal process 8/42	consultant sort of took note 9/2
who you approach first 8/45	not sure that it actually changed 9/3
	clerical things..aren't easy to change 9/11
	hours..lack of support 9/18
Two ways really (as GP)11/35	people aware ..I had a grievance 12/27
(GP trainer) if.. trouble11/37	wasn't your job description 12/35
(O&G) don't know who to complain to 11/38	work all hours, wronged 12/35
talked to.. referred to.. on hol..12/2	refusing to answer bleeps 12/35
person to whom one can complain 12/9	
I am not sure who to go to 11/17	excessive clinic..class 2 ADHs 11/42
probably go to my consultant 11/21	
wouldn't know the formal route 6/41	additional changes to our contract 6/48
a protocol I suppose, how to do it 6/41	personality clash 6/48
route..suggests something very serious 6/49	
do not understand the route 3/17	about bed finding 2/17
	bed management 2/21
	have to move patients at 2am 2/43
who you go through 2/18	teaching not happening 2/22
the course organiser or consultant 2/18	not being covered 2/22
	when expectations are not met 2/22

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Recommend post	Post
Reasons	Improvements
answer would be no 13/8	more SHO's 13/24
you don't have time to think properly 13/4	free you up to go to outpatients13/23
learn twice as much by seeing half as many 13/2	free time up for..GP meetings 13/28
28 patients a day 13/4	
lack of outpatients 13/21	
Yes..learnt a lot 14/23	ENT.. reduce... preclerking 14/37
	(eye) sit in with a consultant 14/40
	(eye) go to other clinics 14/47
friendly..approachable 10/33	reduce the hours to part time 10/46
try to teach you 10/33	more general paed's 11/1
hours..how well you're treated 10/37	
whether you feel overwhelmed 10/41	
good department..well run..pleasant9/27	shame we have to do 3 months (neonates) 8/28
busy, but gives you loads of experience 9/27	GP trainees are getting less 9/42
lots of opportunity for education 9/28	emphasis..on ..exams in paediatrics 9/47
	more awareness (of GP) on part of teacher 10/3
useful..enjoyable 11/14	inappropriate presentations 11/30
	doctors short 11/37
	more in the community 11/43
	with the CPN..in GP year 12/1
	referrals..direct to CPN 12/6
shop around 14/38	
clarify job description 14/38	
teaching 14/38	
study leave 14/40	
he is quite good..keen..supportive 13/3	(protected teaching) brilliant 13/37
	not much I would suggest 13/27
(O&G) busy..not supportive..no one sort of helpful 15/28	
excellent post for general practice 7/49	
	hours..strain..evening work 7/56
definitely recommend 2/35	fewer on duties 2/38
must remain on VTS 2/35	on duties? not required for GP 2/38
outpatients makes it really good 2/35	
relevant to what I want to do 2/35	start all specialties together 2/41
outpatientn is most relevant to GP 2/35	communicate with everybody what I was doing 2/

APPENDIX 2 EXAMPLES OF INTERVIEW ANALYSIS

Satisfaction	Competence
Key elements	Understanding of
workload 12/13	safely assess the majority of situations 12/43
the way you're treated 12/13	
the educational content 12/13	
relevance to general practice 12/14	
relevant to general practice 12/1	feel happy in post 13/22
got out of it what you wanted to 12/12	what you can deal with and what you can't 13/27
how much you've learnt or picked up 9/24	able to cope by yourself 10/25
how suitable it was for..GP 9/25	feel relaxed 10/26
(O&G) not just clerking patients	you're able to get on..job 10/27
	not to have panics 10/27
	not..worrying you're missing something 10/29
pretty satisfied..enjoying the job..main.. thing 8/2	feel confident..knowing your limitations 9/23
whether you are happy in the job 8/34	
lot of tension in the team 10/17	know where your limits are 11/8
in general I'm satisfied 10/23	what you should know and..don't 11/9
on call..ongoing problem 10/28	
gained what I wanted to 10/37	
quite happy basically 13/30	make decisions.. 14/32
learn quickly(then) marking time 13/36	act on clinical scenarios 14/33
incorporates an awful lot of things 13/46	aware of..outcomes 14/32
no complaints about the job 12/19	able to deal with problems 13/1
happy with it..got what I wanted 12/20	being confident, examining,diagnosis 13/3
excellent post for general practice 7/49	safe.without having to stop and ask 8/14
hours..strain..evening work 7/56	
when I have learnt what I intended to 2/26	see patient... management..without asking 2/34
	without further complaint 2/34
it is what I expected 2/27	being able to treat correctly 2/34
43	

APPENDIX 3 THE SEAP QUESTIONNAIRE COVERING LETTER

PLEASE REPLY TO:
TELEPHONE:
FAX:
Email:

DATE:

Dear

I would be grateful if you could complete the enclosed questionnaire about your SHO post. It helps to produce anonymous information in support of improvement for your GP training. It has already helped to improve your rotation at both a local and national level*.

The form takes less than 5 minutes to complete and I would be very pleased to answer any queries arising. An addressed internal mail envelope is enclosed for your use.

Many thanks for your help.

Yours sincerely

Dr
COURSE ORGANISER FOR GP HOSPITAL TRAINING

*(BMJ 309:196 (1994), BMJ 314:1829-1830(1997), BJGP 48: 1788 (1998), Impact 1:5-6 1999, Education for General Practice 11,453-456 (2000).

APPENDIX 4 SEAP QUESTIONNAIRE:

SHO ASSESSMENT OF WESSEX and SE SCOTLAND HOSPITAL POSTS

SEAP 96

No /

Please could you set aside some time to answer the following questions. We have used and continue to use them to improve your SHO posts. The data is pooled so that it is anonymous.

If the answer is 'no' ring 'N' if 'yes' ring 'Y'
Ring 'na' if not applicable
Ring 'dk' if you do not know

Some questions have a main stem. If the answer to this is 'no' proceed to the next question. If the answer is 'yes' please go on to the subsidiary questions.

Please contact your Course Organiser if you have any queries

Today's date.....

Hospital.....Post.....

Date post started.....and finishes.....

- 1) Have you signed a contract of employment?

Y N dk

If no go to 2
- a) How well does your contract describe your clinical duties in this post?

0 1 2 3 4 5

not at all well very well
- b) How well does your contract describe the educational content of this post?

0 1 2 3 4 5

not at all well very well
- c) Have there been any contract changes?

na Y N dk
- d) Have these contract changes been agreed by you before implementation?

na Y N dk
- 2) On average, do you work more than 72 hours a week?

Y N dk
- 3) How heavy is your workload?

0 1 2 3 4 5

light extremely onerous
- 4) Have you attended an induction course?

Y N dk

If no go to5
- a) How good was the induction course?

0 1 2 3 4 5

poor excellent

5) Have you seen an induction booklet?

Y

N

dk

If no go to 6

a) How well does the booklet cover clinical problems?

0

1

2

3

4

5

not at all

very well

b) How well does the induction booklet cover administrative arrangements? (eg who arranges beds or blood tests)

0

1

2

3

4

5

not at all

very well

6) Do you have access to a single room on call?

na

Y

N

dk

If no go to 7

a) Is a linen laundry service available?

na

Y

N

dk

b) Is there a housekeeper for your room?

na

Y

N

dk

7) Are hot meals available to you on call?

na

Y

N

dk

8) Have you been told who to approach for careers advice?

Y

N

dk

9) Have you been told who to approach for advice if stressed or feeling low?

Y

N

dk

10) Have you been told the name of your educational supervisor in this post? (usually Consultant or Registrar)

Y

N

dk

If no go to 11

a) How supportive is your educational supervisor?

0

1

2

3

4

5

not at all

very supportive

11) Have you had an appraisal interview in this post? (ie been told how you are doing)

Y

N

dk

If no go to 12

a) How useful was the appraisal?

0

1

2

3

4

5

not useful

very useful

12) Have you been told the educational targets for the post?

Y

N

dk

If no go to 13

a) Was the attainment of these educational targets reviewed?

na

Y

N

dk

13) Have you written down your own personal educational targets for this post?

Y

N

dk

14) Have you applied for study leave in this post?

Y

N

dk

If no go to 15

a) Have you been refused study leave?

na

Y

N

dk

Please state why.....

15) Is there always a more senior doctor, available to come and help you with a clinical problem

Y

N

dk

16) How well supported are you by senior staff?

0

1

2

3

4

5

No support

well supported

17) Do you attend outpatients?

na

Y

N

dk

If no go to 18

a) Does anyone supervise you in outpatients?

na

Y

N

dk

b) How good is teaching in outpatients?

0

1

2

3

4

5

poor

excellent

18) Do you have access to a library whenever you require it?

Y

N

dk

19) Do you meet to discuss clinical cases with a senior doctor?

na

Y

N

dk

If no go to 20

a) Do these meetings take place at least every week?

na

Y

N

dk

20) Do you have teaching provided by a Consultant or Calman Registrar?

Y

N

dk

If no go to21

a) How relevant is this teaching to you now?

0

1

2

3

4

5

irrelevant

very relevant

b) How relevant is this teaching to general practice?

0

1

2

3

4

5

irrelevant

very relevant

c) Could you be interrupted during this teaching?

na

Y

N

dk

d) How good is the teaching?

0

1

2

3

4

5

poor

excellent

e) How much teaching do you get?

0

1

2

3

4

5

none

constant

21) Do you met your GP trainer (educational mentor) at least every six months?

naYNDk

22) Do you know the route for complaints about your post?

naYNDk

23) Have your complaints about the post been dealt with to your satisfaction?

naYNDk

24) How many times have you been able to attend the monthly General Practice teaching in this post?

012345
neverfive times

25) Could you take the holiday leave you requested?

naYNDk

26) How satisfied are you with this post?

012345
very dissatisfiedvery satisfied

27) How long do you think this post should be for you?

0123456
monthsmonths

28) How useful do you think this post is for a general practice career?

012345
not at all usefulvery useful

29) How many months into the post did you feel competent?

(ring one)Never12345

Your sex:

Male / Female

Your age:

20-30yr30-40yr40-50yr50-60yr

If you wish to expand on the answers you have given or have any other comments about the post please feel free to add them below or on an attached sheet:

Your time taken to complete these questions is very much appreciated.
Please return to your Course Organiser for hospital posts, based at your Postgraduate education centre.

APPENDIX 5 QUESTIONNAIRE VALIDITY DATA

Ten SHOs were interviewed and the responses at interview were compared to the responses on the SEAP questionnaire completed before interview.

The interview and questionnaire responses were recorded as different if they were not matched or if the interview gave a response but the questionnaire did not.

Scaled responses were treated as dichotomous and compared to the positive or negative interview response. 0,1,2 scored as negative response with 3,4,5 scored as positive responses.

Questions with no interview response that were not applicable or blank on the questionnaire were taken as matched replies.

For some questions the response at interview was unknown either because the statement made by the respondent was unclear or because the data was missing due to a machine breakdown. Those questions with no interview response that had a response on the questionnaire were taken as inadequate data.

Interview responses were assessed before comparison to the questionnaire responses.

Question	Written and interview Response matched	Number of Interview responses
1) Have you signed a contract of employment?	9	9
1a) How well does your contract describe your clinical duties in this post	8	9
1b) How well does your contract describe the educational content of this post?	8	8
1c) Have there been any contract changes?	10	10
1d) Have these contract changes been agreed by you before implementation	6	8
2) On average, do you work more than 72 hours a week?	7	8
3) How heavy is your workload?		0
4) Have you attended an induction course?	10	10
4a) How good was the induction course?	10	10
5) Have you seen an induction booklet?	10	10
5a) How well does the induction booklet cover clinical problems	10	10
5b) How well does the induction booklet cover administrative arrangements?	9	9
6) Do you have access to a single room on call?	10	10
6a) Is a linen laundry service available?	10	10
6b) Is there a housekeeper for your room?	10	10

Question	Written and interview Response equal	Number of Interview responses
7) Are hot meals available to you on call?	10	10
8) Have you been told who to approach for careers advice?	6	9
9) Have you been told who to approach for advice if stressed or feeling low?	4	10
10) Have you been told the name of your educational supervisor in this post? (usually Consultant or Senior Registrar)	8	9
10a) How supportive is your educational supervisor?	3	4
11) Have you had an appraisal interview in this post?	10	10
11a) How useful was the appraisal?	9	9
12) Have you been told the educational targets for the post?	10	10
12a) Was the attainment of these educational targets reviewed?	3	3
13) Have you written down your own personal educational targets for this post?	2	2
14) Have you applied for study leave in this post?	9	10
15) Is there always a more senior doctor, available to come and help you with a clinical problem?	5	5
16) How well supported are you by senior staff?	4	4
17) Do you attend outpatients?	10	10
17a) Does anyone supervise you in outpatients?	10	10
17b) How good is teaching in outpatients?	10	10
18) Do you have access to a library whenever you require it?	8	10
19) Do you meet to discuss clinical cases with a senior doctor?	10	10
19a) Do these meetings take place at least every week?	5	5
20) Do you have teaching provided by a Consultant or Senior Registrar?	10	10
20a) How relevant is this teaching to you now?	10	10
20b) How relevant is this teaching to general practice?	5	6
20c) Could you be interrupted during this teaching?	9	10
20d) How good is the teaching?	7	9
20e) How much teaching do you get?	9	10

Question	Written and interview Response equal	Number of Interview responses
21) Do you meet your GP trainer (educational mentor) at least every six months?	9	9
22) Do you know the route for complaints about your post?	8	10
23) Have your complaints about the post been dealt with to your satisfaction?		0
24) How many times have you been able to attend the monthly General Practice teaching in this post?	6	8
25) Could you take the holiday leave you requested?	8	10
26) How satisfied are you with this post?	10	10
27) How long do you think this post should be for you?	10	10
28) How useful do you think this post is for general practice?	10	10
29) How many months into the post did you feel competent?		0

APPENDIX 6 QUESTIONNAIRE RELIABILITY DATA

Cohen’s Kappa: Less then 0.4 is “poor” (3- heavy workload, complaints route known, relevance to general practice)

0.4-.0.6 is “moderate” (7 – contract educational content, teaching relevant, complaints dealt with satisfactorily, career advice, attending GP teaching, holiday leave, and satisfaction)

0.61-0.8 is “substantial” (8)

More than 0.8 is “ almost perfect” (30).

There was no kappa calculation for two questions as there was insufficient data. Kappa is not calculated by formula where there is no variation in response so where responses were identical a Kappa score of one was given.

Question	Kappa Coefficient
1) Have you signed a contract of employment?	0.632
1a) How well does your contract describe your clinical duties in this post	0.8
1b) How well does your contract describe the educational content of this post?	0.5
1c) Have there been any contract changes?	0.78
1d) Have these contract changes been agreed by you before implementation	
2) On average, do you work more than 72 hours a week?	1.0
3) How heavy is your workload?	0.143
4) Have you attended an induction course?	0.871
4a) How good was the induction course?	1.0
5) Have you seen an induction booklet?	1.0
5a) How well does the induction booklet cover clinical problems	
5b) How well does the induction booklet cover administrative arrangements?	1.0
6) Do you have access to a single room on call?	1.0
6a) Is a linen laundry service available?	1.0
6b) Is there a housekeeper for your room?	1.0
7) Are hot meals available to you on call?	1.0
8) Have you been told who to approach for careers advice?	0.6
9) Have you been told who to approach for advice if stressed or feeling low?	0.75
10) Have you been told the name of your educational supervisor in this post? (usually Consultant or Senior Registrar)	1.0
10a) How supportive is your educational supervisor?	1.0
11) Have you had an appraisal interview in this post?	1.0
11a) How useful was the appraisal?	1.0

Question	Kappa Coefficient
12) Have you been told the educational targets for the post?	0.625
12a) Was the attainment of these educational targets reviewed?	1.0
13) Have you written down your own personal educational targets for this post?	0.69
14) Have you applied for study leave in this post?	1.0
15) Is there always a more senior doctor, available to come and help you with a clinical problem?	0.765
16) How well supported are you by senior staff?	1.0
17) Do you attend outpatients?	1.0
17a) Does anyone supervise you in outpatients?	1.0
17b) How good is teaching in outpatients?	1.0
18) Do you have access to a library whenever you require it?	1.0
19) Do you meet to discuss clinical cases with a senior doctor?	1.0
19a) Do these meetings take place at least every week?	1.0
20) Do you have teaching provided by a Consultant or Senior Registrar?	1.0
20a) How relevant is this teaching to you now?	0.13
20b) How relevant is this teaching to general practice?	0.55
20c) Could you be interrupted during this teaching?	1.0
20d) How good is the teaching?	1.0
20e) How much teaching do you get?	1.0
21) Do you meet your GP trainer (educational mentor) at least every six months?	1.0
22) Do you know the route for complaints about your post?	0.298
23) Have your complaints about the post been dealt with to your satisfaction?	0.42
24) How many times have you been able to attend the monthly General Practice teaching in this post?	0.495
25) Could you take the holiday leave you requested?	0.586
26) How satisfied are you with this post?	0.549
27) How long do you think this post should be for you?	1.0
28) How useful do you think this post is for general practice?	1.0
29) How many months into the post did you feel competent?	0.91

APPENDIX 7 EXAMPLE OF CARDS FOR SELECTING INTERVENTIONS

REMINDERS

- single

May not have
duration of effect.

"consistently effective"

Bero 1998 BMJ 317:465-468

REMINDERS

- serial

Effect may be lost
when stop reminders
(Zaat 1992 Med Care
30 189-198).

May develop tolerance
to the same repeated
message with waste
bin filing.

EDUCATION

- didactic lecture

Likely to have less
effect than other forms
of education.

Needs to be tailored
to audience with prior
knowledge or audience
learning needs and wants.

"Little or no effect"

Bero 1998 BMJ 317:465-468

EDUCATION

- individual seminar

Said to be one of the most
effective interventions
(Bero 1998 , Oxman 1995)

Time consuming.

Needs a good mentor.

Best if based on learners
perceptions of wants
and needs and determines
where the learner is
starting from. Learner should
have the power to produce
change.

Follow up helpful.

APPENDIX 8 OBSTETRIC AND GYNAECOLOGY TEACHING 1993-2002

The following letter describes the setting in relation to the interventions in teaching that took place between 1993 and 2002 in the department of Obstetrics and Gynaecology. It was written by a consultant in December 2002 after reviewing chapter 8, Teaching, and gives the perspective of a participant consultant over this period.

I think it might be helpful to address some of the problems within the wider scope of adult education, although some of this might be covered elsewhere in the PhD.

Let me set the scene a little. As a department and speciality, we were actually at the forefront of some major changes in the provision of patient care, education and service provision during the time period being looked into, and it is disappointing that so little of this has been explored in the chapter or taken up by the trainees attached to the department, possibly because their own sense of education and training during these times had not changed in parallel with the hospital services but either before or after ourselves.

As you are aware, there were significant reductions in the staffing in terms of hours worked by the SHOs and middle training grades. These resulted in a progressive reduction or failure of trainees to attend allocated educational sessions, and an increased clinical load applied to consultants who were already seriously burdened with multiple tasks and already working excessive hours. The registrars, no longer available for training, were also undertaking less teaching themselves. The culture was being led in large part by the trainees themselves -it was no longer acceptable in human resource terms to keep them beyond their allocated hours of duty and they did not or could not accept any flexibility. Given that many of the traditional ways of working were reliant upon that extra input -arriving early for a ward round before 09.00hrs, staying after a clinic to discuss cases -there was a need to adapt and change the provision of teaching opportunities.

Many of the staffing changes were imposed by central government (Calmanisation and the Temple plan). There was a perception (totally false at it subsequently turned out although it was fairly obvious at the time to most of us in the speciality) that Obstetrics and Gynaecology was over staffed and was producing trainees in excess of requirements to meet the needs of the NHS. There had been a stalling of the process of consultant expansion, and there was a realisation that consultant being resident on call was being discussed as a serious possibility. Most of the consultants had already been resident for most of their training already, unlike that seen in other specialities. Complaints, and especially litigation, were fast becoming a deterrent to innovation and were materially affecting the delivery of care. Targets were becoming an increasing focus for delivery of care, there was a deprofessionalisation in clinical medicine to achieve a low but uniform standard nationally. There was increasing financial constraint upon the hospital year on year to make cost savings, and so on.

Along with other changes in the wider NHS, the effect was, and has been, a marked deterioration in morale in those who are being directly criticised and who carry the majority of service and training commitments.

The workforce in Obstetrics and Gynaecology until recently has also been highly trained, experienced and skills based. By 1995, the quality and experience of trainees at SHO and registrar level was already starting to decline, however, as new ways of teaching and instruction at medical school were producing more rounded but less knowledgeable doctors.

Superimposed on all this was a revolution in training and education methods. Many of us have not had formal training in adult education but have tried to grasp to concepts as they have developed and have adapted these to suit the local circumstances. There was, however, minimal or no investment in the infrastructure of education, even for basics such as a

dedicated classroom with simple teaching aids. We were 'trying to make it up as we went along' in the evolution of a training process.

The SHOs were, therefore, seeing the direct effects of a demoralised service, trying to maintain a service commitment to a demanding client base under extreme financial constraint, with no modernisation or investment, provided by fewer trained individuals. In these circumstances, there were a number of options available to all of us with responsibility for training, some of which have been introduced but some of which remain like remnants on the cutting room floor.

The important innovations or emphases have been, firstly the appreciation that SHOs are less 'productive' than before and are attending in a capacity much more for training rather than service. This is a major cultural shift and which has resulted in considerable argument about whether this investment in SHOs by the department could actually be better used elsewhere, which I emphasise I have personally been at pains to counter all along.

Secondly, we needed an appreciation by the Trust that, to continue to offer training in Obstetrics and Gynaecology, there had to be a rebalancing of the service-training ratio towards more training. In consequence for all our clinics, I have been able to reduce the numbers of patients seen per clinic, and have gradually seen an awareness of the culture of education taking over from maximising throughput. This has, of course, also been brought about by a need for greater patient as well as trainee education, but the net effect has been beneficial for both, but at the expense of some deterioration in other targets such as outpatient waiting times.

Next, we have also brought greater flexibility into the trainees' rota allocating more time for attendance at clinics, to sit in or discuss cases with senior staff. We have had to emphasise to trainees that the greatest training opportunities are to be found in clinics rather than have them subsumed by work on the ward. We have acknowledged that nurses and midwives are actually more experienced in some aspects of patient care and encouraged development of this role, freeing up time for the SHOs to be better trained in areas that are important to them. We have even had to inform the trainees that consultant presence on the labour ward and discussion in clinics is actually part of their education.

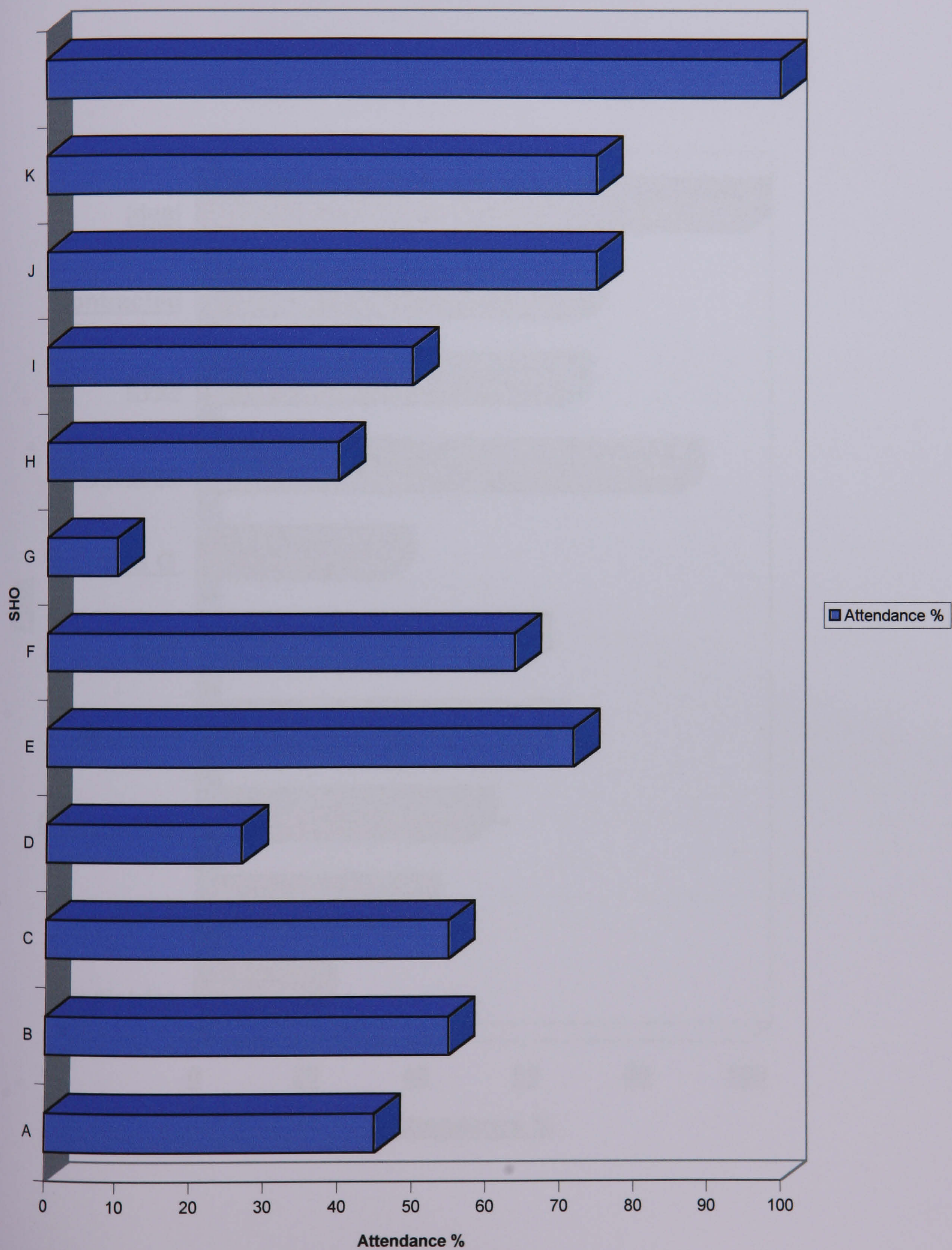
We were also the first unit in Wessex to stop all fixed clinical commitments on Friday afternoon. We have been continually frustrated by the lack of SHOs attending these meetings -night duty, scheduled days off, not being able to exceed scheduled hours of work per week, emergency cover, etc. etc. -which shows that there is still some way to go to achieving all the goals we have set ourselves. Trying to run a stand alone formal education programme for perhaps sometimes only one or two trainees at a time has not been considered particularly valuable by the teachers given the other constraints on their time. There has also been not been an appreciation that junior trainees can learn a lot from teaching addressed to all trainees including more senior ones in the department.

I do not feel that there has been sufficient acknowledgement that there have been beneficial changes. Partly we now manage the expectations of the SHOs more successfully than in the past, and partly they have at last gained a better awareness that they own their own education and it is not something to be give by outsiders.

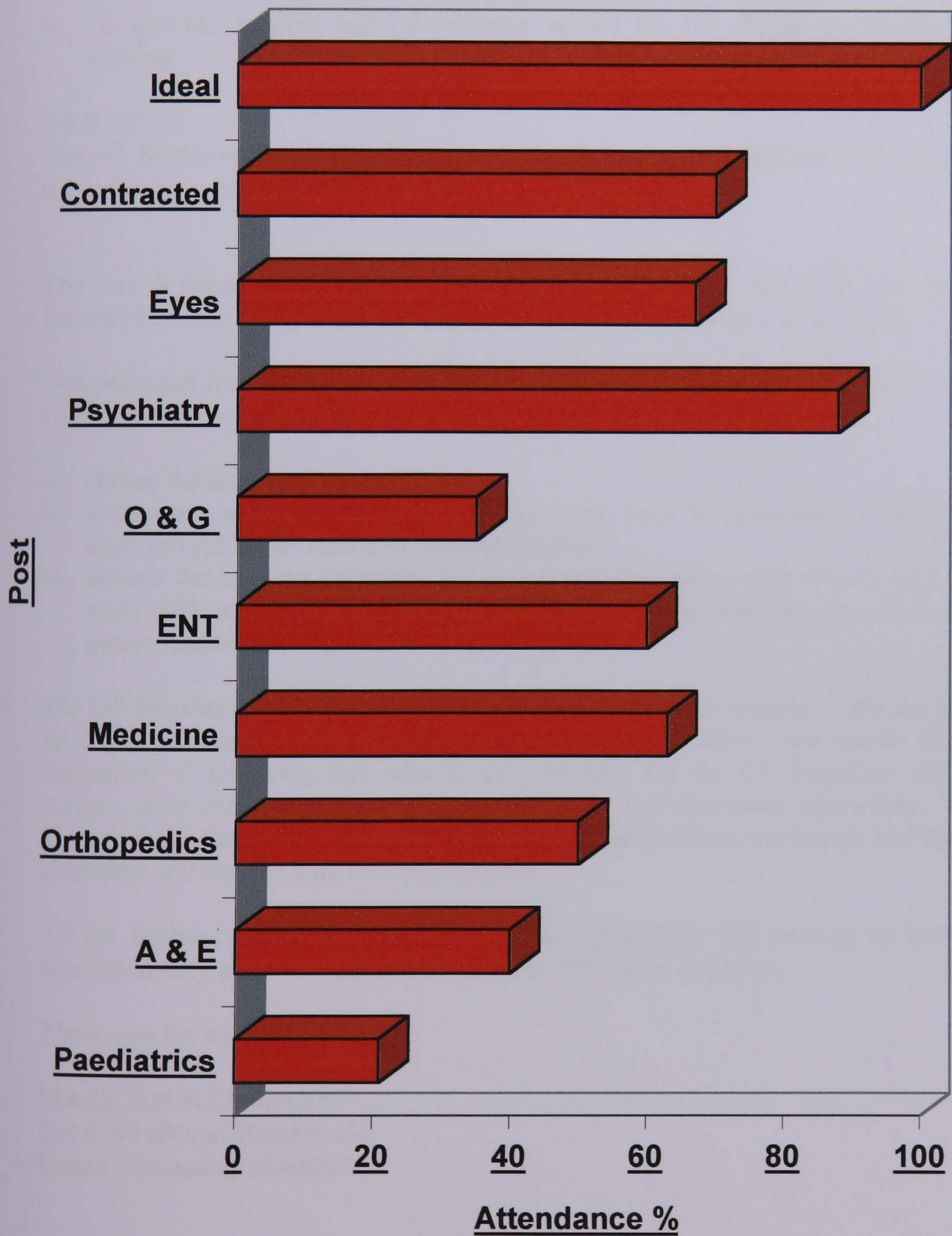
I am surprised that the deanery did not help more with trying to address some of these issues as they were evolving. There was just one meeting of all parties, but no offers of support, or facilities, or funding, to address what has clearly been perceived as a significant problem. They were, perhaps, more focussed on the problems in middle grade teaching and the development of the appraisals system.

I hope that the positive and mature response from the SHOs at the recent meeting in December 2002 reflects a more agreeable future for all the people within the department and a recognition that we have largely found our own local solutions to the problems occurring in response to changes imposed which have been largely outwith our direct control.

APPENDIX 9 EXAMPLE OF ATTENDANCE FEEDBACK
- GP SHO MORNING ATTENDANCE FOR EACH SHO



APPENDIX 9 EXAMPLE OF ATTENDANCE FEEDBACK
- GP SHO MORNING ATTENDANCE FOR EACH SPECIALTY



APPENDIX 10 THE GP TRAINER LETTER

SHO GP TRAINER (MENTOR) MEETINGS

Some suggestions for the GP Trainer

AIMS

- To help the GP Registrar orientate their hospital training towards General Practice
- To enhance links between GP trainers, practices and GP Registrars
- To provide support and career/stress advice for GP Registrars during their hospital training

OBJECTIVE

The GP Registrar should develop general practice orientated learning objectives for their next 6 months in hospital post.

The visit is timed to take place after the first month of the new SHO post to get the most benefit from discussion of the GP Registrar's learning objectives for that post.

One proposed format that seems to work well is three quarters to one hour of protected time. During this period you could

- a) review the last post
- b) review any previous record of learning needs such as evaluation sheets, or the learning diary (an A4 folder issued by Wessex Deanery)
- c) discuss the learning objectives for the current post along with the trainer's perspective of what skills and information should be obtained in the current post which are relevant to general practice

The GP Registrars usually have from 9.30 – 12.15 for their seminar. We are quite happy for them just to spend an hour with you to revisit the practice. We would also support the suggestion of following this with a short surgery for the GP Registrar, either as a joint surgery, their own surgery, or sitting in with you, with discussion afterwards. The aim being to remind GP Registrars of the flavour of general practice consultations and the emphasis on outpatient and chronic care that they involve.

All the Wednesdays are evaluated when they attend their GP training at St Marys and we have had a very positive feedback about these GP trainer meetings.

Thank you for all your support

MARK RICKENBACH
Ext 6180 (Diana Hambrook)
Queen Alexandra Hospital

APPENDIX 11 RECOMMENDATIONS FOR SHO TRAINING

The following tables outline recommendations arising from this study. Some are technical or organizational in nature, but this is to reinforce the principles of a learner centred approach. They are supportive structures intended to enhance individual learning rather than stifle its development. These recommendations are in addition to existing policy such as, for example, having a named educational supervisor. They are ordered from the individual to the general level.

Subject	Recommendations for educational supervisors
Professional Educational Supervisors	To encourage expertise and enthusiasm secondary care educational supervisors should be recognized as a professional group with a clear role, personal educational support, protected time and, ideally, by additional income.
Self Directed teaching	All those involved in education should assess and evaluate the organization and content of their teaching so that they can reflect on and enhance their own teaching.
A register of educational supervisors	Information on who is accredited to work as an educational supervisor should be held locally and at regional level. An accredited educational supervisor understands and evaluates their own role as a teacher and supervisor.
Educational Portfolio	Each educational supervisor should hold a portfolio, which includes a curriculum vitae, personalized teaching objectives, educational courses attended, learning achieved and summaries of their own appraisals.
Access to Educational Portfolio	The local specialty SHO programme organiser should hold a summary copy of the educational portfolio, which will be accessible by the regional SHO programme director
Ratio of educational supervisors	The number of doctors that an educational supervisor can provide adequate personal support for is determined by the time available to meet each doctor informally each week and also formally in meetings such as appraisal.
Appraisal training	Appraisal is a key to increased understanding and support for the SHO. The educational supervisor needs to be skilled in appraisal and its evaluation.

Subject	Recommendations for SHOs
Named career adviser	A nominated career adviser should be available in each locality with a clear route of access
Named stress counsellor	There should be access to independent, confidential, specific, stress advice when required. There should be a named individual, regular contact to offer service, and a simple confidential route of access.
Interview records	There should be a record of the assessment of individual doctors at interview available to the interviewee. Future formative assessment of the doctor should build on and develop these records.
Appraisal records	A summary report of each appraisal should be agreed with the SHO, returned to the SHOs educational portfolio with a copy accessible to each subsequent educational supervisor as part of a programme of education
Educational Portfolio	Each SHO should hold a portfolio, which includes a curriculum vitae, personalized educational objectives for each post, courses attended, learning achieved and summaries of appraisals in each post.
Access to Educational Portfolio	The local specialty SHO programme organiser should hold a summary copy of the SHO educational portfolio, which will be accessible by each educational supervisor.
Tailored supervision	Supervision of doctors should be tailored to the individual. Some require more help than others in developing methods of independent learning.
Accessible references	Written references should be seen by the SHO and discussed with the person providing the reference in protected time

Subject	Recommendations for the structure of SHO training
An Educational Contract	This is to clarify the educational content of each post. An Educational Contract should be signed between each Educational supervisor and the SHO at the start of each post.
The ratio of observation to practice	Every training post should be assessed by the local SHO programme organiser for the balance between observation and practice. The ratio should evolve for each doctor in the post with an increase in responsibility (apprentice model).
Maximise the educational value of service work	Service work is required to learn and stimulate learning (cauldron model). However, service work that is repetitive and does not facilitate learning should be provided by a person appointed to a purely service role.
Feedback	Regular internal assessment of each SHO post should be in place and organised by the specialty SHO programme organiser
Assessment tools	Tools for assessing posts such as questionnaires and qualitative methods should be provided and resourced by the region
Post Development Summaries	At the end of each post a summary of the post should be provided by the Specialty Supervisor in conjunction with the SHO(s). This should outline any areas for improvement in the post
Observe posts over time	There are poor training posts and poor doctors. By observing the post over time the contribution of each can be determined.

Subject	Recommendations for the structure of SHO training
Additional incentives Grading posts	<p>There need to be additional incentives for changing a training post. Complete with-drawl of a post from training is a threat that is difficult to carry out. The JCPT grading of SHO posts should be adopted. A Commendation, B Approval, C Conditional Approval, D Approval Withdrawn</p>
Improve partial shift systems:	<p>Shift systems can disrupt communication, reduce SHO support, block continuity, and reduce enthusiasm to complete the day's tasks. Shift systems should be designed to overcome these problems.</p>
Define a complaints system	<p>There should be information on the types of complaints and who they should be addressed to, with a structure to deal with unresolved complaints. There should be a record in each post of complaints and these should be viewed as a resource to develop posts.</p>
An Outpatient post	<p>One model is an "outpatient post" for general practice training. A period in which the doctor experiences observation and hands on decision making in a variety of specialties in a setting similar to general practice, but with a concentration of one group of illnesses and expert supervision in those illnesses</p>
Modified Elective posts	<p>There should be more elective periods where the doctor can plan their total training as a supernumerary doctor. They should incorporate induction, appraisal, close supervision by an educationalist and should be based in the intended career specialty of the SHO. The degree of supervision will vary with each doctor.</p>

Subject	Recommendations for the management and supervision of SHO training
Regional specialty SHO Programme Director	There should be one person responsible for overseeing SHO education in a region for each specialty, including general practice
Clinical Tutors	Local clinical tutors should allocate time or a named person to supervise SHO education locally
Mentor	One person should be responsible for ensuring support of an individual throughout his or her training in a locality. This mentor will usually be a specialty consultant or for GP SHOs the GP Trainer.
Local specialty SHO programme organiser	Each specialty should have one identified person who actively supervises and co-ordinates SHO education in the specialty
Specialty GP tutor	For each specialty involved in GP training, a GP should be nominated and funded to advise GP SHOs and their consultants about the general practice orientated learning objectives and teaching in that post.
Educational supervisor	Each SHO should have a named educational supervisor who is responsible for appraisal and is in contact each week
Clinical supervisor	Every session of a week should have a named senior person available who can advice or assist the SHO.

Subject	Recommendations for external visits to assess posts
Rationalise visiting	Pool resources for visits by the deanery, royal colleges and JCPT to allow fewer more effective visits.
Maximise impact of peer review:	The impact of peer review visits can be increased by publicising the visit well in advance, by publicising the standard expected, by involving the local educationalists well before the visit, by sharing the conclusions of the visit.
Maximise use of existing information	External visits should collect information from educationalists as well as junior doctors prior to the visit. Visits should then concentrate on problem issues rather than data collection alone.
A local monitoring system	Regular local assessment of each SHO post should be in place for training. It should complement and augment the external monitoring system currently in place, not be divorced from it.
Independent educationalist	Visits to assess posts need to be objective and should be seen as such. At least one external assessor should have educational skills and be able to make an individual report set against standards for doctors training.
Use of multiple interventions	Pressure to improve posts can come from many directions. Consider the setting of standards, local peer review and building on learner expectations.
Follow up of external visits	Follow up of external visits is required with an agreed review date and specific targets.

APPENDIX 12 GP REGISTRAR TRUST ATTACHMENTS (GPRTA)

A GP Registrar Trust attachment is designed by one or more specialties to provide experience that is relevant to a future GP. The hospital setting can provide a more concentrated experience of a particular specialty with teaching from an expert within that specialty.

Similar posts include the elective period for SHOs and the GP Registrar extensions taken after the GP Registrar year in general practice. In these posts the SHO or GP Registrar themselves plan and arrange their own specialty attachments

Applications

An application for a Trust GP Registrar attachment should be made to your local Associate Director of GP Education and this would include a timetable for the post and a timetable for existing SHO posts in GP training. The decision on funding is made by the Regional Director of GP Education and depends on the design of the post and its impact on existing SHO posts.

The timetable should cover the 10 sessions of a week (5 morning and 5 afternoon). Most posts will be for 6 months usually.

The application should describe how the post is tailored to GP training and how existing posts have been improved.

Sessions can be in a variety of specialties. The ideal is for continuity over time eg a session each week over 6 months. "A longitudinal model". So that the GP Registrar becomes experienced and can work as a member of the specialty team. Timetables should include attendance at the monthly general practice SHO meetings with the GP SHO Programme organiser.

Funding

The GP Registrar salary is funded by the Wessex Deanery and the GP trainer will be paid a trainer grant if they are not already in receipt of one.

There is no direct funding yet available to the hospital specialty but GP Registrars will be able to provide service input as they gain experience in the specialty.

Contracts

The GP Registrar should hold the standard Deanery contract with the GP Trainer, which includes time for study leave and annual leave.

They should also hold an honorary contract with the hospital trust to enable crown indemnity cover.

It is essential that the GP Registrar takes out a membership with a medical defence organization for their time in general practice. This is usually reimbursed through the Deanery. The GP Registrar should inform the medical defence organization of all the specialty attachments to ensure every one is covered.

GP trainer contact

The GP trainer is the overall supervisor for the GP Registrar and each GP Registrar Trust Attachment should include three or four sessions per week at the GP trainer's surgery. These allow time for a weekly seminar and to work in the practice. Seeing patients at the GP trainer's surgery helps to orientate the GP Registrar's learning aims in the hospital setting towards general practice.

The VTR 1 will be signed by the GP Trainer on satisfactory completion of both the GP Registrar Trust attachment and the GP Registrar year.

Educational supervisors

Each session in the hospital should have a named educational supervisor who can help with any problems and provide advice when needed. This one to one support is a key part of any good post.

The ideal model is initial observation of the educational supervisor by the GP Registrar. The GP Registrar should start to see patients and present them early on in the post. When appropriate the GP Registrar should see patients under supervision and by the end of the post they should be seeing patients independently and deciding on management. There should be both adequate time to learn the necessary skills and sufficient responsibility to encourage further independent learning.

On Call

On call is of educational benefit provided there is adequate sleep and a controlled workload. On call can either replace a daytime session or be proportionate to the number of sessions in the specialty per week.

Induction

Each specialty is expected to provide an induction to the relevant session(s). The content should be tailored to the GP Registrar's needs in that session.

Appraisal

The GP trainer will provide an appraisal session at the start (to plan learning objectives), middle (to review learning objectives) and end (to feedback to the GP Registrar on progress) of the post.

Each specialty should provide feedback for the appraisal to the GP trainer.

Each specialty educational supervisor should also have an initial, middle and end of post review of progress with the GP Registrar. Setting aside time to do this helps ensure each session is progressing satisfactorily.

From: GP SHO Education on the Wessex Deanery web site 2003

Dr Mark Rickenbach, Dr Frank Smith (click GP then SHO or go to

<http://www.wessex.org.uk/medical/genpract/sho/index.htm>)

**TEXT CUT
OFF IN
ORIGINAL**

**TEXT BOUND
INTO
THE SPINE**

... study supports the argument for
skill mix in primary care, offers the
that nurses are popular with patients
they have more time than doctors to spend
nts, and provides further data on the
nts in relation to consultations under-
ymakers cannot assume that changing
will save money as the advent of practice
shown. With a massive iceberg of unmet
population,³ changing the skill mix is a
providing a broader and more appropriate
services, of freeing highly trained staff for
demanding tasks, and of enriching the
experience of those who accept the delegated

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skill mix in primary care. *BMJ* 1994;308:993-4. (16 April.)

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tising and using "indicative prevalences." *BMJ*
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Case on clinical negligence

Little interest has been shown in the
the Department of Health is taking to set
fund to spread the burden of indemnity
and legal costs borne by trusts in
with damage done by clinical negli-
gently, as the availability of legal aid
increasingly restricted, only the very poor
very rich will be able to afford to take
respect of clinical negligence. But trusts
to bear the burden of past years for
yet: claims will continue to arise from
made and actions taken since April 1991.
consideration is much more important
of spreading the financial burden. When
mley's predecessor destroyed the
operated by the defence organisations
that burden in the hospital and
services he also destroyed the mecha-
collecting, analysing, and retrieving data
done by medical negligence in those
risk management is probably the only
easing the toll of medical negligence;
ective it requires the formation and
of such a database. The defence
do their best with information from
and from private and general practice,
no longer have access to the vast fund of
gained in the hospital and community
that the department will combine the
of a central fund with the creation of a

Hospital vocational training

Local audits are helpful

EDITOR,—As a general practitioner, course
organiser, and former senior house officer in
Wessex, I am keenly aware of the problems in
training for senior house officers.^{1,2} Paul Little's
survey provides an overview of the situation in
Wessex but hides the variation among hospitals
and posts.¹ Since the senior house officers who
were questioned were in post it has become
regional policy for course organisers in general
practice to review hospital vocational training.

In Portsmouth we send a questionnaire to all
senior house officers on vocational training schemes
in the final month of each of their posts. Anecdotal
reports about a post may be misleading as they may
reflect a poor senior house officer or a poor post.
Cumulative data from a series of senior house
officers in post provide a better base from which to
argue for improvements.

In Portsmouth all doctors on general practice
vocational training schemes spend two months in
general practice before their hospital training and
10 months in general practice after it; as Little
mentions, a quarter (four) of our hospital posts are
three months long. Ten of the 12 senior house
officers in post replied to our questionnaire in
February this year. All stated that they received
weekly teaching, and seven thought that it was
relevant to general practice. They were not asked
the standard of teaching or degree of relevance.
Only half had applied for study leave, but all the
applications had been successful. Asked how many
months into the post it was before they felt
competent, one replied never; one, four months;
two, three months; two, two months; and two, one
month; two did not answer. Problems identified
were doing non-medical tasks (eight), lack of
appraisal (nine), absence of education targets
(eight), no clear source of careers advice (six),
and not knowing where to go for support when
suffering from stress (seven).

The "lost tribe" of senior house officers has
many problems, but Wessex is starting to tackle
them. Local educational audit is one way to
facilitate improvements in hospital training.

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1 Little P. What do Wessex general practitioners think about the
structure of hospital vocational training? *BMJ* 1994;308:
1337-9. (21 May.)

2 Bayley TJ. The hospital component of vocational training for
general practice. *BMJ* 1994;308:1339-40. (21 May.)

New post addresses deficiencies

EDITOR,—Vocational training is one success of
British general practice. Paul Little rightly states
that the hospital component needs reviewing as it
does not reflect the views and training needs
of those participating.¹ The general practice
component has been criticised for not preparing

with opportunities for training in
medicine, NHS organisation and
and the authority's role and res
emphasising their application to gen
Through supervision and teaching
practitioner develops an understandi
including the provision of health ca
needs, preventive medicine, planning
and the management of services and
these skills into practice. He or sh
involved in the planning and provisi
care as work undertaken contributes to
ment of local services. Weekly sessions
for clinical work to extend training
practice, which is arguably too short.

The health service gains through th
and skills acquired being carried
practice, enabling the provision of be
hope that similar posts will become c
and no more curious than any other or
a career in general practice.

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1 Little P. What do Wessex general practitioners
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1337-9. (21 May.)

Prevention of suicide

EDITOR,—David Gunnell and Steph
review of the literature on the preventi
highlights the difficulties for psychiat
identifying those at greatest risk.¹ I
further illustrated by data from a fol
conducted in Nottingham. Cons
admissions to Saxondale Hospital (h
hamshire County Asylum) were iden
years 1974 and 1975. A cohort of
comprising all those aged between 16
were admitted from the borough of Br
population roughly 100 000), was fol
years later. Case notes of index adn
examined to establish a diagnosis (acc
Diagnostic and Statistical Manual of
orders, third edition, revised²) and
relevant clinical and demographic
subjects were traced either up to thei
their current general practitioner. I
cates were obtained for all of those who

The index diagnoses ranged wid
patients met the criteria for a maj
disorder and nine met the criteria
phrenia. A suicidal act relating to t
was recorded for 28, and 36 were r
reported suicidal ideation. Sixteen
died. All of these deaths had been d
causes: none had been due to accide
and no open verdicts had been recorde

Such a cohort reflects the social a
mixture of many psychiatric caseload
represent a high risk group in both
the long term. Gunnell and Frankel

been commonly reported except for incidents in the 1980s related to soya bean dust in Barcelona, Spain³; castor bean dust in Toledo, Ohio, United States, in the 1920s⁴; and sulphuric acid mists in Yokkaichi, Japan, in the 1960s.⁵

This epidemic placed great pressure on the emergency services. We are forming a research group to undertake a detailed study of the epidemic. Better understanding may allow such episodes to be predicted so that advice can be provided to people with asthma and to health care providers.

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4 Figley KD, Elrod RH. Endemic asthma due to castor bean dust. *JAMA* 1982;247:79-82.

5 Kitagawa T. Cause analysis of the Yokkaichi asthma episode. *J Air Poll Contr Assoc* 1985;34:743-6.

Television programme's realism

EDITOR,—Opinion on the BBC television series *Cardiac Arrest* has been conflicting, with it being viewed as either frightening realism or mythology.¹ The public, management, and consultants should know whether it accurately represents life in the 1990s as a hospital house officer and senior house officer. I asked 45 trainees in general practice about the programme. Thirty nine (87%) returned questionnaires, of whom six stated they had not seen it. The replies (table) suggest that the programme gives a realistic picture of working conditions in hospital for this group of doctors.

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1 Dillner L. Frightening realism. *BMJ* 1994;308:1108. (23 April.)

Reply to question "How realistic do you think the programme 'Cardiac Arrest' (about junior hospital doctors on BBC1 on Thursday evenings) is?" (n=33). Figures are numbers of respondents selecting each point on six point scale

	Six point scale					
	Completely realistic					Not at all realistic
Working conditions	11	15	5	0	2	0
Doctors' relationship to management*	7	9	8	6	2	0
Senior house officers' and house officers' relationship to consultant	1	11	7	8	6	0
Staff sexual relationships	0	7	7	9	9	1

*One respondent did not answer this.

BPA's response to Clothier inquiry

EDITOR,—In his letter Keith Dodd states that "soon after the suspension of the Drs Porter and Nanayakkara a small committee was established at the request of the British Paediatric Association's council." I wish to state categorically that we were never suspended but were made "redundant" by Trent Regional Health Authority.

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1 Dodd K. BPA's response to Clothier inquiry. *BMJ* 1994;308:1441. (28 May.)

Ulcer wars

EDITOR,—In reviewing my documentary, "Ulcer Wars," for the television series *Horizon*, D G Colin-Jones states that it was one sided and tendentious.¹ He complains that critics of the proposal of a link between peptic ulcers and *Helicobacter pylori* were not given enough air time, but that was because the overwhelming body of medical opinion has now accepted that there is a link. The critics are a small and diminishing minority, who were given an appropriate amount of time.

Colin-Jones disagrees with the claim that triple treatment eradicates the organism in about 90% of patients. This is the figure quoted in the consensus statement issued by a panel of international experts at the National Institutes of Health in Washington last February and is widely accepted.

After saying that the idea of screening for *H pylori* was still extremely controversial, the programme showed Barry Marshall screening the siblings of people with stomach cancer. Colin-Jones states that there is no scientific justification for this, ignoring the fact that we had described at some length prospective cohort double blind serological trials carried out in Britain and the United States that suggest a causal link.² Preliminary studies also suggest that eradication of *H pylori* reverses increased proliferation of gastric cells (a reliable biomarker of the risk of cancer) in cases of gastritis, gastric metaplasia, and dysplasia (C O'Morain, second united European gastroenterology week, Barcelona, 1993). Colin-Jones accuses the programme of confusing gastric lymphoma with adenocarcinoma. Gastric lymphoma was given a separate section, introduced as a special type of stomach cancer, referred to throughout as lymphoma, and fully defined by Professor Isaacson.

Colin-Jones says that half the middle aged population of Britain has *H pylori* infection without adverse effect. This is untrue (almost all have gastritis; about a fifth have or have had a peptic ulcer; an appreciable proportion have non-ulcer dyspepsia); it is also irrelevant as most infectious diseases have a common carrier state. The fact that only a proportion of people infected with HIV develop AIDS is not an argument against its being

caused by an infectious agent. It was also a point addressed in the programme.

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- 1 Colin-Jones D. The subtle microbe. *BMJ* 1994;308:1378. (21 May.)
- 2 Forman D, Newell D, Fullerton J. Association between infection with *Helicobacter pylori* and risk of gastric cancer: evidence from a prospective investigation. *BMJ* 1991;302:1302-5.

Author's reply

EDITOR,—A television documentary of this kind cannot be the medium for full scientific rigour and should therefore avoid drawing unwarranted conclusions. In this case many of the conclusions were indeed warranted, and my review gave congratulation where it was due for an important and advancing subject being opened to general view. My dispute with Michael Mosley is that on some points the evidence is at an early stage and open to a range of interpretations. In particular, eradication of *Helicobacter pylori* depends on several factors, such as patients' compliance with a complex regimen, the treatment chosen, and antibiotic sensitivity. For example, triple treatment was successful in 90% of cases when the organism was sensitive to metronidazole but only 31% when it was resistant.¹ Some studies have achieved eradication rates of 90%, but many more have reported much lower figures.

The link between *H pylori* and gastric cancer has been well made and was portrayed accurately. Eradication of the infection when it has been present for many years has not, however, been shown to prevent a cancer developing. The gastritis caused by *H pylori* often progresses to gastric atrophy, which is thought to be irreversible. At what stage will eradication prevent a cancer developing? Presumably before the atrophy develops. As a result of the documentary I have already had inquiries from patients about preventing gastric cancer, but we simply do not yet know if this can be achieved in someone with an established infection.

Unfortunately, Mosley does not quote my review accurately. Half the middle aged population of Britain have *H pylori* infection without apparent adverse effects—that is, they are unaware of it as it is asymptomatic. There are no convincing data linking *H pylori* with non-ulcer dyspepsia.

Mosley's letter tries to make my review seem harsh and critical, but this was not the case. I tried to emphasise the enthusiasm that he communicated. I complimented the film and discussed the impact that this remarkable organism is having on our thinking and clinical practice.

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- 1 Bell GD, Powell K, Burridge SM, Pallecarras A, Jones PH, Grant PW, et al. Experience with "triple" anti-*Helicobacter pylori* eradication therapy: side effects and the importance of testing the pre-treatment bacterial isolate for metronidazole resistance. *Aliment Pharmacol Ther* 1992;6:427-35.

Correction

Women consultants and merit awards

An author's error occurred in this letter by Allison Streeby (25 June, p 1712). The second sentence in the second paragraph should have read "The association of women with specialties poorly represented among merit award holders does not mean that this is the cause of the difference between the sexes."

Letters to the Editor

More general physicians or specialists?

Sir—Dr Bateman (January/February 1995, page 73) asks why general physicians look after patients with acute neurological disease when neurologists have 'greater expertise and interest'. Perhaps he has either forgotten or been unaware of the fact that it was neurologists themselves who decided to stop looking after such patients a few years ago. The issue was hotly debated in the *British Medical Journal*.

Dr Bateman's question begs two others: what is general medicine and what are general physicians? We could argue for some time about a definition of general medicine but in practice, in a district general hospital, it includes all those patients who arrive acutely ill with or without a diagnosis, at any time of day or night. When so many of these patients have neurological disease it is surprising that neurologists could bear not to practice general medicine. It is true that this would mean also looking after other problems but patients with acute neurological disease are likely also to have nutritional, cardiac and respiratory difficulties. One wonders how 'expertise and interest' could have been achieved, given that neurologists have denied themselves these experiences for so long.

As a general physician with an interest in gastroenterology I am only too aware of my limitations, so request and receive excellent assistance from my neurology colleagues without hesitation in difficult circumstances. I am, however, not aware that there is any specific neurological expertise which would transform the care of the stroke patients who constitute the

majority of neurological admissions. Even in the other diseases he mentions, the therapy depends heavily on haematology, microbiology and intensive care skills. There is of course no reason why neurologists should not write appropriate guidelines and these be part of the audit cycle.

Where is the evidence that acute patient care would be improved by more neurologists?

If neurologists were to rejoin the general medicine rota, it would offer them the chance to demonstrate that care of patients with neurological problems is better on their duty days and nights.

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What the SHO saw

Sir—Drs Dickson, Heymann and Culling (November/December 1994, pages 523–6) show us an interesting list of the medical problems that a junior hospital doctor now has to deal with as a matter of routine in an average sized district general hospital. What a pity it was that, despite listing the detailed medical problems, there was only a single entry entitled 'Social problems'. This term has the same meaning as grouping all the others together and calling them 'Medical problems': it was not acceptable as a final diagnosis in years gone by and certainly should not be accepted in the 1990s.

Medical education today encompasses the holistic approach to patients and their problems. Just as we need a definitive diagnosis of the medical problem (very well illustrated in the text) we also need a definitive diagnosis of the social problem whether that is, for example, that there is nobody at home

to provide extra support or the pipes have burst or whatever.

Drs Dickson, Heymann and Culling mention the closeness of Kingston Hospital to St George's Hospital where in its associated medical school all medical students now undertake a geriatric medicine 'firm'. During this period they are taught, and I hope remember, the meaninglessness of writing 'Diagnosis equals social problem'.

IAN R HASTIE

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Assessing and counselling trainees

Sir—Appraisal is a key element to improving junior doctors' training. Dr Wilkinson's definition (January/February 1995, pages 53–6) demonstrates that it is a two way process, with the post assessing the junior doctor and the junior doctor assessing the post. Both should benefit.

In our experience [1] appraisal is viewed with concern. How is it done? How do I handle the criticism and the criticising? How can I resolve the seemingly insoluble problems that are voiced? These are a few of the questions we are asked. At Portsmouth we are developing an advice package on appraisal, which incorporates Dr Wilkinson's suggestions of identifying junior doctors' needs, making an educational plan and reviewing progress after three months.

We find it is also useful to have a brief list of educational objectives [2] for each post. Ideally, these are set by the previous doctors in post looking back at what they wish they had learned and what had actually been useful to learn in that post. Junior doctors then tailor the educational objectives to suit themselves and their own career plan. Once recorded in the learning log book (personal learning record/portfolio) they can be reviewed at subsequent appraisal.

Training in appraisal skills is required. One of the best ways of learning is to experience a skilled appraisal oneself. This can also give some insight into why junior doctors find appraisal helpful.

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Is the MRCP(UK) examination a dinosaur?

Sir—The risk of the long-term demise of the MRCP(UK) examination, envisaged in *News & Views* (January 1995, Issue No. 8, page 2), might be augmented by the perception prevailing amongst some candidates that this diploma represents the culmination of the acquisition of clinical skills in general medicine. The reality is that, even at MRCP level, a substantial content of medical knowledge and craft might be overdue for re-evaluation, not least because the methods which underpin our clinical skills have themselves so far escaped validation for sensitivity, specificity, and productive power. In essence, what is overdue is a continuous process of defining, refining, and redefining of the areas of certainty as well as uncertainty in the craft as well as in the science of medical practice.

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CPR: doctors and nurses expect too much

Sir—I read the study by Wagg *et al* (January/February 1995, pages 20–4) with interest. One conclusion seems to have been overlooked. From the data on respon-

dents' estimates of survival to discharge following a CPR attempt, all the groups (except the US nurses) estimated a greater survival nationally compared to the survival of the patients who had CPR that they themselves participated in. This difference of estimates was not borne out by the most experienced doctors who estimated similar survival figures both locally and nationally. It would seem that the less experienced participants in CPR attempts either do not have the same confidence in the ability of their local resuscitation team, do not feel that a sufficiently adequate attempt is made, or feel that the group of patients they are attempting to resuscitate are in some way different from those nationally. In any case it would seem that an opportunity to discuss the feelings of the participants should exist. After all some CPR attempts can be psychologically traumatic for the staff intimately involved in the care of the individual patient.

ASHWIN VERMA
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From medical apartheid to siyazamile

Sir—Dr Haviland (November/December 1994, pages 567–8) gives a depressing but accurate account of her experiences as a medical student in a provincial hospital in South Africa during the last days of the apartheid era. She contrasts the collapse of hospital-based medical services with the promise of nursing-based primary health care in the community. I have recently helped to implement the Perinatal Education Programme at Settlers Hospital which has greatly improved staff morale. Based on a very successful US model [1], the Programme is a self-help, problem-orientated correspondence course in maternal and newborn care which enables local health authorities to improve the standard of perinatal care provided

by both doctors and nurses. In a field trial being used for a doctorate thesis we are hoping to document not only a change in the knowledge, skills, attitudes and behaviour of the Settlers staff, but also an improvement in the quality of care received by the people of Grahamstown. This innovative method of cheap outreach education is currently being launched throughout southern Africa and promises to correct many of the problems identified by Dr Haviland.

I hope that concerned doctors in Britain will consider working in the new South Africa to assist with the reconstruction and development of a health service which will bring appropriate care to all communities [2].

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Endoscopy: throat spray or sedation?

Sir—We read with interest the study by Pereira *et al* (September/October 1994, pages 411–4). The objective of sedation, as defined by the *Guidelines for sedation by non-anaesthetists* [1], 'is to help patients accept uncomfortable and distressing diagnostic and therapeutic procedures while easing technical difficulties for the operator'. Clearly if sedation is not needed then its associated risks are best avoided but we feel this study may not answer the problem addressed.

Over one third of the patients (76) had previously had an endoscopy. These patients are likely to have different expectations of endoscopy. They probably know their diagnosis, which was

improve matters has inspected all its senior house officer posts according to the requirements of the royal colleges for educational approval—for example, the Royal College of Surgeons.²

During our survey of 1023 posts we interviewed around 600 senior house officers in every specialty and all districts. We collected information in a structured way about work, training, and education. We found that five essential criteria need to be addressed in assessing any training post: consultants' support; clinical experience; training and education; appraisal; and contractual compliance.

We were disappointed to find that one third of the posts were unsatisfactory when judged against these criteria.³ We found consultants' support to be generally excellent (88% (899/1023) of senior house officers found it satisfactory), showing that consultants take their clinical responsibilities towards patients seriously. The most disturbing finding was that at least one third of senior house officers did not obtain sufficient clinical experience to prepare them for the next stage of their careers as specialist registrars, despite the fact that there was always sufficient clinical material available (62% (629/1023) considered the experience satisfactory). The duties of senior house officers have usually been designed to satisfy service needs and little thought has been given to devising a properly organised programme of activities. Particularly in specialties that do not have preregistration house officers, senior house officers spend much of their time on inappropriate duties while valuable learning opportunities are lost or even disregarded. We found that almost half of our senior house officers never attended outpatient clinics because they were too busy doing repetitive tasks on the wards (47% attended regularly (440/936; 87 posts in anaesthetics were excluded).

Lack of structure to the working day (only 4% (42/1023) had a job plan) was also responsible for one third of the senior house officers being dissatisfied with their training and education (63% (644/1023) were satisfied). Protected time for teaching and study, as required by the royal colleges for educational approval, was rarely available. Appraisal as an educational tool was in its infancy, with only 8% (79/1023) of trainees having had the benefit of such an exercise.

Only 59% (604/1023) of posts truly complied with the requirements of the new deal on junior doctors' hours. Working in some specialties—notably, general medicine—was extremely stressful.

Structured training for senior house officers and specialist registrars is urgently needed.

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1 Paice E, West G, Cooper R, Orton V, Scotland A. Senior house officer training: is it getting better? A questionnaire survey. *BMJ* 1997;314:719-20. (8 March.)

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Improved training may have more to do with money than with new shifts

EDITOR—Elisabeth Paice and colleagues seem to link the progress made in senior house officer training in certain specialties to the introduction of partial shift working.¹ However, in the same issue Pamela J Baldwin and colleagues report the unpopularity of shifts among senior house officers and their detrimental effects on continuity of patient care and training.² Clearly there is a lack of consensus: are shifts under the new deal good or bad for your training?

My colleague and I studied psychological morbidity in 60 medical house officers in two teaching hospitals in the same city over a year³ using a 30 item version of the general health questionnaire⁴ and a well validated job satisfaction scale.⁵ The house officers were also invited to complete Likert scales rating their satisfaction with their work rota, the impact of their rota on free time, and implications of their rota for continuity of care. These items were grouped together as a rota satisfaction scale. In addition, the house officers were asked to estimate the number of hours they worked in an average week and to complete a Likert scale rating the quality of their training.

Complete responses were obtained from 59 house officers, with telephone reminders being necessary in some cases. When the data were analysed by working pattern, shift systems had clearly resulted in reduced hours of work when compared with a one in six on call rota. The mean (SD) hours of work were: 68.7 (6.9) on call, 65.0 (5.7) on partial shifts, and 59.8 (6.0) on full shifts. However, shift systems seemed to have adverse effects on psychological wellbeing, job satisfaction, and quality of training as well as being unpopular (table).

It may not be possible to generalise these results across specialties, grades, or hospitals. Factors other than working patterns are also important—for example, the extent of non-medical duties¹ and support from senior staff.²

Nevertheless, it is surprising that such an important development in the working practices of junior medical staff has been subject to so little formal evaluation. The improvement in training reported by Paice and colleagues probably has more to do

with the injection of £870 000 than it does with shifts under the new deal.

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1 Paice E, West G, Cooper R, Orton V, Scotland A. Senior house officer training: is it getting better? A questionnaire survey. *BMJ* 1997;314:719-20. (8 March.)
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Impact of existing peer review visits needs to be increased

EDITOR—Elisabeth Paice and colleagues show improved satisfaction for senior house officer posts between 1992-3 and 1994-5, but they do not comment on their reported increase in the number of doctors discussing their progress with consultants (appraisal).¹ The senior house officer educational audit project² was started in 1993 and collects information every six months in standardised anonymous questionnaires; by 1996 it provided results from 62 posts (94% response rate) in nine different specialties. When results from the six months up to 30 April 1994 were compared with those from the six months up to 30 April 1996 the proportion of senior house officers reporting that they had appraisals increased from 25% (5/20) to 63% (10/16) ($\chi^2 = 5.14$, $P = 0.02$, $df = 1$, difference in proportions = 38% (95% confidence interval 7% to 68%)). The proportion reporting use of personalised educational targets increased from 25% (5/20) to 69% (11/16) ($\chi^2 = 6.89$, $df = 1$, $P < 0.01$, difference in proportions = 44% (14% to 73%)).

Susan Williams and colleagues also comment on the psychological distress experienced by senior house officers,³ and results from the senior house officer educational audit project have not yet shown a significant improvement in access to support for stress (4/20 in 1993, 6/16 in 1994, $\chi^2 = 0.62$, $df = 1$, $P = 0.43$, difference in proportions = 18% (12% to 47%)).

In their editorial Evan Harris and Paula Ferreira ask for annual inspections of senior house officer posts, with the withdrawal of funding from unsuitable posts.⁴ We believe that the impact of existing peer review visits needs to be increased by publicising, well in advance, the date of the visit, the standards

Median (range) scores among house officers for different working patterns*

Measure	On call (n=24)	Partial shift (n=18)	Full shift (n=17)	P value†
General health questionnaire (30 items)	1 (0-9)	3.5 (0-17)	4 (0-20)	<0.05
Job satisfaction scale	72.5 (48-91)	59.5 (41-81)	59 (36-83)	<0.01
Rota satisfaction scale	12 (9-15)	6.5 (3-11)	4 (3-10)	<0.001
Quality of training	4.5 (2-6)	2 (1-5)	2 (1-5)	<0.001

*Higher scores indicate a more favourable outcome except in general health questionnaire, when higher scores indicate greater psychological distress.

†Kruskal-Wallis analysis of variance. Subsequent analysis of individual differences using the Mann-Whitney U test showed no significant differences between full shifts and partial shifts, but significant differences were found between both types of shift system and on call rotas.

expected, the arrangements for involving local educationalists (clinical tutors, course organisers), and the distribution list for any recommendations made. An independent educationalist should be in attendance during the visits and should make an individual report set against existing educational standards. Assessment of posts needs to be objective and should be seen as such. Subsequent grading of each post as accepted or recommended could be used as an additional incentive for hospitals to improve training, alongside the more draconian measure of withdrawal of funding.

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When midwives perform obstetric tasks at night, trainees can spend more supervised time in clinics

EDITOR—Both the survey by Susan Williams and colleagues and the survey by Pamela J Baldwin and colleagues highlighted the need for close support and feedback by senior doctors in order to build the confidence and improve the training of senior house officers.^{1,2} To achieve these goals and ensure appropriate training it is important to recognise the different requirements of career and vocational trainees within a specialty.

Most hospitals have accommodated decreased hours by giving junior doctors a day off after a night on call. However, this means that they are likely to miss outpatient clinics or other daytime commitments which represent good training opportunities. Whereas this tradeoff may be acceptable for middle grade staff who need the exposure to on call work, it is probably inappropriate for trainees in general practice.

We reduced the hours worked by trainees in general practice by sending them home after 10 00 pm, rather than by giving them the following day off (during prime training time). This not only improves training but also ensures that staff of at least middle grade review obstetric and gynaecological patients at all times. This is in line with the current expectations of patients and risk management teams.

To facilitate this change we have diverted much work that is traditionally out of hours (early pregnancy assessment, registrar review, and antenatal assessment) to daily clinics, which also provide supervised train-

ing opportunities. In addition, we audited bleep calls received by senior house officers at night and found that most were for an assistant at a caesarean section. Therefore, we trained midwives in how to assist. Midwifery training in suturing, cardiotocographic interpretation, venesection, and intravenous cannulation was already in place in our unit.

We have now been running the system for more than a year and are pleased to report it is a success. Midwives now undertake all the tasks of obstetric senior house officers at night, with only urgent gynaecological admissions producing extra work for the registrar. This type of admission is rare with our system of daily clinics. An anonymous questionnaire has confirmed that the senior house officers think that their training is better, and the middle grade doctors do not have a significantly higher workload.

We would recommend this system to other similar units, with the one caveat that the number of midwives may need to be increased when the extra pair of hands provided by a senior house officer is removed from the labour ward at night.

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Blood donation, body iron stores, and risk of myocardial infarction

Confidence intervals and possible selection bias call study results into question

EDITOR—The importance of stating the 95% confidence interval when reporting results has been shown in a recent paper by Tomi-Pekka Tuomainen and colleagues.¹ In their paper blood donation reduced the risk of myocardial infarction anywhere between 3% and 98%. An estimate with such imprecision seems to be of little use. Moreover, although the association was only marginally significant to begin with ($P = 0.047$), the authors commented that further adjustments attenuated the association marginally. The confidence interval cannot become considerably wider with further adjustments; even a marginal change at the lower limit of the confidence interval can cause a change in the sign, rendering the association non-significant.

The authors urged that new studies be carried out to confirm their findings. However, although the results of several previous studies were unable to corroborate the hypothesis that raised iron concentrations increase the risk of coronary heart dis-

ease,²⁻⁵ none of these diverging results was cited in the paper.

Blood donors are not compensated in Finland; they donate blood for altruistic reasons, and evidently such people may also have a great interest in their own health. Thus there was probably substantial selection bias which cannot be adjusted for, especially when only one death was observed among the blood donors. In Finland the study was cited in various news media as firm evidence that blood donation reduces the risk of myocardial infarction. The prestige of the *BMJ* was used as confirmation of the validity of the study; this seemed ethically questionable to us.

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Authors' reply

EDITOR—We welcome the comments of Harri Hemilä and Mikko Paunio. We have been among the first advocates of the use of confidence intervals when estimates of relative risk are presented in epidemiological studies.¹ Confidence intervals are especially necessary when they are wide—that is, when the sampling variation is large. In our study this was due to the small number of subjects who had donated blood (153 out of 2682).²

We do not consider P values as important as the strength of the association. In our study, blood donors had as much as an 86% reduction in the risk of acute myocardial infarction after adjustment for risk factors when compared with non-donors. This point estimate did not change much, whichever risk factors we adjusted for. The range of risk factors measured in the Kuopio ischaemic heart disease study is extensive, as shown by our previous publications on the same cohort.^{3,4}

Several studies have concluded that there is no association between iron status and the risk of coronary disease events.⁵ All of these negative studies, however, have unreliable measurements of iron status (such as serum iron concentration, transferrin iron saturation) or other design problems, as detailed elsewhere.⁵ Comparing the number of positive and negative studies, or the number of subjects in these, seems quite a primitive method from which to derive an overall conclusion. Another reason for not referring to studies using iron status measurements was the lack of space in our short report. A review has been presented earlier.⁵

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The RCGPs' questionnaire for measuring SHOs' satisfaction with hospital training

Sir,

We are pleased to see the evaluation by Hand *et al* of the RCGP questionnaire on senior house officer (SHO) training (*July Journal*),¹ and have watched its evolution with interest. Although the study looked only at Anglia, the questionnaire, or its precursor, has been seen in use nationally at other Royal College visits.

Reports emphasize the importance of regular feedback from the SHOs about their training,^{2,3} and Hand questions the feasibility of doing this with previous questionnaires. However, we have obtained regular six-monthly feedback using the local 'SHO Educational Audit Project' (SEAP) questionnaire since 1994 on all posts in South East Scotland.⁴ By obtaining a series of questionnaires from different SHOs about each post, a picture of each post has emerged that is independent of the enthusiasm of the SHO. It has enabled us to identify problem posts, bring in help to improve these posts, give anonymous feedback on each post as an incentive for improvement, and provide follow-up to ensure that the post has improved. We have noticed the Portsmouth formative assessment rate (appraisals) rise from 25%, similar to that reported by Hand, to over 63% over the period 1994 to 1996.⁵

The SEAP questionnaire has been validated against interview data and educationalist opinion, but the reliability coefficients are similar to those obtained by Hand. These reliability coefficients are the lower end of desirable and, for the RCGP questionnaire, are very low in two areas.¹ Hand also reports that the response rate of the RCGP questionnaire was 58.8% overall, and stated it was similar to other studies.¹ At Portsmouth, our

response rate to the SEAP questionnaire has been consistently above 95% since 1994. We use a covering letter, provide a stamped addressed envelope, give reminders at meetings, and follow-up all non-responders by letter or telephone. To administer a national questionnaire would require time spent in building up enthusiastic local units to ensure an equally good response rate.

We support the concept of a national questionnaire and feel that the RCGP questionnaire could be the basis for this after revisiting the reliability data and question format. What is also required is a system of organization and administration in order to apply one questionnaire nationally, six-monthly to all specialties and on behalf of all colleges, using enthusiastic local units and well-funded data handling facilities.

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Developing, validating and consolidating the doctor-patient relationship

Sir,

Gore and Ogden's paper (*July Journal*)¹ concerns an important area that has seen little research. It is also an example of the increasing recognition of the value of qualitative approaches in general practice research.² Unfortunately, this paper appears to suffer from a number of serious shortcomings that have important implications for the credibility of its findings and, more generally, for the credibility and usefulness of qualitative research reported in medical journals. We identify three issues that require further debate.

First, any paper, qualitative or not, should identify its context in terms of existing literature: this enables an assessment of the originality of the work and allows the authors to explain how their work contributes to theory-building and development. Gore and Ogden's claim that 'no research has examined the patients' views of the doctor-patient relationship' suggests that their literature review was less than exhaustive: Tuckett *et al*'s classic text³ is just one of the examples of work in this area that they could have discussed in more detail.

Secondly, the overall quality of the study can be questioned. While no consensus has yet emerged on how to assess quality of qualitative research, criterion-based 'checklists' exist that can inform the process of evaluation (for example, such as that developed by Boulton *et al*).⁴ We suggest that the Ogden and Gore study is significantly flawed in relation to the sample chosen, methods of data collection and analysis, and quality of reporting and presentation. It is unclear why, if the aim is to examine patients' views of the process of establishing a relationship with their GP, only frequent attenders were interviewed. The method of sampling, and justification for its use, is not discussed in detail. Similarly, the process of data collection and analysis are inadequately described. We are given no conceptual framework for the data analysis, only a reference to a standard text on 'how to do it'.⁵ This textbook offers a range of data analysis techniques; the authors do not specify which one they chose. This is equivalent to a quantitative paper failing to report which

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ImpAct bottom line

Services that are outward-looking and which care about how others perceive them are more likely to succeed. Influence is born of good relationships, not internal structures and systems.

EQUIPPING JUNIOR DOCTORS FOR A CAREER IN PRIMARY CARE

Finding ways to improve the quality of senior house officer posts around Portsmouth

Why was the initiative launched?

The last five years have seen the introduction of better educational structures for house officer and registrar grades but there have been no equivalent developments for the senior house officer grade. At this level the service commitment starts to overshadow the educational component of training posts. The publication in 1999 by the GMC of The Early Years was an attempt to describe what should be done. The real challenge is in making change happen.

The need for change was particular evident in general practice training. But the problems are often anecdotal and attempts to introduce change have been hampered by lack of information about each specific senior house officer post. The aim of this project was to improve the training by developing a mechanism for securing the views of SHOs on existing training posts.

What was done?

The work was based in two district general hospitals in Portsmouth. The first step involved the appointment of a course organiser in 1993 responsible for senior house officers training in general practice. Time (one session per week) was set aside specifically to enhance the general practice contact with, and improve the educational content of, senior house officer posts on general practice vocational training schemes. The work was overseen by the associate director and director of general practice education and the dean of postgraduate education.

From the beginning it was clear that a mechanism was required to assemble information about the posts and views on the quality of training provided. Comparisons over time and between posts would be essential. Current routine systems could not provide the information required so a questionnaire was designed which could be used six-monthly i.e., at the end of each posting. The design was based on experiences reported by others and the local design was piloted and assessed for validity and reliability.

Following the successful pilot, the questionnaire has been applied in the same format since 1994: it continues to be applied every six months. Data is assembled by Joan Dunleavy of the Wessex Research Network and reviewed by Mark Mullee of the Department of Computing and Statistics at Southampton University. Second mailings and telephone reminders achieve response rates of 95 to 100% where appropriate. Anonymised data is fed back in a variety of ways, by tables, bar charts etc. Data from the questionnaire is used alongside information collected from statements from senior house officers, consultants, course organisers, and clinical tutors and data available from other sources such as attendance register. So far 64 SHOs have taken part in the work as they rotated through sixteen different posts on the GP vocational training scheme.

Problems suspected in posts have been confirmed such as low rates of induction, appraisal systems and contact with general practice. New problems that emerged were difficulty in obtaining study leave, low rates of consultation before contract changes, lack of clarity about routes for complaints, and lack of awareness about stress support. The system now in place allows information about the training posts to be provided on a regular basis to the course organisers and consultants involved. Care has been taken to ensure that the reports cover positive messages, where posts were doing well, as well as evidence of the need for change.

SHO Questionnaire

Structure

- 29 questions – yes/no and category 1-5 replies
- Two sheets of A4 - completion time c. 5 minutes

Content

- Contractual status
- Working conditions
- Educational content
- Opinion on overall post
- Demographic details

Based on SHO Educational Audit Project (SEAP) questionnaire

Selected responses (1994-1998)

	1994	1996	1998
Number	21	26	22
Induction arrangements	48	27	72
Personal educational targets	24	65	45
Met GP trainer six monthly	52	46	95
Named educational supervisor	86	73	91
First appraisal	23	58	59

Has it made a difference?

Some examples of the changes, which have followed the introduction of the system, are:

- Introduction of GP orientated teaching sessions for all SHOs on a training rotation.
- Regular contact by almost all (95%) of SHOs with their GP trainers.
- Reintroduction of teaching sessions to a post where this had been discontinued.
- An increase in appraisal (from 25% to 59%) of SHOs after consultants appraisal training.
- An increase in attendance at teaching sessions from 41% to 65%.

Since the completion of the development work, the questionnaire has been taken up by Southeast Scotland Region under Dr William Patterson as Director of Education and in other centres in the South and West. There has also been an increase in the number of course organisers being given specific responsibility for senior house officers training in general practice (scheme organisers) locally.

Tips for success

- ✓ Leadership is important, and the appointment of one person to manage SHO training will increase the chance of success.
- ✓ Build systems to provide reliable information about the nature and scale of problems.
- ✓ Comparisons over time will be essential, so that the effect of interventions can be assessed and followed up.
- ✓ Make sure that your 'communications' are effective so that those who need to know do know about problems in training.
- ✓ Help people to change by providing opportunities for discussion and where necessary further information about the justification for change.
- ✓ Explicit statements of expected standards are needed to maintain momentum for change.

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An information pack is available; including leaflets on the *New Deal* and *Education Agreement* for Wessex, a job description, questionnaire, study leave guidance, appraisal guidance, and an induction pack for SHOs. The pack includes also other recommended reading.

ImpAct bottom line

⇒ Make sure that you know what needs to change before making detailed plans. Don't rely on anecdotes. Make sensible use of questionnaires.

ImpAct

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ImpAct is about 'good practice' - and about implementing change and action to get there! We want to help people in the NHS to make a difference, and to identify and report on:

- ◆ Ways of improving performance which have been successful and which are transferable.
- ◆ People who have led successful local initiatives and who are keen for others to learn from their experience.
- ◆ Material developed locally that could be adapted for use elsewhere and thus cut local development time.

Let *ImpAct* know if you have done something that made a difference and want to tell others how you did it.

- Local directories of cancer and palliative care services should be compiled and disseminated
- Primary care teams should have 24 hour access to specialist advice and to admission to a specialist palliative care unit
- There should be access to 24 hour community nursing care
- Palliative care should be a core element of staff training in residential and nursing homes.

Primary care teams have essential parts to play when a patient has cancer. The Calman-Hine report noted that "the primary care team is a central and continuing element in cancer care, for both the patient and his or her family, from primary prevention, pre-symptomatic screening, initial diagnosis, through to care and follow-up or, in some cases, death and bereavement."² Excessive emphasis on early detection may undermine the development of the other elements of high quality care.

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Reviving academic medicine in Britain

Research and education must be given equal weight

EDITOR—The discussion on the malaise affecting academic medicine is welcome and timely, but I am disappointed by the emphasis of the articles.¹⁻³ Although Catto and Tomlinson both refer to teaching, the evident focus, as highlighted in the editorial,¹ is on research. I accept the need for a sound training in research, but I am concerned by the implication that if an academic has a sound clinical and research training then teaching will follow naturally.

Teaching is a fundamental part of being a doctor,⁵ but, as with the other skills that are needed, it must be learnt. At the most basic level, anyone who is going to teach medical students must understand the basic concepts of setting objectives for the session and preparing a teaching plan. The medical education is, however, more than an agglomeration of individual teaching episodes. Curriculum planning, assessment of students, and programme evaluation are all professional activities with their own well developed scholarship. Many of my colleagues, who are excellent scientists within their own field, accept the status quo in medical education without question rather than examining the evidence for their presuppositions.

There is a need for medical academics whose main contribution to scholarship is in the field of education rather than research. Medical educators will take time to review what the educational process is trying to achieve. They will, in cooperation with non-

medically qualified educators and experts from other cognate disciplines, evaluate developments in education from a broad field of study and will adapt and apply them to medicine. They will help to disseminate good educational practice among their clinical and academic colleagues. Obviously, they will have to be aware of developments in the field of clinical medicine, and their teaching will be informed by research. Equally, researchers will have to learn from educators how best to pass on the insights they have acquired.

If medical academia is to flourish research and education must be given equal weight. Individuals may choose to specialise in one or the other, but the medical school must encourage both and make it easy for them to interact. Consideration must be given to developing appropriate training and career paths for the educators as well as for the researchers with equal opportunities for promotion being open to both.

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More honorary chairs are needed

EDITOR—I agree with much of what has been published about the sickness affecting academic medicine in Britain, in particular the need to change the narrow research assessment exercise.¹⁻⁴ The definitions of academic medicine and clinician-researcher should be broadened, with the aim of systematically harnessing the academic talents of teaching hospital consultants.

Doctors often choose a post as a teaching hospital consultant instead of a university position, believing that it will allow them to remain involved in research while providing the possibility of an income outside the NHS. However, the pressures on time have detrimental effects on research. The amount of clinical and managerial work carried out by teaching hospital consultants has increased, and their clinical activity is usually comparable to that carried out by consultants at district general hospitals. The apparent advantage of having junior doctors is not the perk it was once perceived to be, since Calman trainees require much more hands-on teaching than in the past. In addition, the system of discretionary points seems to give more weight to involvement in management within a hospital trust than to research and other academic activities, such as teaching and writing books, book chapters, and review articles.

All consultants should relish the thought of teaching undergraduates, but this role should not be taken for granted by the universities. Teaching hospital consultants

should be encouraged by the universities to take a more active part in research, collaborating with non-clinical and clinical colleagues employed by the university in integrated research programmes rather than working in isolation. Selected consultants who can demonstrate appropriate research training should be given time to apply a professional approach to research by limiting the number of their clinical sessions. This shortfall in clinical work would then need to be provided by other staff. People work better with incentives, and the universities should draw up and publicise standardised objective criteria by which teaching hospital consultants could be assessed for higher honorary academic status. Income from research grants and journal impact factors are important criteria by which to assess academics employed by universities, but there should be a broader remit when assessing the academic contribution of NHS colleagues.

The establishment of more honorary chairs, which would allow more flexibility for universities with the research assessment exercise, would be one way of providing an incentive for teaching hospital consultants to continue participating in strategic research programmes rather than "dabbling in clinical research." This already happens to an extent in the United States, with clinical professors and basic science professors working alongside each other.

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Improving education for senior house officers

EDITOR—Paice has shown an improvement in specialist registrar training after the Calman reforms, and Catto asks what are we doing to help senior house officers.^{1,2} At Portsmouth, since 1994, we have studied the problems faced by senior house officers during their training.^{3,4}

We have standardised, six monthly, questionnaire data that compare posts with each other and examine changes in posts over time. With these data and structured interviews with and feedback from senior house officers, consultants, and educationalists we have looked both at interventions to improve senior house officers' education and at blocks to improvements.

The main issues we identified include a need for consistency and clarity over what is required for senior house officer training and also a need for local feedback to demonstrate that improvements have occurred. *The Early Years* goes some way to address the issue of what is required, but it

has not reached the daily working interface of senior house officers and consultants.¹ The Calman reforms achieved uniformity and consistency of aims and were associated with increased monitoring of their implementation.

We believe that this is one reason why they have been successful. Questionnaire surveys demonstrate the problems, but the issue faced by consultants is how to introduce educational improvements within limited resources.

We conclude that there are four steps to introducing educational initiatives. The first, and most often missed, is the coordination and organisation of meetings such as appraisals, inductions, or periods of ward based teaching. The second is to ensure regular input from senior experienced staff for the meetings. The third is to address the quality of that input. The fourth step is to have a system of internal monitoring within the post that checks the first three steps are in place.

Specific tasking for each of these stages and explicit setting aside of time has achieved change at Portsmouth with limited additional resources in time or funding. A department that has organised, regular, high quality, educational initiatives, which it audits internally, does well, and this has been associated with increased the satisfaction of its senior house officers.

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Preventive home visits to elderly people in the community

Visits are most useful for people aged ≥ 75

EDITOR—The systematic review by van Haastregt et al of trials of preventive home visits for people aged 65 or over reported that "no clear evidence was found in favour" of such visits.¹ Some of the trials reviewed showed favourable effects in some of the five main outcome measures (physical functioning, psychosocial functioning, falls, admissions to institutions, and mortality), but most found no effect. However, the review shows that favourable outcomes were more prevalent in studies conducted in older subjects (≥ 75), although it does not comment on this. The table is constructed from the analysis they report.

Outcomes of physical functioning are the exception, with only one of the five

favourable studies being in people aged 75 and over. This is not unexpected. It may be easier to improve physical functioning in the group aged 65 or over generally than in the group aged 75 or over specifically.

General practitioners in Australia have recently been funded for "75+ health assessments." We have just concluded a randomised controlled trial of these assessments. A nurse visited 100 elderly people who were living in the community on two occasions, one year apart (50 control, 50 intervention). No interval assessment nor reminder was included in the protocol.² Initial analysis found:

- Fewer people reported falls in the intervention group in the study year (12 v 22, $P = 0.055$)
- Fewer people died in the intervention group (1 v 5, $P = 0.2$)
- Physical functioning did not change (measured using Barthel index of activities of daily living)
- Psychosocial functioning improved (geriatric depression scale 15, Wilcoxon scores (rank sums) $P = 0.09$).

Our study is consistent with the other published trials, showing modest improvement in the measured outcomes in the group aged 75 or over.

Van Haastregt et al call for either improved effectiveness of preventive home visits or their discontinuation. Their data, and our initial results, indicate that annual preventive home visits are most useful in the group aged 75 or over. An editorial in the *BMJ* 12 years ago also made the point that 65 year olds are too young to receive preventive home visits.³ Evaluation of the Australian 75+ health assessments will establish whether they have a beneficial effect on outcome.

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1 Van Haastregt JCM, Diederiks JPM, van Rossum E, de Witte LP, Crebolder HFJM. Effects of preventive home visits to elderly people living in the community: systematic review. *BMJ* 2000;320:754-8. (18 March.)

2 Newbury J, Marley J. Functional assessment of the elderly. Electronic response to improving the health behaviours of elderly people. *bmj.com* 1999;319 (www.bmj.com/cgi/content/abstract/319/7211/683#ELI; accessed 12 Aug 2000).

3 Buckley EG, Williamson J. What sort of "health checks" for older people? *BMJ* 1988;296:1145.

Studies reviewed have methodical flaws

EDITOR—Van Haastregt et al rightly point out that a formal pooling of the results of the randomised controlled trials on preventive home visits was not appropriate given the "considerable heterogeneity of the interventions."¹ However, the information they provide is uninformative: they present the results for selected outcomes only in terms of being "significant" or "non-significant," with no information on the estimates of effect or the confidence intervals. This information is essential for understanding the magnitude of possible benefits and the precision of estimates of benefit. Lack of power

is one of the major limitations of most of the studies reviewed, especially for mortality outcomes.

Their review also misses some other important methodological problems.² The studies in general practice used within-practice individual randomisation, and this may have resulted in contamination of the control group. Most European trials suffered from "black box" interventions. The American trials had low rates of participation, and the proportion of fit elderly people with a high income was overrepresented. In none of the trials was there adequate information regarding the cost effectiveness of multidimensional assessment.

We agree with van Haastregt et al's conclusions that there is limited evidence that multidimensional assessment is beneficial for older people. These concerns are more than "academic," as regular health checks for people over 75 were introduced by the UK Department of Health in 1990 as a contractual obligation of general practitioners. Not surprisingly, most general practitioners view the policy unfavourably, whereas nurses and elderly people are enthusiastic about the health checks and consider them to be valuable.³⁻⁵

The situation is unsatisfactory, but abandoning the health checks is not a sensible option at present. In the United Kingdom there are some models of good practice and ongoing research. A large trial is in progress, which will provide important data on the cost effectiveness of different methods of assessment and management of elderly people in the context of the 1990 contract of service. The trial, funded by the Medical Research Council and Department of Health, has been designed to have adequate power to detect benefits in mortality, hospital admissions, and quality of life. Some 106 general practices and 33 000 elderly people from the Medical Research Council's GP research framework are participating, with results expected in 2001.

There are strong arguments for regular assessment of elderly people on the basis of their special needs. The policy in the United Kingdom was introduced prematurely in the absence of evidence of benefit. It would be equally premature to withdraw the policy on the basis of the results of the small, low powered studies, with a mixed and uncertain bag of interventions, described in this review.

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On behalf of the MRC trial of assessment and management of elderly people in the community

1 Van Haastregt JCM, Diederiks JPM, van Rossum E, de Witte LP, Crebolder HFJM. Effects of preventive home visits to elderly people living in the community: systematic review. *BMJ* 2000;320:754-8. (18 March.)

2 Fletcher AE. Multidimensional assessment of elderly people. *Br Med Bull* 1998;54:945-60.

tic white cruise-liner. Each night we dined in historic splendour, first in the Royal Marines Museum and subsequently aboard the steam and sail warship HMS *Warrior*. Excellent fare was washed down with a good ration of liquor, rounded off by polished local speakers (Nick Panton's erudite and witty contributions being an integral part of ACO dinners) and followed by rousing choruses of sea shanties.

Our use of time was facilitated by David Raw, who had spent happy hours researching the location for us and organized the course almost single-handedly. He calmly took us through the conference in his admirably relaxed style, nonchalantly waving his arms to indicate the proposed plan of action in a way that both asked the group permission and accepted our acquiescence. It was a conference which kept that delicate balance between the freedom and autonomy of group work and the shared learning of debates and lecturettes. One that addressed many unanswered, and perhaps unanswerable questions about good teaching and how to justify good teaching.

The atmosphere was relaxed, open and flexible, very much in the manner of our honoured chairman Shake Seigel, who cycled around the campus and the shores of Southsea with waistcoat gently flapping. Shake steadily guided us through the Annual General Meeting with a superb demonstration of large group skills, using a circle of chairs that squeezed even the skirting board to its limits. The issues we faced included professionalization of course organizers by means of approved courses, the interactive ACO website (www.aco.org.uk), and the planned increase in the GP component of vocational training. All this was supported by the use of four apples to illustrate the objectives of ACO as an organization. Each apple was carefully matched to the colour of the cover for the green journal *Education for General Practice*! (In previous years Shake had used balloons or tennis balls, so there's a challenge for next year!)

If the AGM was the core of the conference and the setting was the tasty skin, the

succulent flesh of the apple was the variety of large group discussions, lectures and small group topics. These moved from nationwide issues such as 'curriculum by force or by choice' to the emotions of single patients as discussed in the Balint group. This was rounded off by an unconventional and entertaining talk by Darren Baines, which convinced us of the certainty of the uncertain future for GPs and pharmaceuticals. As always the groups were ably facilitated by an enthusiastic team of veteran ACO attendees, with, this year, the addition of a 'new course organizers' group that seemed to tackle equally thorny problems as those of any of the veterans.

To round off this apple dish we considered and choreographed the tree of learning in which we had all played a part – a tree which had thrived at ACO in Portsmouth and temporarily stopped growing as the conference ended, before seeding again in places as far afield as Scotland, Suffolk and Devon. A tree which, diaries out please, will regrow at Cumberland Lodge, Windsor Great Park next year 23–25 May. We look forward to seeing you there.

Mark Rickenbach

Course Organizer, Portsmouth

* * * * *

The hospital component of vocational training

At Portsmouth the first course organizer to be responsible, purely, for the hospital component of vocational training was appointed in 1993. Similar posts had started elsewhere in the Wessex Deanery in the early 1990s and they represented a sea change in attitude towards vocational training. Until then most of the course organizer's efforts had been directed at the GP registrar year. GPs were involved at the initial interview and for an introductory attachment to general practice, but the SHOs then lost contact with general practice for two years while

they became consumed by the demands of hospital-oriented service commitment. A combination of lack of resources, deference to hospital colleagues and the way schemes evolved had led to this anomaly. In contrast, the responsibility for producing a good standard of GP at the end of the scheme lay with the GP educationalists who were the potential continuous thread of support over the whole three years in vocational training. It was therefore appropriate that they should be more closely involved in supervision of hospital-based vocational training.

To improve education in hospital posts at Portsmouth, interventions have been applied since 1993. At the same time a system of monitoring the effect of these interventions was put in place. Decisions on the standard of each hospital post had previously been made on the basis of anecdotal evidence and this was dependent on the attitude of the SHO in post at the time. Any criticisms made by SHOs were also attributable, which could affect relationships within the post and future references. The system of monitoring included questionnaires, SHO group discussion, and structured interviews with SHOs. The questionnaire was, and remains, the core of the system, since it enables comparison between posts and within posts over time. Named the SHO Educational Audit Project questionnaire (SEAP) it was piloted in 1993 and evolved through two stages to a standard format that is applied at the end of each hospital post. It has been assessed for validity and reliability and has also been applied in posts in South East Scotland, Southampton and Dorset. The questionnaire will shortly be available to all schemes in Wessex, with optical reading and data comparing different vocational training schemes. It has empowered course organizers in their discussions with hospital consultants about how they can work together to improve training. In the UK there are several other questionnaires available for this purpose, including the RCGP visitors' questionnaire. The SEAP questionnaire is,

however, unusual as it accumulated comparable data on consecutive SHO posts over six years.

Each intervention in the educational process has been part of a 'Plan Do Study Act' cycle, where the effect of the intervention has been assessed for several years after it took place. This has demonstrated that some interventions are effective, several are ineffective and, crucially, that some are judged to have been effective by visiting organizations, when in reality they had no impact. Interventions were planned to either increase the amount of contact with general practice or develop the educational content of the SHO post itself. Most interventions were aimed at the process of education and getting the educational supervisor or GP trainer to increase contact with the SHO.

One intervention to improve contact with general practice was the introduction in 1994 of monthly meetings for all SHOs, led by GPs and focusing on general practice. Particular topics included the management of chronic care and teaching about specialties that the SHO had less contact with, such as ENT, ophthalmology, dermatology, and palliative care. The emphasis was on case-based discussion and management in the setting and resources of general practice. Another core area covered in these meetings was personal support for the SHO, including discussion of learning aims in each hospital post and advice on making the most of the educational opportunities in the hospital setting. Release of the SHO to attend these sessions was an educational intervention in itself, with advertising, regular mailing and feedback on attendance to the SHO and consultants.

To increase contact with general practice a six-monthly session with the GP trainer was encouraged. Initially contact was shown to be informal and covered fewer than half of SHOs. A mailing with a statement of time, place and purpose of meeting in 1996 resulted in all SHOs meeting their trainer, observing a surgery, participating in seeing patients and have a seminar to discuss their personal learning objectives for their hospital post.

In 1998 the study leave budget for the hospital-based SHO training was taken over by the department of general practice. Increased use of study leave to attend GP-related courses was encouraged. A model was put forward for a week-long attachment to the GP trainers' own practice each year, funded from the under-utilized study leave budget. Previously fewer than half of study leave allowances had been used and funding had moved to other purposes by default.

To enhance the educational content of the hospital SHO posts, appraisal was encouraged by a combination of training courses for the consultants/educational supervisors and discussion about the content of appraisal at meetings with SHOs. The proportion of SHOs receiving appraisal rose from 25% to 65% over a two-year period.

Posts were identified from the SEAP questionnaire in which standards of teaching and the quality of teaching was low. Interventions included interviews with consultants, feedback and departmental meetings. Protected time for teaching was set aside, with improvements in other areas, such as induction. However, it is of note that some improvements were temporary and that external assessment sometimes concluded there were improvements, when closer monitoring suggested that there were not.

To reduce unintended bias between GP SHOs and other 'Career SHOs' (implying general practice was not a career), the vocational training start dates were brought into line with all other SHO posts. It was hoped that there would also be an increase in the amount of induction for SHOs, but subsequent analysis showed this did not take place.

Interventions being applied in 2000 include the use of educational agreements between the educational supervisor and SHO to clarify the education provided in each SHO post. Some consultants were not aware of what was expected in the way of education within the SHO posts and others

were hard pressed and felt unsupported in their role. It is hoped that educational supervisors can be supported in the same way as GP trainers. This will include mailing of information, provision of a forum to meet and, we hope, a sense of shared identity and purpose.

Each hospital post is a separate unit with little continuity between them. Problems faced by SHOs have previously only come to light in the final GP registrar year. For this reason the SHO 'nine-point scale', designed by Julian Page at Manchester, has been introduced for each post this year. This assesses nine generic skills of a doctor and enables earlier detection of the learning needs of SHOs. It provides a base for the educational supervisor in the next SHO post to work from and is a written justification for signing or not signing the VTR 2 certificate of satisfactory completion of a post.

These initiatives have produced changes within the hospital SHO post, but the content of each post is still relatively fixed, concentrates on one specialty to the exclusion of others, and has a high service commitment. Elective periods at Portsmouth and other vocational training schemes fund SHOs to act in a supernumerary role for a six-month period. They are able to choose a combination of outpatient and ward-based work in those specialities they wish to gain more experience. The electives are rated highly by the SHOs, but they still do not have sufficient contact with general practice. For this reason Portsmouth is now piloting a 'general practice-based elective' period, with the SHO based in their training practice and in weekly contact with their GP trainer while they attend hospital training.

In conclusion, it has now become a policy throughout the Wessex region to have at least one course organizer session in each vocational training scheme devoted purely to hospital-based vocational training. Ideally there are two: one to act as mentor for the SHOs and one to support the educational supervisors. The use of a session and identified course organizer at Portsmouth

has ensured the task of improving hospital vocational training was given protected time and priority.

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* * * * *

A new kind of vocational training SHO post in women's health

The first two years of vocational training for general practice is focused on hospital specialities and has limited scope for the SHO to tailor the content towards their own learning needs. The recent excess of specialist registrars in Obstetric and Gynaecology makes a reduction in the number of Obstetric and Gynaecology SHOs in the UK more likely. Among course organizers, there is particular concern about the standard of training in Obstetric and Gynaecology posts, where the role of the SHO is being lost between the twin onslaught of midwives taking on the care of low- and medium-risk deliveries and specialist registrars taking on all the work of high-risk deliveries.

One solution for SHOs is elective posts. These allow the SHOs to be supernumerary, so that they can choose what they do to fill the gaps in their knowledge and skills. Elective posts have been part of GP rotations in Wessex for the last 10 years and now, at Portsmouth, we have piloted a Women's Health six-month elective period as an alternative to existing Obstetric and Gynaecology SHO posts.

SHOs planning any form of elective post at Portsmouth are provided with advice sheets and a blank timetable. They are asked to start planning their elective between six and nine months in advance. They are advised to discuss the plans with their course organizer, GP trainer and previous SHOs who have done an elective.

Most electives are a combination of different specialities either in blocks of between two and 20 weeks, or as threads running through part or all of the six-month post. Common specialities included are ENT, dermatology, palliative care, and paediatrics. SHOs are encouraged to do a greater proportion of outpatient work during electives as this is most similar to general practice and gives more experience in chronic care. Ward attachments with some on-call are built in as well to provide a closer link with the ward team and acute experience. The pattern of each speciality attachment usually begins with sitting in and observation, followed by patient care under supervision. The best way of learning is by experience and SHOs are encouraged to take on a clinical caseload as soon as they are competent to do so. Time is set aside to meet with the GP trainer and attend a general practice education morning each month. For each speciality the SHO is also expected to identify an educational supervisor who will discuss progress in that speciality.

The Womens' Health post followed the principles of the other Portsmouth electives, but was specifically planned as an alternative to the existing SHO posts in Obstetrics and Gynaecology. The timetable is summarized in Table 1. A few components of the post changed over the six-month period when the SHO (ES) felt she had reached a learning plateau.

The Women's Health post began with a variety of modules, including breast clinics and HIV clinic and these then moved more towards the core components of the post, covering acute gynaecological emergencies, labour ward, gynaecology outpatients, and family planning. During the post the SHO (ES) completed her DFFP, coil training, implant training, minor surgery listing, DRCOG, DCH and a one-week attachment in general practice. As with all electives, SHOs are advised to build in a half day and study day, but almost all feel guilty about this concept. In practice the time between different components of the week provided some free time for study.

Table 1 Timetable of the Women's Health post

Day	Morning	Afternoon	Evening
Monday	Rotation of different gynaecology theatre sessions/alternate week antenatal clinic	Gynaecology outpatients – examples included oncology and vaginal disorders	
Tuesday	HIV clinic (Family Planning in last three months)	Breast clinic (Family Planning clinic for last three months)	Cervical smear clinic
Wednesday	Foetal assessment unit or emergency gynaecology or GP education morning	Genitourinary medicine	
Thursday	Labour ward with alternate weeks gynaecology outpatients	Emergency gynaecology to 10pm (on-call monthly overnight)	
Friday	IUCD training (subsequently emergency gynaecology)	Departmental teaching	

Topic in brackets was the final attachment if the attachment changed.

Comments relating to the Women's Health post were similar to those seen for other electives. 'I have more energy to ask questions now I am not tied into ward rounds or blood testing and no longer feel tired all the time.' 'I have time to think and plan ahead.' 'I am more enthusiastic than the other GP trainees as I have the opportunity, but other SHOs have taken the cue and have been offered more as well.'

In most parts of the elective post the SHO (ES) felt part of the team and participated in the workload. Unfortunately the experience on labour ward was similar to other SHOs, with inappropriate tasks such as blood-taking and IV cannulation being done instead of experiencing deliveries. It was suggested that a person should be employed purely for cannulation and blood-taking.

An experienced or enthusiastic SHO will need less assistance than a first-year SHO to construct a good elective post. The amount of review and discussion of the

planned elective timetable therefore needs to be tailored to the SHO's level of experience, enthusiasm and understanding of learning needs.

The SHO in this Women's Health post stated, 'There is some resentment from other SHOs', but this is overcome if you point out that you 'have done hard jobs too and that they should make the most of the extra pair of hands'. All consultants assisted without remuneration. The benefit was an extra pair of hands to assist at clinics and on the ward.

As with all electives, the SHO was paid the standard rate, without additional duty hours. Some SHOs doing electives supplement their income with paid family planning clinic work or locum work at night or weekends.

The Women's Health post is a step forward in learner-centred SHO training. The next step will be to introduce more time spent in the GP trainers' practice. This will enhance mentor support and will help the SHO identify learning needs whilst in prac-

tice as a GP. It is hoped that this GP-based elective will be the chosen model for future SHO training for general practice.

With regular funding we hope to convert this pilot post into a permanent part of the vocational training scheme. It is intended that the post will retain some flexibility to fit with the learning needs of each new SHO and the changing educational opportunities in the specialities.

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Medical power requires patient freedom

Canter's editorial highlighted the difficulty in promoting patients' power. I see this in a social context and have summarised some of the problems here (a longer version of this letter can be found at bmj.com/cgi/eletters/323/7310/32314).

Medical power is intrinsic to medicine. It cannot be handed over

Medical power is a particular aspect of experts' power

Medical power arises from the process of socialisation, which induces submission to medicine (we are born in hospital, vaccinated, surveyed while children, and screened as adults; medical examinations are requested for employment and insurance for other purposes; and most of us will die in hospitals)

The patient's entourage undergoes the process of socialisation, and patients' relatives are a major source of pressure for medical power to be enforced

The politicisation of medical power moves power from the doctor-patient interface and gives it to higher administrative levels (the government and committees with authorities, the National Institute for Medical Excellence, etc))

Lobbying groups, while requesting more power for patients, result in more power being moved away from the patient to higher administrative levels

It is a fallacy that medical power is handed over to the patient through being strictly enforced, with the role of guidelines and protocols being reinforced and the leeway for personal variance being reduced

The current discussion cannot look outside the Western medical paradigm, and medical advice can only be opposed by even more authoritative medical opinions. Such decisions are handed over from somewhere other than the patient (the problem of applying evidence from populations to particular individuals being bypassed through unquestioning acceptance of the said paradigm).

The constraints on patients' power arise from social conditioning to submit to medicine and from political constraints on the power of doctors of the patient's choice. Medical power cannot be handed down to doctors; it has to be created anew through freedom to choose the doctor one wants to see; freedom of access to second or third opinions (not theoretical access, but practically and socially feasible access); and, above all, freedom to refuse the medical advice of the world and choose alternative diagnoses and practices. When will a sick note be acceptable for sick pay?

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Canter R. Patients and medical power. *BMJ* 2001;323:414.
1. Limits to medicine. London: Marion Boyars, 1995.

Antenatal screening for HIV in National Blood Service

Transfusion centre	Total No of samples	No (%) screened for HIV	No (%) positive for HIV
Birmingham	33 292	18 996 (57)	6 (0.03)
Oxford	9 280	5 420 (58)	8 (0.15)
East Anglia	8 378	6 993 (83.5)	1 (0.01)
Leeds	10 891	4 089 (37.5)	4 (0.09)
Trent	32 884	16 700 (50.8)	8 (0.05)
Total	94 723	52 198 (55)	27 (0.05)

Issue of power is almost irrelevant for doctors practising patient centred medicine

EDITOR—In the communication skills programme at the Imperial College of Science, Technology and Medicine, our first year medical students participate in a session titled "Power and adherence in the doctor-patient relationship." The issues raised by Canter are debated, specifically in relation to the models of power that he described.¹ Among other things, the students usually identify the fact that decisions about medical treatment are rarely made in isolation.

Patients may consult several doctors or other members of the healthcare team, or both, so that a range of views, at least within the context of Western scientific medicine, can be elicited. The patient's decisions are also influenced by his or her world outside the consultation—by social, economic, religious, and cultural factors. The models of power tend to assume that only two parties are involved and do not consider additional influences to decision making.

If doctors are practising patient centred medicine then the issue of power is almost irrelevant. Patient centredness implies that the doctor will actively seek to determine the patient's desire to make decisions about his or her care in the same way that the amount of information that the patient wants about his or her illness should be assessed. A patient centred approach to medical care thus assumes that each patient is wielding the amount of power that he or she would wish to in the doctor-patient relationship.

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1. Canter R. Patients and medical power. *BMJ* 2001;323:414.
(25 August.)

National Blood Service can provide useful data for antenatal detection of HIV

EDITOR—Cliffe et al investigated the value of antenatal screening for HIV and the role it has in reducing perinatal transmission of HIV.¹ The National Blood Service offers antenatal HIV screening linked to its traditional antenatal red cell serology service, and consequently it can provide useful data in a timely fashion on the prevalence of this infection in the antenatal population of England. We have analysed such data for women whose antenatal blood

samples were received in the first eight months of 2001 by the five participating transfusion centres (Birmingham, Oxford, East Anglia, Leeds, and Trent). In total, blood samples were received from 94 723 pregnant women. Of these, 52 198 (55%) consented to have an HIV test, and 27 (0.05%) of them tested positive for HIV (table).

Further data on those infected were available only from the first three centres. Of the 15 HIV positive women detected by those laboratories only one was known to be HIV positive before her pregnancy. The major risk (9/15) associated with positivity was that the woman had moved to England from Africa (six from Zimbabwe). Of three HIV positive white women, one had a partner from Zimbabwe, one an Afro-Caribbean partner born in the United Kingdom, and one a bisexual partner. Three women were Afro-Caribbean born in the United Kingdom. One of these had a partner who had recently come from the Caribbean, the status of the other two partners is not known.

The number of women detected in the first eight months of this year (27) greatly exceeds the six reported for 1999 in the paper by Cliffe et al, and the increased uptake of HIV screening since health service circular HSC 1999/183 should have a notable impact on reducing mother to baby transmission of HIV.²

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On behalf of the antenatal screening laboratories of the National Blood Service.

1. Cliffe S, Tooke PA, Nicoll A. Antenatal detection of HIV: national surveillance and unlinked anonymous survey. *BMJ* 2001;323:376-7. (18 August.)
2. Department of Health. Reducing mother to baby transmission of HIV. London: DoH, 1999. (HSC 1999/183.)

Incentive payments may reduce time for clinical care

EDITOR—Incentive payments for primary care are focused on either outcome or process, and the intervention on smoking studied by Coleman et al is an example of an outcome incentive.¹ Such incentives change behaviour only if the primary care team believes that they can have an appreciable effect on outcome. Interventions on smoking lead to between 5% and 30% of people stopping smoking, but this depends on each patient being at the stage of contemplating

change.^{2 3} An outcome incentive for smoking will therefore favour efforts to record who gives up smoking rather than efforts to encourage people to give up.

Process incentives can be more effective than outcome incentives when the outcome depends largely on factors outside the doctor's control. But they will change clinical behaviour only if the process is close to good clinical practice and is recognised to have benefit—for example, asking about contraception, which is likely to prevent pregnancies. In contrast, measuring peak flow in every asthmatic patient every year will not alter symptoms for more than a few patients with brittle asthma, who would probably be measuring peak flow already. Incentives like this seem to have been chosen because they can be easily verified rather than because they are clinically effective.

Incentives should fulfil the criteria for acceptance of a screening test. To produce change incentive payments should also be made for a specific process that is clearly effective, simple, and easy to record and fits with good clinical practice. Sadly, most of medicine does not come neatly packaged like this. As has been shown in reviews of interventions, there are few "magic bullets."^{4 5} In addition, if a payment is to be a true incentive it should cover the full cost of setting up the process and provide additional funds that can benefit other aspects of primary care.

Coleman et al state, "the path of least resistance to claim ... [incentives is often] ... simple administrative changes rather than changes in clinical behaviour." Attempts to change the behaviour of doctors in general practice have led to a system of mechanistic hoop jumping, which has resulted in an increasing administrative workload and a reduction in the time for clinical care.

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- 1 Coleman T, Wynn AT, Stevenson K, Cheater F. Qualitative study of pilot payment aimed at increasing general practitioners' antismoking advice to smokers. *BMJ* 2001;323:432-5. (25 August.)
- 2 Prochaska J, DiClemente C. *Treating addictive behavior: processes of change*. New York: Plenum, 1986.
- 3 Prochaska JO, Velicer WF, Rossi JS, Goldstein MG, Marcus BH, Rakowski W, et al. Stages of change and decisional balance for 12 problem behaviours. *Health Psychol* 1994;13:39-46.
- 4 Oxman AD, Thomson MA, Davis DA, Haynes RB. No magic bullets: a systematic review of 102 trials of interventions to help health care professionals deliver services more effectively and efficiently. *Can Med Assoc J* 1995;153:1423-31.
- 5 Wensing M, Grol R. Single and combined strategies for implementing change in primary care: a literature review. *Int J Qual Health Care* 1994;6:115-32.

Law of supply and demand applies in NHS

EDITOR—So recognisable was Jeffrey's description of his wife's doctor's surgery that I read his end piece with discomfort, as I had a strong suspicion that his wife was a patient

I was pleased to discover that it was not our service being described, but I was also interested because I had made the same comparisons between my surgery and the local veterinary surgery when my own cat had been unwell. I had found consolation in the argument that, as a public service, the NHS does not have the same laws of supply and demand that the private sector vets have. If a vet's workload rises, I thought, then so does their income. With that they can employ more vets without the approval of the veterinary equivalent of the Medical Practices Committee, and thus maintain a similar level of service no matter what the demand.

My consolation was stolen from me, ironically on the day before I read the end piece, by a friend not employed in health care at all. He pointed out that the law of supply and demand has to work in the NHS, because it is a universal law that has to work everywhere, but I was looking at it from the wrong point of view. I had said the law doesn't work, because I cannot increase the supply just because the demand increases. But in the world of business, if the demand increases and the supply does not, the price rises. This integral part of the supply and demand law is already working in the NHS. Granted, people are not paying money to see me (yet), but the cost, in terms of time spent in the waiting room, quality of public address system, length of consultation, time spent waiting for an appointment, hospital waiting lists etc, has been rising for as long as I can remember.

In the months and years to come, particularly if a majority of general practitioners decide to resign their NHS contracts next April, the public, politicians, and the profession will have to negotiate how this price is to be paid. It will be many years before we are in the position that our veterinary colleagues are in and simply take on new staff. Given that, the price must continue to rise for as long as the demand does. Would Jeffrey be happier with the status quo, or would he prefer that his wife see my receptionist for the bill on the way out?

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- 1 Jeffrey D. Memorable patients: Those who sit and wait. *BMJ* 2001;323:362. (18 August.)

Social exclusion must be considered in global terms

EDITOR—The *BMJ* announced that the issue of 28 July would be dedicated to social exclusion. Given the journal's global readership, this generated many expectations: the underlying causes of patients' ills are not often the subject of commentary in the medical literature. The papers in the issue presented some of the British experience and one study from outside the United Kingdom.¹

The *BMJ* has a tradition of attending to neglected medical topics, including poverty and access to drugs for HIV infection and AIDS. It also gives free access on the internet, thereby ending another sort of exclusion (lack of access to medical information in the settings in which burdens of disease are greatest). Beyond the borders of wealthy industrialised countries a substantial majority of all people are excluded from ready access to modern medical care. If the *BMJ* wants to continue in this internationalising vein (the title of the Editor's choice for the issue of 11 August was "Aspiring to be global"²) the analysis of international health matters should be deeper still, even if this requires more special theme issues.

One way of lessening exclusion is to hear the voices of the millions who are excluded not only from access to care but from access to a forum in which their exclusion is acknowledged. Are those on the receiving end of these lamentable conditions included in the definition of social exclusion or are they, in fact, excluded from the visibly excluded? Does one have to move to an industrialised country to have one's plight acknowledged? What are the boundaries of "our society" as used in the definition of social exclusion?

Exclusion is a concept that is supplanting older terms, from "oppressed" to "underclass." But it has not always been used in a sociologically or historically honest manner. Analysis of social exclusion in this global era will necessarily be transnational—otherwise, the growing outcome gap between the haves and have nots will be seen as a strictly national problem. Doctors know that the diseases we treat, or attempt to prevent, do not recognise such boundaries.

Linking analysis of exclusion to the conviction that access to health care should be a fundamental human right is the most sound means of moving towards inclusion. We would encourage editors to take a critical look at even the concept of social exclusion, which often becomes code for exclusions within an affluent society.

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- 1 Editor's choice. Social exclusion: old problem, new name. *BMJ* 2001;323 (7306). (28 July.)
- 2 Editor's choice. Aspiring to be global. *BMJ* 2001;323 (7308). (11 August.)

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change.^{2,3} An outcome incentive for smoking will therefore favour efforts to record who gives up smoking rather than efforts to encourage people to give up.

Process incentives can be more effective than outcome incentives when the outcome depends largely on factors outside the doctor's control. But they will change clinical behaviour only if the process is close to good clinical practice and is recognised to have benefit—for example, asking about contraception, which is likely to prevent pregnancies. In contrast, measuring peak flow in every asthmatic patient every year will not alter symptoms for more than a few patients with brittle asthma, who would probably be measuring peak flow already. Incentives like this seem to have been chosen because they can be easily verified rather than because they are clinically effective.

Incentives should fulfil the criteria for acceptance of a screening test. To produce change incentive payments should also be made for a specific process that is clearly effective, simple, and easy to record and fits with good clinical practice. Sadly, most of medicine does not come neatly packaged like this. As has been shown in reviews of interventions, there are few "magic bullets."^{4,5} In addition, if a payment is to be a true incentive it should cover the full cost of setting up the process and provide additional funds that can benefit other aspects of primary care.

Coleman et al state, "the path of least resistance to claim ... [incentives is often] ... simple administrative changes rather than changes in clinical behaviour." Attempts to change the behaviour of doctors in general practice have led to a system of mechanistic hoop jumping, which has resulted in an increasing administrative workload and a reduction in the time for clinical care.

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1 Coleman T, Wynn AT, Stevenson K, Cheater F. Qualitative study of pilot payment aimed at increasing general practitioners' antismoking advice to smokers. *BMJ* 2001;323:432-5. (25 August.)

2 Prochaska J, DiClemente C. *Treating addictive behavior: processes of change*. New York: Plenum, 1986.

3 Prochaska JO, Velicer WF, Rossi JS, Goldstein MG, Marcus BH, Rakowski W, et al. Stages of change and decisional balance for 12 problem behaviours. *Health Psychol* 1994;13:39-46.

4 Ozman AD, Thomson MA, Davis DA, Haynes RB. No magic bullets: a systematic review of 102 trials of interventions to help health care professionals deliver services more effectively and efficiently. *Can Med Assoc J* 1995;153:1423-31.

5 Wensing M, Grol R. Single and combined strategies for implementing change in primary care: a literature review. *Int J Qual Health Care* 1994;6:115-32.

I was pleased to discover that it was not our service being described, but I was also interested because I had made the same comparisons between my surgery and the local veterinary surgery when my own cat had been unwell. I had found consolation in the argument that, as a public service, the NHS does not have the same laws of supply and demand that the private sector vets have. If a vet's workload rises, I thought, then so does their income. With that they can employ more vets without the approval of the veterinary equivalent of the Medical Practices Committee, and thus maintain a similar level of service no matter what the demand.

My consolation was stolen from me, ironically on the day before I read the end piece, by a friend not employed in health care at all. He pointed out that the law of supply and demand has to work in the NHS, because it is a universal law that has to work everywhere, but I was looking at it from the wrong point of view. I had said the law doesn't work, because I cannot increase the supply just because the demand increases. But in the world of business, if the demand increases and the supply does not, the price rises. This integral part of the supply and demand law is already working in the NHS. Granted, people are not paying money to see me (yet), but the cost, in terms of time spent in the waiting room, quality of public address system, length of consultation, time spent waiting for an appointment, hospital waiting lists etc, has been rising for as long as I can remember.

In the months and years to come, particularly if a majority of general practitioners decide to resign their NHS contracts next April, the public, politicians, and the profession will have to negotiate how this price is to be paid. It will be many years before we are in the position that our veterinary colleagues are in and simply take on new staff. Given that, the price must continue to rise for as long as the demand does. Would Jeffrey be happier with the status quo, or would he prefer that his wife see my receptionist for the bill on the way out?

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1 Jeffrey D. Memorable patients: Those who sit and wait. *BMJ* 2001;323:362. (18 August.)

Social exclusion must be considered in global terms

EDITOR—The *BMJ* announced that the issue of 28 July would be dedicated to social exclusion. Given the journal's global readership, this generated many expectations: the underlying causes of patients' ills are not often the subject of commentary in the medical literature. The papers in the issue presented some of the British experience and one study from outside the United Kingdom.¹

The *BMJ* has a tradition of attending to neglected medical topics, including poverty and access to drugs for HIV infection and AIDS. It also gives free access on the internet, thereby ending another sort of exclusion (lack of access to medical information in the settings in which burdens of disease are greatest). Beyond the borders of wealthy industrialised countries a substantial majority of all people are excluded from ready access to modern medical care. If the *BMJ* wants to continue in this internationalising vein (the title of the Editor's choice for the issue of 11 August was "Aspiring to be global"²) the analysis of international health matters should be deeper still, even if this requires more special theme issues.

One way of lessening exclusion is to hear the voices of the millions who are excluded not only from access to care but from access to a forum in which their exclusion is acknowledged. Are those on the receiving end of these lamentable conditions included in the definition of social exclusion or are they, in fact, excluded from the visibly excluded? Does one have to move to an industrialised country to have one's plight acknowledged? What are the boundaries of "our society" as used in the definition of social exclusion?

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2 Editor's choice. Aspiring to be global. *BMJ* 2001;323 (7308). (11 August.)

Law of supply and demand applies in NHS

EDITOR—So recognisable was Jeffrey's description of his wife's doctor's surgery that I read his end piece with discomfort, as I had a strong suspicion that his wife was a patient of mine.¹

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