

THE EFFECTS OF A HOSPITAL WARD EATING ENVIRONMENT ON patients' mealtime experience.

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ABSTRACT

Paula Shepherd

The Hospital Eating Environment

The provision of adequate nutritional care to hospital patients continues to be an international problem, despite numerous initiatives and attempts by interested parties over several decades to make improvements. The focus of this research was to critically evaluate the effects a hospital ward eating environment can have on patients' foodservice experience and to establish if providing an enhanced dining environment could improve outcomes.

A case study approach was employed on two Orthopaedic wards in an Acute Care Hospital which considered the variables that concurred in the contextual environment of the foodservice provision, to provide an in depth appreciation of Orthopaedic patients' dining experience. The study used a mixed methods, sequential, exploratory, research process, consisting of four phases incorporating; semi structured interviews with patients, patient questionnaires, exploratory interviews with stakeholders and measurement of patients' food intake and mood.

Following the empirical processes this study has engaged in, theoretical contributions have been made which include; (1) A conceptual model for factors affecting patients' foodservice experience developed from a synthesis of literature and theories with regard to the provision of hospitality, mealtime experiences and nutritional care provision for patients; (2) A questionnaire to measure hospital patients' overall food experiences has been developed; (3) An explanatory model for factors influencing hospital patients' foodservice experience has been developed; (4) A comparison of the patients' mean, daily, nutritional intakes with the recommended levels, provided updated evidence of poor nutrition in the research setting, whilst factors influencing reduced food intakes were established; (5) The provision of an enhanced group dining experience for the patients, established positive outcomes for patients and stakeholders; (6) A theoretical model was developed that establishes a hierarchy of factors influencing Orthopaedic patients' foodservice experience and food intake.

This research study makes a contribution to our understanding of how sociological and environmental factors can enhance patients' dining experience which may ultimately lead to improved nutritional intake.

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CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND

In a world where many developed nations have an increasing problem with obesity; some reaching epidemic proportions (World Health Organisation 2010), malnutrition reported in hospital patients for over 30 years (Bistrian *et al.* 1976) still remains a current prevalent issue (Wyszynski *et al.* 2003; Middleton *et al.* 2008). This slows down their recovery, increases the need for drug intervention, results in more post operative complications and ultimately leads to an increase in the length of stay (Lennard Jones 1992; Edington *et al.* 2000; BAPEN 2007a). Albeit

an issue experienced in hospital patients of all age ranges, with the rapid growth in the elderly population in advanced countries it presents a serious challenge to international health and social care resources.

It is the provision of food and meal service in hospital that maintains the patients' nutritional status in order to reduce morbidity and mortality (Wilson *et al.* 2000). The meal experience is a significant contributor to an improvement in patient's morale which ultimately impacts on their length of stay (Reilly *et al.* 1987). One of the recommendations from the Council of Europe (2003) stated that the governments of member states should draw up and implement national recommendations on food and nutritional care in hospitals. One such recommendation specifically relates to foodservice practices which incorporate the following:

- . Organisation of hospital foodservice
- . Meal service and eating environment

In the UK, more recently, action has been taken to address these issues, focusing on clinical practice, the intrinsic qualities of the food served and delivery systems (Hartwell and Edwards 2003; Porter and Cant 2009; Mahoney *et al.* 2009; Nursing Standard 2009). However, little research has been undertaken to identify what environmental stimuli provided in the actual hospital setting and how the contextual environment of the hospital ward at mealtimes might influence the mood, food acceptance and nutritional intake of patients.

The environment in which people live and work affects everyone and this is even more apparent when they are ill or anxious (Beasley 2006). There is a growing awareness of the positive impact the environment can have on health and healing (Kings Fund 2006). It is increasingly recognised that the eating environment can influence an individual's food and nutrient intake and this has been acknowledged by numerous health focused bodies (European Nutrition for Health Alliance 2006a; BAPEN 2007b). Indeed, two of the core objectives considered essential to clinical, humanitarian, environmental and psycholo-social dimensions from the British Association for Parenteral and Enteral Nutrition (BAPEN) (2007b) initiative for the Organisation of Food and Nutritional Support in Hospitals are:

1. *To provide a pleasant environment conducive to the enjoyment of food and suitable for various states of health and disease, with food able to be delivered to patients flexibly according to their needs in sites such as the ward, ward common room or a patient restaurant.*
2. The encouragement of a social component to eating to aid psychological recovery.

Moreover, the European Nutrition for Health Alliance (2006a), believe that promoting the social aspect of eating is a highly effective way of preventing malnutrition. Sobal and Nelson (2003) highlighted that the interaction at meals provided the platform for sociability and socialisation. Numerous studies have been undertaken illustrating an increase in food intakes when eating together compared to eating alone (Edleman *et al.* 1986; de Castro 1990; Clendenen *et al.* 1994; Feunekes *et al.* 1995; Edwards and Hartwell 2004). This phenomenon of social facilitation is in evidence during all meals of the day, all days of the week and in many different locations including at home (de Castro *et al.* 1990; de Castro 1991).

The provision of hospitality involves a multifarious combination of both tangible and intangible elements for both the food, drink and accommodation and the service and atmosphere that surround them (Jones and Lockwood 2000). Cassee and Reuland (1983) provided a more holistic definition; 'a harmonious mixture of tangible and intangible components – food, beverage and/or shelter, a physical environment and the behaviour and attitude of people'. It is suggested that this 'harmonious mixture' is something created and provided for recipients (Brotherton and Wood 2000). Brush *et al.* (2002) purport that physical and social environments are important but

often untapped resources that can have a significant impact on the overall goals of food consumption and quality of life. Hospitality studies so far have gravitated towards a focus on the foodservice and the amenity portion of the patient experience (Severt 2008).

This study endeavours to focus on a philosophy of providing hospitality in a hospital setting, for patients whose circumstances cause them to be far more emotional, demanding, sensitive and dependent than they would normally be as consumers (Berry and Bendapudi 2007). The research undertaken considers not only the physical environment and the social domain of the staff providing the hospitality, but also the role and experience of the patients during hospital mealtimes. By exploring and understanding the fundamental key factors that make up such hospitality and obtaining an insight to the patients' experience of the hospitality afforded to them within a hospital environment, the knowledge gained can be used to add to this 'harmonious mixture' and thereby improve the patients' wellbeing. Ultimately, it sets out to establish the outcomes and issues of orchestrating an enhanced dining experience for hospital patients. Using sociological and environmental variables a group dining foodservice was provided to patients on a hospital ward.

A mixed methods, sequential, exploratory, research approach was adopted for the pragmatic design of procedures, strategies and techniques that were undertaken. Using this pragmatic stance, within a healthcare environment, each area under review was considered on its own terms with the relevant scientific approach taken. This enabled an evaluation of the complex issue of patients' foodservice experience from divergent perspectives and to consider different aspects that appeared to manifest itself in one problematic outcome; reduced food intake. The combination of qualitative and quantitative research in viewpoints, data collection, analysis, and inferences (Johnson *et al.* 2007) has facilitated emergent inferences from the findings to be compared and contrasted using various worldviews and perspectives. Both approaches were considered and addressed the particular topics involved with qualitative research not substituting or competing with quantitative research (Hutchinson and Webb 1991).

1.1 CONTEXT OF THE STUDY

Whilst the issues examined in this research were evidently international in nature and the secondary research conducted has been inclusive of an international stance, the primary research conducted focused on patients' and stakeholders' experiences in a National Health Service Hospital which provided Acute Care Services.

For the purpose of this study, the phrase 'Hospital Eating Environment' is defined as the environment in which the patients' experience their mealtimes, which in this instance were two Orthopaedic wards in an Acute Care Hospital. It does not just exclusively consider the physical amenities provided therein but encompasses all people, their representations and activities that are apparent and form part of and impact on the contextual experience of the patients' foodservice. The presence of the respondents in this study are context bound where the location and timing of their exposure are critical to the interpretation they make of their experiences. The context in which these patients live (albeit temporarily) affects their behaviour and it is therefore essential for the research to be sensitive to this (Holloway and Wheeler 2002).

1.2 THE AIM

The aim of this research is:

To critically evaluate the effects that a hospital ward eating environment can have on the patients' foodservice experience.

1.3 THE OBJECTIVES

In order to meet this aim, the following objectives are required for the research:

1. Critically assess the current state of knowledge from the published literature encompassing; clinical, medical, healthcare, nutrition, hospital food service, and food science research whilst undertaking a review of appropriate government publications. Additionally, review the research undertaken relating to; the hospitality industry, the experience economy, consumer experience and behaviour, environmental psychology, behaviour and attitudes, eating behaviour, retail and service, and marketing.
2. To evaluate, what individual environmental stimuli and other contextual influences affect patients' assessment of hospital foodservice.
3. To develop, analyse and critically evaluate a questionnaire to measure hospital patients' overall foodservice experience.
4. To develop, analyse and critically evaluate a profile for Orthopaedic patients' experience of hospital foodservice.
5. To appraise and critically evaluate the outcomes and issues arising from the provision of a group dining environment for hospital mealtimes.
6. To develop a theoretical model for hospital patients' overall foodservice experience.
7. To analyse and synthesise these data and make recommendations accordingly for the management of hospital foodservice.

4. DISSERTATION OVERVIEW

This thesis continues with the following chapters:

Chapter Two

A critical evaluation of the literature that relates specifically to the hospital environment is presented. It focuses on the incidence of malnutrition and reviews the current responsibilities for and provision of nutritional care for patients. Having identified key factors that have led to an ineffective provision, consideration has been given to initiatives taken to date to address this issue.

Chapter Three

The literature regarding the experience of patients within the hospital environment has been critically evaluated to provide the contextual and cultural background for the research. The current provision of hospitality has been established, and influences that may impact on patients' enjoyment of a meal have been explored. This investigation has provided the conceptual model that establishes the main factors affecting patient foodservice experience. The findings of the secondary research that has focused on the use of environmental, sociological and emotional elements for the enhancement of a diners experience have been scrutinised and have provided the content for this chapter.

Chapter Four

An overview of the research design of the mixed methods sequential exploratory research process and data collection is provided. The methodology for each empirical study is presented in the order of the four phases conducted and discussions of the theoretical considerations that were pertinent to each stage of data collection have been undertaken.

Chapter Five

Results from the analysis of the data collected for the four phases are presented and summarised. An initial interpretation has been made at the end of each phase.

Chapter Six

The study's findings are evaluated; synthesis of the primary and secondary research is undertaken and detailed interpretations are made which provide the platform for discussion.

Chapter Seven

This chapter presents an evaluation of the research process undertaken for this study. It

considers the validity and legitimization of the theoretical, methodological and analytical approaches adopted. A critical reflection of the researcher's journey through the project is imparted.

Chapter Eight

To complete this research process, this last chapter culminates in a discussion of the conclusions; it acknowledges the strengths and limitations of the investigations undertaken; it reflects on the contributions made to extend the knowledge in the field and makes recommendations for further study.

CHAPTER TWO

THE ENVIRONMENT, FOODSERVICE PROVISION AND NUTRITIONAL CARE PROVIDED TO HOSPITAL PATIENTS

2.0 BACKGROUND

Hospitalisation generally means the removal of individuals from their familiar home environment to the unfamiliar alien surroundings of a hospital ward where the environment and routines differ significantly from a person's normal experience (Holmes 1999). Apart from being anxious, fearful and apprehensive about the procedures and treatment they have been admitted for, this unsettled and stressful state of affairs is further exacerbated by the fact that on admission to a hospital ward with their impaired health they become heavily dependant on others for their care, their food provision and all other needs (Holmes 1999; Baillie 2009). Several studies have been conducted on different patient groups which suggest that patients' experiencing high anxiety levels and a loss of perceived control were found to have more complications (Polimeni and Moore 2002; Moser *et al.* 2007).

Furthermore, individuals that live on a day to day basis in very close proximity to strangers may have their privacy and dignity affected (Baillie 2009). Within the environment of the hospital, the human dimensions of care can be hidden by the specialised and technological focus provided by the medical and clinical staff. Whilst at times this is essential, when the technical problem strategies are overwhelming and do not consider the human dimensions, there is a potential for dehumanization (Todres *et al.* 2009). Consequently, whilst lack of appetite, due to their medical condition, may be a major contributing factor for hospital under nutrition (Hartwell *et al.* 2007), being within the environment of a hospital ward with its schedules, tests and procedures may contribute to a reduced interest in food (O'Regan 2009).

1. MALNUTRITION IN HOSPITALISED PATIENTS

The term 'malnutrition' is defined by BAPEN (2003) as a state of nutrition in which a deficiency, excess or imbalance of energy, protein, and other nutrients causes measurable adverse effects on tissue (shape, size, composition), function and clinical outcome.

A survey conducted over 30 years ago by Bistran *et al.* (1976) evidenced malnutrition in medical and surgical patients. Since that time, considerable research and studies have reported the increasing problem of malnutrition in hospital patients whilst indicating the deterioration of nutritional status during hospitalisation (Pinchcofsky and Kaminski 1985; Lennard-Jones 1992; McWhirter and Pennington 1994; BAPEN 2007a; Feldblum *et al.* 2009). The problem of malnutrition in Europe's aging population is endemic in the community, hospitals and homes for the elderly (Baeyens 2005), which is particularly critical for the European aging population with

one-third of Europeans reaching the age of 60 by 2050. Common in all types of hospitals, all types of wards and diagnostic categories and age, it is not a trivial problem that can be ignored but a major problem that needs multidisciplinary attention (BAPEN 2007b). Yet, despite the increasing evidence and awareness of this issue, there are no signs of improvement.

Indeed, 'Hungry to be Heard' published by Age Concern in August 2006 advised that 60% of older people in the UK were at risk of becoming malnourished or experiencing a deterioration in their nutritional status. Two years on from the launch of that campaign their research provides further credence to the fact that many hospitals are still not doing enough (Age Concern 2008).

Patients suffering from malnutrition often have lower morale and a reduced will to recover (Kipps and Middleton 1990; Holmes 1999). The prevalence of malnutrition in hospitals has been shown to increase the length of stay, the need for drugs and other interventions whilst increasing the post-operative complications of the patients (Edington *et al.* 2000; Kopelman and Lennard-Jones 2002; Correia and Waitzberg 2003; Feldblum *et al.* 2009). Indeed, research suggests that a lack of adequate nutrition lengthens the stay in hospital by 50% which is an average of 6 days and may also triple mortality (European Nutrition for Health Alliance 2008). It can specifically cause a reduction in muscle and results in altered metabolic and physiological function, which have adverse effects of wasting and weakness leading to reduced mobility and stamina. Additionally, it impairs the functions of the lungs and immune responses and is associated with poor wound healing (British Dietetic Association 2006). Malnutrition is a serious problem of public health placing a significant burden on health and wellbeing (European Nutrition for Health Alliance 2005); healthcare costs to be attributed to malnutrition in public health were estimated at £7.3 billion per year (BAPEN 2006) as illustrated in Table 2.0.

Healthcare Setting	Annual Cost to the UK
Hospitals	£3.8 billion
Long - term care facilities	£2.6 billion
GP visits	£0.49 billion
Out-patient visits	£0.36 billion
Artificial nutrition support	£0.15 billion

(Elia *et al.* 2005)

Table 2.0 Healthcare costs of malnutrition

Not only does malnutrition manifest itself in terms of clinical outcomes but social and psychological consequences including depression, apathy, mood behaviour shifts, and low interest in food leading to decreased interest in social interactions (National Institute of Clinical Excellence 2006).

2.2 HOSPITAL NUTRITION

2.2.1 *The role of nutrition as a form of treatment*

Older people and their relatives frequently discuss their experience in hospitals and care homes advising that the food is of poor quality and that there is little support available to help people to eat and drink properly;

“weight loss is sometimes wrongly explained away as being due to illness when in reality it is because of a failure to put nutrition at the heart of peoples care” (Lewis 2007).

The major contributing factor for the reduction of malnutrition is the use of food as treatment. Whilst a minority of patients with a failure of swallowing or gastrointestinal function are provided with enteral and parenteral nutrition support, the majority of patients are dependent on hospital food to sustain them during illness. Provision of food suitable for patients is not just a ‘hotel’ function; it is part of treatment (BAPEN 2007b) and should be seen as integral to a hospital's healing mission (Jochelson 2006). Good nutrition is essential for recovery and the return to optimum health (Holmes, 1999), with eating and drinking having a positive impact on the psychological wellbeing of the patient (Segaran 2006). The meal experience is a significant contributor to an improvement in their morale which ultimately impacts on their length of stay (Reilly *et al.* 1987). Accordingly, nutrition should be recognised as a central component of patient care irrespective of the patient's physical diagnosis, condition, age or psychological status (Lloyd and Moody 1999; O'Regan 2009, p35). This provision of good nutritional care, adequate hydration and enjoyable mealtimes not only dramatically increases the general health and wellbeing of older people but it also increases their resistance to disease and their recovery from any illness, trauma or surgery (Department of Health 2008). Food and water are as much elements of care as drugs and operations (Semple 2008). Numerous reports have concluded that the importance of mealtimes should be emphasized (Bond 1998; Allison 2003; Davidson and Scholefield 2005) and the European Nutrition for Health Alliance recommends that the European Commission must take a holistic approach to nutrition. For older people, missed meals in hospital can be as big a risk to safety as missing medication (Age Concern 2008).

2.2.2 *Barriers to good nutrition at hospital mealtimes*

Studies have found that patients are only getting between 30% and 75% of the recommended energy intake level and up to 70% of the recommended protein levels (BAPEN 2006). Figure 2.0 illustrates the major barriers that prevent patients from receiving adequate nutrition and hydration:

In March 2007, the Royal College of Nursing conducted an extensive survey of nearly 2,200 members to explore their attitudes towards the issue of nutrition for hospital patients (Royal College of Nursing 2008). According to survey participants in the acute sector, they had different perceptions of the top six barriers to achieving good nutrition:

1. Availability of food outside of mealtimes - 49 %.
2. Not enough staff to help patients eat - 46 %.
3. The choice of food - 42 %.
4. Not enough staff to monitor patients' intake of food and water - 38 %.
5. The quality and presentation of food - 36 %.
6. Staff concerned with other priorities such as medical rounds - 34 %

2.2.3 *Responsibility for nutritional Care*

The management of dietary care and the quality of dietary service provided to patients is an indication to the quality of humane and fundamental care provided to every hospital patient (Bond 1998). Despite the fact that nutrition should be considered as an integral and central constituent of patient care, it has in the past been perceived as so basic, requiring minimal consideration and attention that nutritional neglect has occurred (Lloyd and Moody 1999). In the past, responsibility for patients' nutritional care has been assigned to the nurses (Bond 1998); however such accountability appears not to have been accepted. Considerable discussions (Bond 1998; Beck *et al* 2001; Green and Jackson 2006; Department of Health 2007b; BAPEN 2007b) have reviewed where this responsibility should lie, and individual roles and responsibilities have been defined by care workers both locally and nationally. The difficulty in individuals taking responsibility for their patients' nutritional needs is that the provision of dietary care and service is not only a nursing matter (Bond 1988). It is a multidisciplinary responsibility, where the integration of workforce activities is absolutely essential providing both complementary and coordinated efforts of different health care workers (Bond 1998; Kopleman and Lennard-Jones 2002; BAPEN 2007b). Moreover, this is the view of the Hospital Caterers Association who often receive criticism for failures in hospital food provision. It is their belief that everyone involved in the process of foodservice and delivery shares equal responsibility and that within an acute NHS hospital environment, many of the issues associated with elderly patients being inhibited in some way from eating, such as food being left out of their reach, only serve to indicate that there are glaring inadequacies in the food delivery service process on hospital wards throughout the country (Mc Cree 2007). The entire process of nutrition care using hospital food can be described as a food chain which can only be as strong as its weakest link (BAPEN 2007b). Hence, the organisation of food and nutritional support relates nutritional services with all other services provided in a hospital (BAPEN 2007b; Englund *et al.* 2007) and the strength of those links involving all aspects of such provisions are critical to the nutritional care of patients.

Greater emphasis needs to be placed on nutrition in the undergraduate training of doctors and nurses, and a continual process of in-service and postgraduate training in the field needs to be implemented (Council of Europe 2003; Kopelman and Lennard- Jones 2002; Kopelman 2004). Compliance with nutrition screening and quality of nutritional care on wards is highly related to in-service training and is greatly improved by a system of link nurses, with at least one nurse on each ward with a special interest in this field (BAPEN 2007b). Nutritional education programmes are regarded as a cost effective way of improving the patients' food intake and for ensuring the care givers knowledge (Mamhidir *et al.* 2007). The Council of Europe Alliance (UK) (2007) suggest that all patients have a care plan which identifies their nutritional care needs and how they are to be met and that this should be achieved by ensuring all staff including non-clinical have the appropriate skills and competencies required by the provision of regular training on

nutritional care and management (Council of Europe Alliance (UK) (2007).

What is clear however, is to maintain nutrient content, temperature and palatability of food, it should be served as quickly as possible after preparation or regeneration. Even if catering staff recognise the importance of their task in relation to patient care, the timing of food production and delivery needs to be agreed between nursing and catering staff and monitored regularly (BAPEN 2007b). This is often a weak link and whilst it is partly due to poor training and organisation of ward staff, there is recognition that modern healthcare provision has increased the demands on the nurses' time. The appointment of additional ward staff grades to support and help the nurse (i.e. ward hostesses, diet technicians or nutrition care assistants) can improve outcome and quality of care as well as reduce the length of hospital stay (BAPEN 2007b). McCree (2007) states that greater cross-team collaboration and improved attitudes from all clinical staff on wards towards food is required together with greater acknowledgement of the role of food in the healing process. Wilson (2006) acknowledged that proper nutrition stopped being part of nursing and it became part of the facilities. The Council of Europe Alliance (UK) (2007) advocates that hospitals must support a multidisciplinary approach to nutritional care and should value the contribution of all staff groups working in partnership with patients and users.

The Royal College of Physicians (2002), advise that hospitals should have a multidisciplinary nutrition steering group to develop policies and have explicit protocols and standards for nutritional management to ensure that excellent nutritional care is delivered throughout large complex hospitals. They must be multi-professional to enable nutritional support to be delivered via catering, ward nurses with the patient's medical team bringing together the expertise at least of a doctor, a nurse, dietician and pharmacist with specialist skills in nutritional support (Kopleman and Lennard-Jones 2002; BAPEN 2007b).

4. Nutritional assessment of patients

Every patient's nutritional status, requirements and preferences must be taken into account on admission to a hospital ward. Without screening and monitoring, nutritional care is likely to be random, ill directed and ineffective (BAPEN 2006). The Audit Commission (2001) identified that 77% of Trusts have a nutritional screening protocol in place that is carried out by nurses. However, less than half of these Trusts review patients' nutritional intake weekly to ensure that care is adjusted to their changing needs during their stay in hospital. It is not clear how patients' nutritional needs are routinely identified in the remaining 23% of Trusts. The most serious cases of potential malnutrition, and patients with special dietary needs, are referred to the dietician for a detailed assessment and prescription of an appropriate diet (Audit Commission 2001). Dieticians have a role in ensuring appropriate nutritional content and quality of food. By engaging with the menu planning process undertaken by the catering department they can help to ensure that menus meet the needs of patients (Audit Commission 2001). However, in 41% of Trusts, the dieticians responded that they were unable to see all referred patients.

The National Institute for Health and Clinical Excellence (NICE) guidelines of 2006 recommend that patients across all primary and secondary care settings should be nutritionally screened to help detect malnutrition (Dinsdale 2006). The Council of Europe Alliance (UK) (2007) support this view recommending all patients being re-screened weekly. Nutritional screening tools have been developed but are not universally used and vary between and within healthcare settings. One of the most common is the Malnutrition Universal Screening Tool (MUST) (European Nutrition for Health Alliance 2005). The largest nutritional screening survey was undertaken by BAPEN in the UK during 2007, using criteria to identify malnutrition based on the MUST; it reported that of 9336 patients screened on admission to hospital, 28% were found to be at risk of malnutrition. The admission prevalence of malnutrition is not the same as ward prevalence of malnutrition. As

malnourished patients stay in hospital longer than non malnourished patients, the ward prevalence of malnutrition is calculated at 33.6 % (BAPEN 2007a).

3. MEALTIME PROVISION IN HOSPITALS

The Audit Commission (2001) states that hospital foodservice is a fundamental part of patient care as patients need nutritious, appetising food that they are able to consume to aid their recovery. Accordingly, the key aim of any hospital catering service is to provide nutritious meals that meet patients' needs and aid their recovery which can be achieved by:

- Correctly identifying their needs.
- Fulfilling their needs through the meals served.

Delivering the food in a method appropriate to the individual patient thus optimising the amount of food the patient actually consumes is one of the critical issues of providing adequate nutrition in hospitals (Horan and Coad 2000). The meals may be of the highest quality but if the presentation and delivery of them is poor, the value is lost if they are not consumed by the patient. According to the Audit Commission (2001) the quality of the service provided can be considered in terms of patient satisfaction, relationship to cost and presentation and delivery of the meal service. Seventy-five percent of Trusts they surveyed were in need of improving the service of meals and the assessment of nutrition.

1. Hospital Foodservice

It is apparent from many studies and surveys undertaken that responsibility for delivering meals to individual patients on the wards is ambiguous and where it is clearly defined, procedures are not adhered to. Savage and Scott (2005) suggested that this is due to a decline in nurse's managerial authority and ill-defined responsibilities of the nursing staff. Nurses' involvement in the nutritional care of patients has varied considerably since the time that matrons managed the kitchen, nursing arrangements and domestic staff. With the growth in size and complexity of hospitals, non nursing staff were employed to supervise housekeeping services and were managed by senior nurses or lay hospital administrators. In the late 1960's the roles and responsibilities of nurse managers changed; they were relieved of any managerial responsibilities for housekeeping services and relinquished responsibilities for coordinating the non clinical support services that contributed to patients' treatment and welfare. It was recommended that tasks involving preparing and distributing patients' food and drinks at mealtimes, collecting and clearing meals, preparing trays and setting up bedside tables were to be delegated to non-nursing staff and these teams of 'housekeeping' staff would then be managed by senior grade housekeepers and seconded to work with ward nursing teams. However, the additional support to be provided to ward sisters did not materialise and there was a widespread failure to introduce ward housekeepers which left the nurses challenged to cover all the essential aspects of patient care. This was then followed by a move to achieve economies of scale, by contracting out hospital foodservice and other domestic services with the concomitant loss of the ability of nurses to influence standards and the ensuing confusion about roles and responsibilities of different groups of nursing and non nursing staff (Savage and Scott 2005). Albeit, nurses do still have an underlying commitment and overall responsibility to nutritional care even where they delegate feeding of patients to non clinical staff, notwithstanding research suggests that such nutritional care has not been to the forefront of their practices (Savage and Scott 2005; McCree 2007).

The provision of the hospital foodservice afforded by the NHS Trusts throughout the UK is a multifarious operation involving many stages and staff as illustrated in Figure 2.1. With such an involved and complex system for foodservice delivery, it is paramount that all staff involved in this 'catering chain' focus on working as a fully trained team to resolve issues and overcome problems that are encountered, with clearly defined roles and responsibilities whilst following

agreed protocols (Audit Commission 2001).

Figure 2.1 Stages and staff involved in delivering the hospital foodservice in an Acute Care Hospital

[pic]

Adapted from Audit Commission (2001)

Horan & Coad (2000) recognised the limitations with such a mechanism for meal preparation and delivery and the inability within a mass catering operation to respond to individuals' needs particularly with regard to presentation, appearance, temperature of the meals, accessibility of the meals to patients and portion size. Providing and distributing meals to hospital patients which was previously a nursing role is now frequently relegated to ancillary staff and Health Care Assistants with tray collection by the housekeeping staff (Horan and Coad 2000; O'Regan 2009). It is suggested that this can free nurses from the 'non nursing' duty of foodservice and provides them with more time for 'higher priority activities' (O'Regan 2009).

As a consequence, the clinical staff do not take the opportunity to observe and monitor both the physical and psychological aspects of a patient's progress preventing them from monitoring patient intake adequately (Horan and Coad 2000; O'Regan 2009). The mealtime service is demanding and time-consuming and compromised by staff shortages and exacerbated further with the use of unqualified staff that may not have the skills and knowledge necessary to assist the patients. Whilst the delivery service and distribution systems can account for many of the difficulties encountered, Horan and Coad (2000) also observed that communication between nursing, foodservice and domestic staff can contribute to some of the problems experienced.

The Audit Commission (2001) noted that hospital mealtimes are inflexible, determined by the needs of nursing shift patterns and catering staff. The findings from a survey of hospital caterers carried out by the Hospital Caterers Association suggested 70% of respondents believed 'nursing attitudes' are the chief barrier to patients getting a successful foodservice and that most respondents believed that nurses needed a greater understanding of nutrition and its importance

to patient care (Waters 2007).

Hospitality providers are predisposed towards providing service and that whilst hotel and restaurants offer demand-led service, hospitals offer necessity-led services where the nurses provide a service that includes both hospitality and clinical/ nursing dimensions. The successful provision of hospitality-based service in hospitals may require server predispositions which are different to those for the provision of clinical and nursing care; attitudes towards provision of each may be different and non transferable (Lee Ross 1999). It is purported that nurses may be unwilling, not confident or prohibited professionally to go beyond the remit of their job scope to satisfy consumers. It has also been suggested that the nursing and clinical services provided have traditionally evolved or have been devolved at some point by clinicians. Additionally, limited financial resources and a shortage of skilled staff have been proposed by nurses as mitigating circumstances that prevent patients being provided the service they deserved (Lee Ross 1999).

Savage and Scott (2005) established that the place where nutrition works best is where there are housekeepers who help patients with menu cards, and play a role in ordering and serving meals. They also provide support for nutritional care through improving communication between facilities and clinical staff, and helping out the overstretched nurses by chasing up special diets, completing menu cards and helping patients who require feeding. McCree (2007) endorses a change in nurse's 'attitude' towards food; to see hospitals with ward dining rooms and 'ward housekeepers' more widely deployed to work along side nursing staff. Whilst the government met its target of having ward housekeepers in 50% of NHS hospitals by 2004, hereafter individual Trusts make their own decisions whether they wish to employ such personnel (Learner 2007).

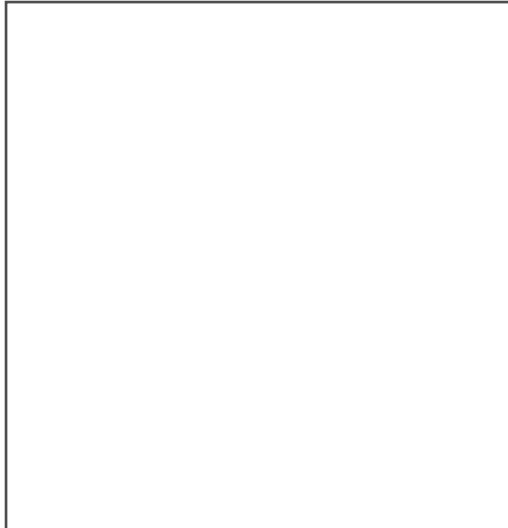
Production methods utilised in NHS trust hospitals in the UK

Seventy-one per cent of Trusts have in-house catering departments; the remainder have contracted out catering services (Audit Commission 2001). There are three main methods of production in use in NHS Trusts across the UK:

- **Cook-serve** - the traditional method of preparing and cooking raw materials within the hospital kitchen for distribution to the ward as hot meals.
- **Cook-chill/freeze** - food is prepared in advance and then held in a chilled or frozen state and reheated at an appropriate time. It is produced by an in-house team or bought in from a commercial supplier.
- **Hybrid** - a combination of the cook-serve and cook-chill/freeze methods, where some hospital sites within the same trust are using different systems.

Figure 2.3 illustrates the percentages of Trusts using these three main production methods.

Figure 2.3 Percentage of Trusts using different production methods



(Audit Commission 2001)

Meal service methods adopted in NHS trust hospitals in the UK

According to the Audit Commission (2001) there are three main methods of foodservice delivery throughout the NHS Trusts in the UK:

- **Bulk Service** - food is placed in bulk in large containers or trays and served on the ward from a trolley by either ward hostesses, catering or ward staff. There is some flexibility in portion size using this method.
- **Plated service** - food is individually plated either within the hospital kitchen or as bought-in cook-chill/freeze meals. They are then delivered in a trolley to the wards and usually served by a member of ward staff.
- **Hybrid Service** - a combination of the two service methods, where in some cases some wards using a plated system and some, having a bulk service.

Figure 2.4 illustrates the percentage of Trusts using these three main methods of foodservice.

Figure 2.4 Percentage of Trusts using different methods of meal service [pic]

For hospitals to be able to provide good nutritional care there is a need for hospital facilities to be flexible and patient centred with the aim of providing and delivering an excellent experience of foodservice and nutritional care 24 hours a day, every day (The Council of Europe Alliance (UK) 2007).

Production costs of hospital meals

The net expenditure per patient per day can vary considerably ranging from £2.80 to £20.00 per day with the average spending on food and beverages per patient in 2001 (National Audit Office 2006):

- £2.20 for a cook-serve production system
- £3.70 for cook-chill/freeze meals brought in from a commercial supplier
- £2.40 for cook-chill/freeze meals made on site
- £2.70 for a hybrid production system

A total of £300 million is spent annually on food in the NHS in England and Wales with £500

million being spent on NHS catering overall to produce a total of 300 million meals. The average daily spend for 3 meals including snacks and drinks in 2005/2006 was £2.60 (National Audit Office 2006).

Food is without doubt, the cheapest form of medicine and there is clear medical evidence supporting the fact that good nutrition aids a patient's recovery; thus if consumption of hospital food is increased it could lead to the use of less expensive feeding methods, better clinical outcome and shorter hospital stay (McCree 2007). Despite this, it is the meals that provide an easy target for cost cutting which has an immediate impact on Trusts' budget overspend (Merritt-Harrison 2006). Wilson (2006) explains that in one NHS hospital, the annual spend on catering was £3 million with minimal increases for the past 6 years. This contrasts with the annual cost of drugs in the same hospital being £26 million with prices rising at 10% to 15% a year; a considerable amount being spent on laxatives.

Food wastage

In addition to food intake of hospital patients being inadequate the food wastage rates are high. Edwards and Nash (1997) found food wastage varied between 17% and 67% on nine hospital wards. The levels of food wastage reflect both on the costs of providing the catering service and as an indicator of the quality of service provided (Audit Commission 2001). In 2001 the annual cost to the NHS of food wasted from 'unserved' meals was £18 million which averages out at approximately £55,000 per trust (Audit Commission 2001). Gainsby (2009) reports that in 2007-2008 some £28 million of hospital food was wasted as meals went 'untouched' or 'unserved' to patients and this represented on average 8% of patient main meals. With such excessive food wastage, patients are not gaining the necessary nutrient and energy intake thus the cost is high not only in respect of the food rejected but in terms of the patient's health and the probable prolonging of their hospitalisation (Horan and Coad 2000).

2.3.2 Assessment of hospital food and service

It has been the case for many years that hospital food and foodservice have been a source of poor reputation and complaints, which have historically focused on the palatability of the food and variety of the menus (Bender 1984; Age Concern 2006). European hospitals have had an image problem for some time with regard to the quality of the food served (Beck *et al.* 2001). Indeed, hospital foodservice has been the recipient of "institutional stereotyping" whereby people's expectations of hospital food are low prior to them actually experiencing it (Cardello *et al.* 1996; Association of Community Health Councils 1997).

Assessments of food and foodservice in every inpatient healthcare facility in England with more than 10 beds are carried out on an annual basis by the Patient Environment Action Team (National Patient Safety Agency 2010). **Each team comprises of mainly NHS employees and has one representative from the following groups:**

- **NHS management**
- **Estates and Facilities**
- Infection Control
- Domestic services and cleaning
- Clinical staff
- Catering department

In addition, the team has one patient representative.

With regard to the assessment relating specifically to the food provision, the team are required to observe the service of meals; they then sample the food from the trolleys at the end of service so that they can gauge the extent to which an acceptable temperature has been maintained. They review the menu provided for patients; the choice of meals provided to meet all patients' needs; the availability of the full meal service; the quality of the food; the quantity of food; the presentation; the service and support and the provision of beverages. The environment is assessed by the same team who score the following areas: décor, lighting, tidiness, waste management, odour control, furnishings, maintenance, linen and floors in the wards.

In 2008, performance continued to improve with Trusts scoring "acceptable" or above in 99.5% of cases for hospital food and 98.5% of cases for the patient environment; this is shown in Table 2.1.

Environment	Excellent	Good	Acceptable	Poor	Unacceptable
	19.1%,	55.5%,	23.9%,	1.4%	0.1%
Food	Excellent	Good	Acceptable	Poor	
	54.8%,	39.7%,	5%,	0.5%,	

Note: The Acute Care Hospital used in this study for 2008 was assessed as good for both food and environment (National Patient Safety Agency 2008).

(National Patient Safety Agency 2008)

Table 2.1 Assessment of hospital food and service - national averages

It appears however that these assessments, based primarily on the judgements of mainly NHS employees do not provide an accurate reflection the perceptions of the service users. In contrast, such performances are not supported in the independent reports published by the Consumers' Association and Age Concern (Merritt- Harrison 2006; Age Concern 2006; Age Concern 2008) which are based on patients' evaluations. Indeed, the findings of the Food Watch survey of catering of 97 Health Trusts coordinated by the Commission for Patient and Public Involvement in Health (2006) found widespread patient dissatisfaction with NHS food and that 40% of patients had their meals supplemented by food brought in by friends and relatives.

Naithani *et al* (2008) established that whilst the majority of patients were satisfied with the quality of their meals almost half reported feeling hungry during their hospitalisation citing the following reasons that made access to food difficult:

- Organisational barriers – e.g. inflexible ordering systems, menu problems.
- Physical barriers – e.g. not in a comfortable position to eat, food out of reach.
- Environmental barriers – e.g. interruptions, noise, unpleasant smells.

McCree (2006) considers that to improve standards involves far more than the quality of food on the plate; the need is to ensure that the patients actually eat it which involves greater communication and collaboration between the dietetic nursing and catering teams.

2.4 A DECADE OF IMPROVEMENT INITIATIVES FOR HOSPITAL FOOD PROVISION

Over the last ten years, there have been numerous initiatives undertaken to endeavour to resolve the problems experienced with the provision of hospital food.

[pic]

The NHS Plan

The government committed £10 million to achieving this plan. With regard to the foodservice provision it provided the following targets (Department of Health 2000):

- Providing 24 hour catering service with new menus as a minimum standard for all hospitals.
- 50% of all hospitals to have ward housekeepers in place by 2004 to ensure that the quality, presentation and quantity of meals meets patient needs.

Essence of Care Guidance (2001- Ongoing)

The Essence of Care was launched in 2001 to provide practitioners with a toolkit in the form of benchmarks for best practice, enabling them to adopt a structured approach to develop action plans to rectify poor practice. One fundamental aspect of patient care focused on Food and Nutrition. In recognition that the quality of care provided varies throughout the country, the purpose of providing these benchmarks was to raise the standards across the UK.

Better Hospital Food (2001-2005)

For many years there has been much criticism with regard to the quality of the food prepared for hospital patients (Cortis 1997) and over the last 10 years there has been an emphasis on improving NHS hospital food which is particularly important as more than 75% of hospital patients depend on the catering menu for their sole source of nutrition (Allison 2003). In an attempt to improve the quality of the food provided, the Better Hospital Food programme (BHF) was established in 2001. The aim of this project was to produce new recipes, redesign the menus, introduce flexi menus and 24 hour catering and introduce protected mealtimes. The purpose of the flexi menu was to provide patients with a greater choice of meals. Protected mealtimes were to be developed to guarantee patients undisturbed mealtimes and the 24 hour catering was to make provision for patients to eat or drink at any time of the day or night (Commission for Patient and Public Involvement in Health 2006).

This initiative resulted in more attention being given to the nutritional value of the food (Age Concern 2006) and the menus that resulted were described as being varied and that they would grace any restaurant (Better Hospital Food 2006). Although, it was this focus on trying to achieve similar standards of cuisine as found in private hospitals or top class restaurants that was the subject of criticism (Age Concern 2006), it's spotlight on minimum nutritional requirements and minimum quality standards are believed to have played a fundamental role in raising the quality of the food on offer to patients where Trusts did not put a high priority on catering (Merritt-Harrison 2006). Between 2000 and 2005 £34.5 million was spent on BHF. The programme was disbanded in May 2006 because according to the Department of Health, "it had done it's job", indicated by their statistics showing that 90% of patients think hospital food is either good or very good, up from 17% in 2002 (Burnham 2006). It is unclear how the Department of Health had measured this performance, but there appears to be a disparity when compared with the results of the more recent independent surveys (Merritt- Harrison 2006; Commission for Patient and Public Involvement in Health 2006; Age Concern 2008).

Whatever the quality of the meals produced by the catering team within a hospital, it is true that they are generally not in control of patients' meals once they leave the kitchen doors (Kipps and Middleton 1990). McCree (2006) believes that the main failing of the programme was that it concentrated only on food as a product and that it wasn't targeted enough at nutritional intake at ward level. The link between the point of production and point of service has always been a difficult issue to address resulting in the stretching of the food chain (Engelund *et al.* 2007) which not only affects the quality negatively but increases the need for food safety and make its difficult to adapt to the patients' demands (Hartwell and Edwards 2001; Hartwell *et al.* 2005).

A further criticism of the hospital food made by Kitson (2006) of the Royal College of Nursing, who has campaigned for a more holistic approach to hospital nutrition is that food is no longer seen as one of the first interventions in the recovery plan for patients. The BHF programme catalysed change and instigated significant improvements in terms of the increase in the use of quality ingredients and the overhaul of the menus was acknowledged in the findings of the Food Watch survey coordinated by the Commission for Patient and Public Involvement in Health (2006). When the government disbanded the BHF panel, there were objectives of the programme that had still to be met but they were now the responsibility of the local NHS Trusts. Nonetheless, without the existence of a system to ensure that patients receive and consume their food to the best possible standard and in the best possible environment, patients' perceptions of their meals and mealtimes as well as their nutritional intake, status, wellbeing and recovery rates would be still be subject to a variable success rate (Hospital Caterers Association 2006).

Council of Europe: Resolution Res AP (2003) 3 on food and nutritional care in hospitals

The Council of Europe considered the following:

- Access to a safe and healthy variety of food is a fundamental human right.
- The beneficial effects of proper food service and nutritional care in hospitals on the recovery of patients and their quality of life.
- The unacceptable number of undernourished hospital patients in Europe.
- That under nutrition among hospital patients leads to extended hospital stays, prolonged rehabilitation, diminished quality of life and unnecessary costs to health care.

A resolution on hospital food was issued to encourage hospitals to identify patients at risk of malnourishment; to provide systematic nutritional support for patients and to ensure that patients eat well. It focused on many critical issues including the distribution of responsibilities for nutritional care in hospitals; communication and cooperation between staff groups; the implication of a continuous education programme on general nutrition and techniques of nutritional support for all staff involved in the feeding of patients; organisation of hospital food service; meal service and eating environment; specific improvements in food service practices to prevent under nutrition and hospital menus and diets on medical indications (Council of Europe 2003).

Protected Mealtimes Initiatives (2004 - ongoing)

The Audit Commission (2001) accepted that mealtimes are not always respected as the major part of the patient's day, often being disturbed by clinicians. This has also been recognised by The British Dietetic Association (BDA), Royal College of Nursing and Royal College of Physicians, all acknowledging that the environment at mealtimes should be made as conducive as possible, with interruptions of patients during mealtimes being minimised (BAPEN 2006). It is

suggested that mealtimes are not only a vehicle to provide patients and consumers with adequate nutrition but also provide an opportunity to support social interaction where the therapeutic role of food within the healing process should not be underestimated. With this in mind, in the understanding that throughout the NHS, different clinical areas where meals are served often adopt different approaches which can vary not only from one NHS trust to another but from one ward to another and from day to day. Appreciating that there are a number of environmental factors which can effect whether or not a patient will eat or not, a nationwide “Protected Mealtimes Initiative” (PMI) campaign was launched by the Hospital Caterers Association aligned with the BHF programme to address this issue (Hospital Caterers Association 2004). It is supported by NHS estates, the Royal College of Nursing and was promoted in the Chief Medical Officer’s report on the state of public health (National Patient Safety Agency 2008).

This concept involves setting aside special time where a ward is made ready for foodservice and where the main focus is on helping patients eat and enjoy their meals without interruptions, endeavouring to make mealtimes pleasurable by applying in hospital wards what is done in people’s homes (Warner 2004). It is a policy which seeks to provide a framework for mealtimes without stifling new ways of working, placing the patient at the centre of the foodservice experience whilst aiming to re emphasise its importance and enabling the ward staff to have the opportunities to refocus on the nutritional requirements of their patients at mealtimes. The key points of the PMI are illustrated in Figure 2.5 (Hospital Caterers Association 2004):

Figure 2.5 The key aims of protected mealtimes

[pic]

Adapted from Hospital Caterers Association (2004)

Protected mealtimes have been successfully piloted in a number of NHS Trusts throughout the UK (Clinical Governance Support Team 2004; Oldham NHS trust 2005; Horwell 2006; McClelland 2007). Paling (2008) implemented protected mealtimes on a 22 bed ward with patients with dementia and varying degrees of ability, purporting that the resultant uninterrupted meals increased the staff’s awareness of the nutritional status of the patients which enabled them to ensure that the patients were fully nourished and hydrated. Evidence indicates the benefits associated with PMI are not solely increased weight but that patient complaints and food wastage can also be reduced (National Patient Safety Agency 2008).

A review of protected mealtimes has more recently been conducted by the National Patient Safety Agency (2008) with the aim to establish the uptake of the initiative across Acute Trusts in England and Wales and to identify the barriers and critical success factors to implementation. It identified that the uptake of PMI was not only variable between hospitals but between wards within hospitals across England and Wales and that the main barriers were; ward rounds, diagnostic tests, visitors and other healthcare professionals. Members of the Hospital Caterers Association (2004) who suggested that the success of Protected Mealtimes was dependent on leadership at ward level. Feedback from the National Nutrition Nurses Group suggested the main barriers in supporting this initiative include: “nurses’ perception of how important nutrition and meal times are in comparison to the other demands”, and “medical and allied health professional’s attitudes to how important their role/treatment is in comparison to nutrition”. More recent figures indicate that around two thirds of hospitals protect all mealtimes for patients (Clews 2009).

Department of Health Core and Development Standards

In 2004 the Department Of Health published core standards that aimed to address the issues of

food and help with eating by committing Trusts to providing patients with a balanced and good nutritional diet. Research conducted by Age Concern evidenced that not all NHS Trusts were achieving these standards and whilst there were examples of good practice around the country they were not implemented in every hospital. Food and help with eating were not recognised as being an essential part of care, and that patients should be given sufficient time for meals; nine out of ten nurses stated that they do not always have time to help ensure hospital patients eat properly (Age Concern 2006).

Creating a Patient-led NHS – delivering the Improvement NHS improvement Plan

This NHS initiative provided a system to create a service which is patient – led which responds to their needs and wishes (Department of Health 2005). It was designed to give people a far greater range of choice and information to make choices, to strengthen standards and safeguards for patients and to have more information about patients' preferences and satisfaction.

Essence of Care: Patient-focused benchmarking for Health Care Practitioners

The Essence of Care provided by the Department of Health was designed to support measures to improve quality, set out in a 'First Class Service' and to contribute to the introduction of clinical governance at local level (Department Of Health 2006). In this format, benchmarks for food and nutrition are available which set out best practices for agreed patient focused outcomes. These involve the ability for an individual to consume food in accordance with their individual needs by focusing on the following areas:

- . A screening and assessment process to identify patients' nutritional needs.
- . The planning and implementation of care for those patients' who require a nutritional assessment.
- . A conducive environment to enabling the individual patient to eat.
- . Assistance to eat and drink.
- . Obtaining food.
- . Food provision to meet the needs of the individual.
- . Availability of food at set times or a replacement if missed and access to snacks at any time.

NICE guidelines

Mealtime provision in hospitals is a multifaceted issue that not only involves the quality of the food and its acceptance but patient assessment, food ordering, preparation, transportation, serving and presentation in an inviting way to encourage consumption (Allison 2003). It is also affected by clinical practice which has been reported as being inadequate in the provision of nutritional support to patients (Lennard-Jones 1992; Xia and McCutcheon 2006). The National Institute for Health and Clinical Excellence (2006) and the National Collaborating Centre for Acute Care launched guidelines to tackle this issue in February 2006. Guideline 32 of this "Nutritional support in adults" sets standards for Primary Care Trusts and Hospital Trusts which place a greater emphasis on the importance of training and education for all healthcare professionals with responsibility for direct patient care involving issues such as the importance of adequate nutrition, indication and an awareness of when to seek expert advice (Dinsdale 2006).

Nutrition Now

A survey conducted by the Royal College of Nursing (2008) revealed that whilst 81% said patient nutrition as a clinical issue was “extremely important”, 25% of their members confirmed that patients were not assessed for malnutrition on admission to hospital or on first appointment in the community; 28% said there was no requirement in the nursing documentation to record a nutritional assessment and 42% of nurses said they felt there was not enough time to devote to patient nutrition. What was encouraging however was, that 92 % said they would support a campaign by the Royal College of Nursing to raise awareness of nutrition and its benefits.

As a result, ‘Nutrition Now’, a clinical campaign was launched by the RCN to raise standards of nutrition and hydration in hospitals and the community. The campaign gives nurses the practical tools, support and evidence they need to make nutrition a priority in the area where they work. In September 2008, two new campaign resources were launched. Firstly, a publication ‘Enhancing nutritional care’ contains a summary of four focus sites across the UK that implemented and evaluated nutritional care in their clinical setting. The second resource was a CD entitled ‘Improving nutritional care workshop’ which provided a practical structure for delivering a workshop, with thought provoking evidence and ideas to enhance nutritional care and initiate change (Royal College of Nursing 2008). The Nutrition Now campaign has backed a pioneering 3 year project to improve the taste of hospital food which will investigate how tastes change with age, as well as how medication can affect taste and appetite, with the aim of producing meals patients want to eat (Nursing Standard 2008).

Nutrition Action Plan (2007-2010)

Despite a variety of recent initiatives and investment, unacceptable poor practice around food and mealtimes and delivery of appropriate nutritional care still exists in some NHS care services (Department Of Health 2008). A nutrition action plan was published by the Department Of Health (2008) in conjunction with over 25 leading Nutrition Summit stakeholders which outlined a range of actions to tackle malnutrition and ensure the nutritional needs of older people in hospitals were met. It aimed to ensure that health and social care staff and managers were well informed, equipped and supported to provide good nutrition and effective nutritional care by outlining five priorities for health and social care organisations:

1. To raise awareness of the link between nutrition and good health and that malnutrition can be treated.
2. To ensure accessible, relevant and user friendly guidance is available across all sectors.
3. To clarify standards and strengthen inspection and regulation.
4. To encourage provision and access to relevant training for frontline staff and managers on the importance of nutrition for good health and nutritional care.
5. To encourage nutritional screening for all people using health and social care services; with particular attention to groups who are known to be vulnerable.

The agreed actions to support these were:

- . Commitment from the Nursing and Midwifery Council that nutrition principles will be assessed in practice as part of student nurse training from September 2008.
- . Largest study ever undertaken on malnutrition on admission to hospital and care homes conducted by BAPEN.
- . Training programme on nutritional care and assistance with eating made available to all NHS and social care staff in May 2008.
- . Tougher regulation and inspection - building on the work already done by Commission for Social Care Inspection and the Healthcare Commission, the Department of Health will work with regulators to ensure that standards of nutrition and dignity are central to quality inspections.

- . Development of a range of good practice on nutritional care by the Department of Health and the Social Care Institute for Excellence.
- . As part of the plan, the Government and stakeholders will also be encouraging the NHS to use the Council of Europe Alliance (UK) "10 Key Characteristics of Good Nutritional Care" - a landmark document which creates a common understanding of what good nutritional care looks like in hospital settings.

The Nutrition Action Plan Delivery Board made their final progress report to Government in 2009. Their findings confirmed there was a significant and continuing problem with malnutrition and help with eating, which provided a challenge to the development of person-centred care. They reported that the official figures significantly under-record the prevalence of malnutrition in hospitals and care settings. Their recommendations included that the health care providers accept wider responsibility to ensure that all professional staff, at all levels consider nutrition and help with eating and drinking as a core part of their responsibilities, for which they will be held to account. The Board considered that the Department of Health had not thought through its policy on malnutrition and that it was not being actively addressed and urged that Ministers remedy the apparent lack of policy. They strongly recommended that the government, Department of Health, regulatory bodies, service providers, professional bodies and campaigners continue to address issues around nutrition and help with eating and that they accept direct responsibility for ensuring that no-one's life is unnecessarily lost, shortened or damaged as a result of failing to consider and meet their nutritional requirements (Lishman 2009). The Nutrition Action Development Delivery Board was disbanded in February 2010 (Pitt 2010).

5. CONCLUSIONS

The review of literature presented in this chapter has illustrated that despite numerous initiatives to improve malnutrition rates in hospital patients with its ensuing financial and health costs, this has yet to be achieved. There appears to be a large variety of reasons documented for this scenario and it is apparent that acknowledgement of the role of nutrition as an essential part of a patient's treatment to maintain optimum health has not been fully endorsed by many healthcare professionals working within the NHS. Indeed, in contrast, despite being one of the cheapest and arguably very effective forms of treatment compared to medication it is often an easy target for cost cutting.

Nutritional care can be defined as:

“A co-ordinated approach to the delivery of food and fluid by different professionals who view the patient as an individual with needs and preferences” (NHS Quality Improvement Scotland 2003).

What has been highlighted is that in agreement with Savage and Scott (2005), no single initiative and no single group of staff can meet the challenges of improving nutritional care and that it should not fall within the control of any one group. Instead, it demands good interdisciplinary cooperation and good team working.

Studies reviewed have defined the main barriers to good nutrition, many of which focus on; foodservice, reduced support from hospital staff, the hospital environment, poor nutritional education and lack of knowledge, poor communication, ill defined and ambiguous responsibilities and protocols, inappropriately timed clinical routines, poor nutritional assessment and lack of motivation of some clinical staff.

Food wastage levels continue to be a problem experienced in hospitals throughout the UK, which is an indicator that an acceptable level of foodservice is not being achieved and this is further

supported by a variety of independent patient surveys which are inconsistent with the findings of the Patient Environment Action Team assessments (National Patient Safety Agency, 2010) carried out by the NHS. Despite the fact that mealtimes represent one of the most pleasurable parts of a patient's day, this time is not always accorded due respect from the staff when medical rounds and routine nursing duties are often performed at mealtimes. Inevitably, many elements of the established routine and hospital environment may contribute to failure to address patients' nutritional requirements particularly when appreciating that quality of care is dependant not only on the treatment received, but also by the way the care is delivered.

Whilst acknowledging the limitations and difficulties encountered when dealing with the complex and challenging responsibilities required to afford such nutritional care, it is evident that a focus on providing an excellent meal service to patients can in part ameliorate the situation and is critical to enhancing the patients' experience and ultimately their nutritional status.

This chapter has focused on the prevalent issues within the hospital environment that influence the nutritional care of patients. Acknowledging the substantial work being employed with the ongoing initiatives to address the intrinsic quality of food, the roles and responsibilities of the clinical staff and support staff, Chapter 3 considers the provision of hospitality within the hospital ward environment and focuses on a variety of different elements which may influence and encourage patients to improve their nutritional intake and their overall wellbeing.

CHAPTER 3

HOSPITALITY PROVISION WITHIN A HOSPITAL ENVIRONMENT, THE MEALTIME EXPERIENCE OF PATIENTS AND THE INFLUENCES ON EATING BEHAVIOUR.

3.0 BACKGROUND

The process of treatment, delivery and recovery within Acute Care Hospitals involves more than just the immediate interventions that are undertaken on the patient's behalf with the care delivery being entrenched within the hospitals' broader physical and social environment whose organisation and characteristics may be expected to affect the course of treatment (Winkel and Holahan 1986).

Patients undergoing a period of hospitalisation can experience a loss of independence and control which induces feelings of being exposed and vulnerable (Winkel and Holahan 1986; Douglas and Douglas 2004); even those patients that are largely independent at home can rapidly lose control over their environment whilst hospitalised (Webster and Bryan 2009). The fear, anxiety and uncertainty to which the hospitalised person is exposed are often qualitatively different from that which characterizes the broader world (Winkel and Holahan 1986). Becoming

sick and receiving care in healthcare institutions forces the patient into environments that he or she has little or no possibility to escape (Edvardsson *et al.* 2003). In many cases, hospitalisation does not provide patients with the opportunity of making choices where they have the possibility of freedom to be and act within certain limits which constitutes a sense of agency. This sense of agency is purported to be linked to the human sense of dignity, and where there is excessive emphasis on attitudes and practices that render the person passive with regard to their condition and their treatment, their dignity can be lost (Todres *et al.* 2009). Dignity comprises feelings of being comfortable, in control and being valued. Staff behaviour has been shown to effect patient dignity in several ways. Research indicates circumstances where staff members can behave in a curt 'off hand' manner when interacting with patients. Loss of dignity can be apparent when patients with impaired health are completely dependent on the nursing staff to provide personal care and the nursing staff breach their privacy; this can be further exacerbated by the lack of environmental privacy afforded on a hospital ward (Baillie 2009).

Research suggests that the physical environment plays a role in the prevention and reduction of psychological and social problems encountered by patients in acute care (Winkel and Holahan 1986).

"Inefficient attention is paid to the quality of the space in our healthcare environments. Spaces are not just created by the physical environment but by the events and the practices that make the space hospitable to the richness of human life" (Todres *et al.* 2009)

From the patients' perspective, a patient friendly environment involves what the place is like to be in and how it feels, rather than its appearance (Douglas and Douglas 2004). The provision of a therapeutic and healing environment within a hospital can reduce the amount of stress, and influence the healing process, thus having a direct effect on patient outcomes by helping in their personal recovery and recuperation. Such an environment can develop when people are able to engage in social interaction with others and where patients have a sense of control over their actions (Douglas and Douglas 2004).

3.1 HOSPITALITY WITHIN THE HOSPITAL SETTING

There have been many attempts to define the concept of hospitality. Hepple *et al.* (1990) proposed a working definition that conveys the essence of the hospitality concept specifically within the hospital environment where the patient should feel as 'at home' as possible during their hospital stay; with such a phrase indicating a standard of security, physiological comfort, and psychological comfort. Todres *et al.* (2009) suggest that to be human is to come from a particular place where the feeling of at-homeness becomes meaningful and that this sense of place also encompasses security, comfort, familiarity, continuity and unreflective ease. Being placed in healthcare environments can remove this and dehumanization can occur where the patient faced with an unknown culture and alien routines can be made a stranger and must re-orientate themselves to fit in.

Patten (1994) describes hospitality specifically in a clinical setting as the relief of disease or healing of physical, emotional or spiritual wounds. Analogous with this concept, Ball and Johnson (2000) believe that hospitality shares its origins with the provision of caring and that the act of caring and provision of hospitality remain as essentially therapeutic and restorative activities whereby hospitality should at the very least enhance a person's wellbeing by restoring them to a position of neutrality, if not actually to a positive state of mind and body. Ritzer (2007) reflects that the act of hospitableness involves being hospitable for genuine motives which typically involve the desire to please others through feelings of friendliness and benevolence or through enjoyment in giving pleasure. It may involve feelings of compassion for others or a desire to entertain friends. Truly hospitable behaviour is concerned with providing hospitality through

helping, entertaining, protecting and serving guests. Moving away from these genuine motives, hospitality available within commercial environments is often provided for ulterior motives such as to gain commercial advantage (Ritzer 2007). Commercial hospitality organisations across all sectors strive for efficiencies for many reasons but Ritzer (2007) believes that this efficiency is antithetical to the conventional definition of hospitality. It is a dilemma in Public Sector foodservice whereby hospitality is not the core function and thereby becomes marginalised to the main purpose of that institution.

Hospitals are not generally seen as being very hospitable places (King 1995). Indeed, in the past, a frequent complaint of patients is that they feel depersonalised by hospitalisation. Todres *et al.* (2009) discuss the process of humanisation within healthcare environments which focuses on the importance of person centred processes that support the overall wellbeing of people where they are treated as valued individuals. There are many instances within healthcare settings where dehumanisation occurs which involves people being made into objects, and being treated as numbers and statistics (Todres *et al.* 2009; Patients Association 2009). In such circumstances, with the loss of their individuality, patients frequently assume a role to conform by being a “good patient”, where they act according to expectations, are compliant with receiving treatment, and are uncomplaining (Todres *et al.* 2009). There has been acknowledgement that where the patients are made to feel individual and are assessed as a ‘whole patient’ involving an evaluation of their emotional, domestic and social contexts, their recovery time is shorter (Hepple *et al.* 1990).

For hospitality to be effective, the guest must feel that the host is being hospitable through feelings of generosity, a desire to please, and a genuine regard for the guest as an individual (Lashley 2000). But even where the service quality is superb, the whole experience for the patient is likely to exacerbate the inherent stress that accompanies an illness, consequently the need to understand the individual patient holistically is heightened (Berry and Bendapudi 2007). Cassee and Reuland (1983) reported that the hospitality service in hospitals prioritised its efforts on the production and distribution of food which is just a part of the whole hospitality experience of a patient. McCree (2004) advocates that hospital staff should be focussing on creating a guest-host relationship. Whilst there has however been recognition in the hospital catering sector of the need to understand and link back to patients’ experience in the private domain of hospitality (Lashley 2000) it appears that in the last decade, little work has been undertaken in this respect.

3.2 THE MEANING OF MEALTIMES

Meals are much more than an opportunity to consume necessary calories and nutrients; they are social experiences that can be pleasant or unpleasant (Brush *et al.* 2002). For many patients, mealtimes are an event to look forward to, yet in many cases, hospital staff appear to regard these simply as another task that must be completed (Holmes 1999; National Patient safety Agency 2007). Meals and mealtimes can affect the quality of life of older people and are often the highlight of the day (Commission for Social Care Inspection 2006); dignity at mealtimes is important to people using the healthcare services (Policy Research Institute on Aging and Ethnicity/Help the Aged 2001). Eating, whilst being essential for life, provides a considerable element of comfort for patients during their hospital stay and often when unwell and in the strange surroundings of the hospital, people like to eat food to which they are accustomed (O’Reagan 2009).

Gustafsson (2004) concurs that meals consist of much more than the food to be eaten and an all inclusive perspective of the meal is explained as the Five Aspects Meal Model (FAMM) shown in Figure 3.0.

Figure 3.0

The five aspects meal model

[pic]

Gustafsson (2004).

1. The room represents the setting for the meal, including the shape of facilities. A laid out table may even qualify as 'the small room' in itself.
2. The meeting denotes the interpersonal relations that take place between guests or diners themselves or the meeting between the staff and the guest or diner and their interactions.
3. The product consists of the food and beverages, which are seen as the core element of the meal.
4. The atmosphere is very much created by the guests or diners themselves where the previously described meal elements can contribute considerably to the total atmosphere. In this model, the atmosphere is described as feeling comfortable and at ease. Of particular importance, is the verbal communication at the table between the diners as well as the staff within the meeting aspect.
5. The management control system involves the overall planning, various regulations, rules, laws and economic aspects. Several elements of management control systems and logistics have to work together so that all people can feel confident about the health aspects of what they eat and drink at reasonable prices.

All five interact but each might be perceived as more or less important. The ultimate aim of all five aspects is to achieve maximum satisfaction in various meal situations for every guest (Gustafsson 2004). It acknowledges that there are different expectations depending on the eating situation with different meals being grouped in different ways. Edwards (2000) for example groups those meals encompassing restaurants and ceremonial meals as 'eating for pleasure', meals grouped as 'eating out for work' can take place in canteens or in restaurants and 'eating out for necessity' generally takes place in public institutions such as prisons, hospitals and schools. Although the FAMM focuses on commercial meals, its approach could be applied to both the public and private meal sectors, to endeavour to give every guest an optimal experience in every situation (Gustafsson 2004).

Serving food and the complex social meaning of eating, drinking and mealtimes are central to any examination of the creation of a home-like environment in any institutional setting (Pearson *et al.* 2003). The familiar, distinctive patterns of family life bring comfort and security, especially in stressful situations (Evans *et al.* 2005). Segaran (2006) suggested that eating and drinking play a fundamental role in the psychological wellbeing of patients by helping to provide a positive milestone to identify that recovery is possible. The overwhelming emotions expressed by patients were derived from their desire to return to normality. Through eating and drinking, a familiarity with home and the pre-illness life was envisaged, whilst also providing a welcomed routine to the day. Segaran (2006) identified that the issue of eating alone emphasized how removed people were from their normal social life with mealtimes considered as social events to many. Findings from research conducted to review the mealtime experience in hospitals suggest that placing a dining room in the ward, allowing patients to eat together around it, could provide a more natural mealtime environment, which is similar to what happens at home (Xia and McCutcheon 2006).

3.2.1 *Influence of meal service on nutritional intake*

Several studies have been carried out to assess how the meal service provided in hospitals can impact on nutritional intake and comparisons of the different services indicate that these influence patient satisfaction (Wilson *et al.* 2000; Hartwell and Edwards 2003; Edwards and Hartwell 2006; Freil *et al.* 2006; Desai *et al.* 2007). It is clear however, that even where the food and the meal service provide the right mix of nutrients, a patient's nutritional needs can only be met if he or she eats the meal (Wilson *et al.* 2000; Healthcare Commission 2001). The problem of

patients obtaining adequate nutrition in hospital is complex and one in which the food itself is only a small part (McGlone *et al.* 1997). No matter how well the food is produced, overall satisfaction can only be maximised by serving it properly in the right environment (Warner 2004). Dickinson *et al.* (2007) demonstrated that it is possible to change nursing practice at mealtimes and that such changes can lead to improvements in the patients' experience. O'Regan (2009) explains that to encourage optimum nutritional intake, the ward environment must be scrutinised to ensure it's suitability for promoting comfortable eating.

3.2.2 *The mealtime experience of patients in hospitals*

Nutrition and food consumption within the hospital dining environment differ from that experienced in the free-living eating environment (Stroebele and de Castro 2004). In the hospital environment patients are all 'guests' with different needs and demands, thus the hospitality they require may be of a different nature to that provided in hotels and restaurants. Patients attend hospitals to be treated and restored to health and not for the hospitality (Cassee and Reuland 1983); they are placed in a completely unnatural environment in which to choose and consume their meals (Kipps and Middleton 1990). Often unwilling customers, with a heightened state of anxiety, removed from the normal security of their home and familiar surroundings and are confined in alien physical surroundings with threatening noises, sights and smells (Kipps and Middleton 1990). Brotherton (1999) confirms that hospitality within this context where accommodation, food and drink are provided is not always voluntarily entered into by the participants, and the provision is not necessarily designed to enhance mutual wellbeing in the hospitality sense. Hospitals can be daunting places where patients are not in control and cannot come and go at will (Berry and Bendapudi 2007). One of the objects of providing hospitality is to improve patients' morale which is the state or sensation of wellbeing as contented patients are more likely to be relaxed and speed their own recovery (Kipps and Middleton 1990). The significance of hospitality is therefore paramount in such a setting, particularly as many of the patients cognitions and emotions can be enhanced due to fear, illness and loss of privacy (Berry and Bendapudi 2007; Severt *et al.* 2008).

Mealtimes are often the highlight of a patient's day, (Royal College of Physicians 2008) yet have not received appropriate respect from hospital staff conducting many routines and tasks. Administering dressings and drug rounds are undertaken during meals; such distractions and interruptions inevitably influence appetites and have a negative effect on the nutritional status of patients (O'Regan 2009). The type and choice of food offered, as well as the manner in which it is presented, impacts either positively or negatively on patients' experience and their perceptions of comfort and discomfort (Williams *et al.* 2008).

3.2.3 *Enhancing the mealtime experience*

The offering of experiences occurs whenever a company intentionally use services as a stage and goods as props to engage with individuals. In some cases the foodservice provides the stage for layering on a larger feast of sensations that enchant customers (Pine and Gilmore 1999). Whilst services are intangible experiences, they are also memorable where an individual has been engaged on an emotional, physical, intellectual or even a spiritual level. Service providers can enhance the environment in which consumers receive the service and establish ways in which to better engage them, to turn the service into a memorable event. Staging experiences is not entertaining customers, it's about engaging with them. They propose that an experience may engage guests on two or more dimensions that involve the level of guest participation and the connection and environmental relationship that unites the customer with the event. The coupling of such dimensions defines the four realms of experience; Entertainment, Educational, Escapist, Esthetic, which are mutually compatible domains that often comeingle to form uniquely personal encounters. Using these within a single setting, plain space becomes a distinctive place for

staging an experience (Pine and Gilmore 1999). In hospitality there is a need to stage-manage experiences and the environment (Hemmington 2007).

The meal experience is said to represent an event containing emotional components (Lashley *et al.* 2004). Customising a service can be a solution to staging a positive experience and it thus provides the first step towards creating memorable interactions that stand apart from the routine transactions mass producers impose on their customers (Pine and Gilmore 1999). A consumer should be allowed to develop experiences that suit their own needs and level of involvement (Prahalad and Ramaswamy 2004). To do this effectively, consideration must also be given to the fact that eating occasions are influenced by a range of contextual variables; cultural, nutritional, psychological, sociological, environmental and physiological, and foodservice. Understanding how these interact with each other to impact on food intakes can help to predict actual food consumption (Meiselman 2000). Indeed evidence suggests that altering social, temporal, environmental and hedonic variables can significantly influence the intake of nutrients (de Castro and Stroebele 2002).

Customers have a good, bad or indifferent experience whenever they purchase a product or service (Berry *et al.* 2002). The need to create value for customers in the form of experiences requires an understanding of the consumers journey from the expectations they have prior to the experience to the assessments they are likely to make when it is over (Berry *et al.* 2002). The experience for hospital patients is often unnerving and frightening which makes it difficult for the average patient to judge the quality of the 'product' on the basis of direct evidence (Berry and Bendapudi 2003). Within a hospital environment, the emotional needs of the patients are often systematically overlooked (Berry *et al.* 2002). With the understanding of a patient's journey an integrated set of service clues can be used to collectively meet or exceed people's emotional needs and expectations. Thus it is important to recognise such clues as a step towards managing a customer's experience (Berry *et al.* 2002). Diners in a table service restaurant use the types of clues illustrated in Figure 3.1 to judge their restaurant experience (Wall and Berry 2007).

Figure 3.1 The clues of service

[pic]

adapted from Wall & Berry (2007)

Wall and Berry (2007) discuss the role of service clues where functional clues are the basis for a restaurant's success and whilst they are the foundation of the dining experience they constitute only part of the experience. A variety of Mechanic clues affect consumers of a dining experience; the physical environment, atmospherics and ambiance created can influence people's cognitions, emotions, feelings and behaviours and because such mechanical clues are part of the experience they influence consumer's service perceptions. They are particularly influential in affecting quality perceptions for services in which consumers experience the facilities for an extended period of time. Mechanical clues can also influence consumers before they experience either functional or humanic clues (Wall and Berry 2007). An important function of mechanic clues is their influence on customer expectations; they have been found to function as implicit service promises that lead to inferences about what the service should be like (Zeithaml *et al.* 1993). Bitner (1990) believes that the physical surrounding environment or the 'servicescape' can influence customers through its effects not only on perceived performance but also on expectations. Consequently it is anticipated that customer's perceptions of mechanic clues will be positively related to their expectations of the service (Wall and Berry 2007).

Humanic clues in the form of the employees' behaviour reflecting service performance also

contribute to customers' perceptions (Berry and Bendapudi 2003). Whilst mechanical clues have an influence on a customer's expectations and perceptions, humanic clues have even stronger effects, thus humanic clues moderate the effectiveness of mechanic clues whereby the effect of humanic clues on perceived service quality will be stronger when mechanic clues are positive than when mechanic clues are negative. The composite of all the clues makes up the customers' total experience.

3.3 INFLUENCES ON BEHAVIOUR AND EATING OCCASIONS

The European Nutrition for Health Alliance (2006b) recommends that a patient centred approach is required to achieve good quality care and that by ensuring the eating environment is sociable, familiar, comfortable and flexible, it should be conducive to good nutrition.

Wansink (2004) intimates that an eating environment refers to the ambient factors which whilst associated with the eating of food are independent of food; such factors being atmospheric, the effort of obtaining food, the social interactions that occur and the distractions that may be taking place. Stroebele and de Castro (2004) indicate that the factors illustrated in Figure 3.2 affect eating occasions and food intakes.

Figure 3.2 Influences affecting eating occasions

[pic]

Adapted from Stroebele and De Castro (2004)

It is clear, that eating occasions are influenced by a large range of contextual variables. Understanding how these interact with each other to impact on food intakes can help to predict actual food consumption (Meiselman 2000). Indeed evidence suggests that altering social, temporal, environmental and hedonic variables can significantly influence the intake of nutrients (de Castro and Stroebele 2002).

3.3.1 *The impact of environmental variables*

The environment is experienced through all available senses at the same time and it is the accumulation of experiences that produces a physiological and psychological effect (Cassidy 1997). Not only do the physical settings that surround and support our daily lives exert a major influence on the way we think, feel and behave, but individuals too will actively influence the environment (Holahan, 1982). Our encounters with both physical and social aspects of the environment will impact on us in a number of ways which may be restricting or facilitating our behaviour. These environmental aspects may improve the quality of our lives or make demands which overstretch our coping resources and lead to negative health consequences (Cassidy 1997). Individuals react to places with two general and opposite forms of behaviour: approach and avoidance. Approach behaviours include all positive behaviours that might be directed at a particular place, such as the desire to stay, explore and affiliate; avoidance behaviours reflect the opposite (Mehabrian and Russell 1974). Human behaviour is influenced by the physical setting in which it occurs, with the effect of atmospheric, physical design and décor elements on consumers being recognised in many marketing, retailing and organisational behaviour texts (Bitner 1992). The built, man made, physical surroundings consisting of a complex combination of environmental features described as the 'servicescape' not only influence an individual's internal responses and behaviours, but the nature and quality of customer and employee interactions. The various dimensions of the servicescape that include all of the objective physical factors such as layout, lighting, colour and temperature can be adapted to enhance consumer actions (Bitner 1992).

Environmental factors are equally if not more important in determining our food choices and intakes than the actual food itself (Rozin 1996; Meiselman 2000; Meiselman *et al.* 2000). When the same food is served in different environments, acceptance of the food can be very different, which ultimately influences its consumption (Meiselman *et al.* 2000). Eating locations contribute to food acceptance, with the lowest ratings being given to hospitals and the higher ratings allocated to the “white table cloth” dining experienced in the restaurant environment (Meiselman *et al.* 2000; Meiselman 2003; Edwards *et al.* 2003). There is evidence to suggest that different locations containing the same populations show differences in food acceptance (Edwards *et al.* 2003).

Furthermore, Mathey *et al.* (2001) established that creating an enhanced dining environment in a residential care home for the elderly was one factor that positively influenced food intake. This influence of the physical environment provided for meals is further supported by Weber *et al.* (2004) indicating that people eat considerably more in a variously enhanced context. More recently, Mamhidir *et al.* (2007) reinforced this proposition by illustrating the affect an improved physical dining environment had for patients; viewing the meal as a whole, in a more holistic way, increased contact between patients, improved rating of appetites and increased body weights for the majority of the patients involved.

An investigation into the relationship between the level of arousal emotions and patient satisfaction with foodservice has indicated that the management of the environmental conditions where food is served is essential (Bélanger and Dubé 1996). Indeed, this eating environment plays an important role in whether or not patients eat their meals. Wherever possible they should be given a choice of eating in a dining room or a designated dining area and to sit at a table when eating their main meals (Cortis 1997; Council of Europe 2003). The hospital eating environment should focus on providing improved surroundings with a greater presence of personnel and should be free from unpleasant smell and odours (Council of Europe 2003). The ‘Essence of Care’ benchmark for food and nutrition advises that the environment should be conducive to the individual patient and not necessarily what is beneficial to practitioners and professionals (Department of Health 2006). With regard to the organisation of food and nutritional support in hospitals, BAPEN (2007b) suggest that the core objectives should focus not only on clinical and humanitarian dimensions, but also on environmental and psycho-social dimensions. These should include the provision of a pleasant environment conducive to enjoyment of food and suitable for various states of health and disease, with food able to be delivered to patients flexibly according to their needs in sites such as the ward, ward common room, or a patient restaurant. This element depends on an understanding of how to achieve an environment conducive to a good appetite and the enjoyment of food, which might imply investment in and the development of patient restaurant facilities or other innovations. Brush and Calkins (2008) suggest that modifications to the dining environment can improve the dining experience, support the rehabilitation process, and enhance overall nutrition.

3.3.2 *The impact of atmospherics on behaviour*

It has long been appreciated that the behaviour of consumers in making a purchase decision is influenced not only by the tangible service or product being offered but also the total product which might include services, warranties, images and packaging amongst many other features. One such significant feature of the total product is considered to be the place where it is bought or consumed. Kotler (1973) purports that the atmosphere of the place is the primary product as it can be more influential than the product itself in the purchase decision. The term atmosphere is used to describe the quality of the surroundings being captured through the sensory channels of sight, sound, scent and touch. The mechanism by which the atmosphere of a place affects purchase behaviour can be based on the causal chain shown in Figure 3.3.

Figure 3.3 The causal chain connecting atmosphere and purchase probability

[pic]

(Kotler 1973).

One way that Kotler (1973) suggests that the atmosphere can affect purchase behaviour is where it serves as an affect-creating medium where colours, sounds and textures of the establishment may directly arouse intuitive reactions that contribute favourably to purchase probability. A variety of components in an atmosphere may trigger sensations that might encourage a person to partake in the services or experiences. The aesthetic quality of the surroundings may affect immediate experience by influencing a sense of wellbeing in such surroundings; it may influence subsequent reactions to both the setting and its inhabitants; and it may influence spatial behaviour in that individuals are attracted to an appealing environment and are likely to avoid an unpleasant one (Nasar 1988).

The atmosphere of the environment consists of additional contextual variables such as physical surroundings including locations, décor, lighting, temperature, and odours (Wansink 2004). The effects of light, sound and temperature are all aspects of the ambient environment that can indirectly affect performance and behaviour in several ways. Inappropriate lighting can affect performance by creating conditions that are uncomfortable, distracting or tiring. Dimmed or soft lighting appears to influence consumption in two different ways: by increasing eating duration and by increasing comfort and disinhibition and that the effect of lighting may be particularly strong when dining with others (Wansink 2004). Smells can make people feel ill, hungry, happy or sad (Cassidy 1997). Unpleasant ambient odours are likely to shorten the duration of the meal and to suppress food consumption. Noise, often described as sounds a listener does not want to hear can be in the environment associated with negative consequences in terms of both physical and mental health (Holahan 1982). A large variety of sounds both human and technological are evident in many hospital situations which may influence the distress levels of both patients and staff (Cassidy 1997). Reducing sound levels can improve the hospital environment and the quieter environment can benefit both patients and staff which will ultimately enhance quality of care (Taylor-Ford *et al.* 2008). Temperatures that are uncomfortable may induce fatigue, boredom and irritability (Holahan 1982).

Such ambient stressors can affect individuals, large groups and even whole communities (Cassidy 1997). Many everyday features of ambient environments that are easily negotiated by the young can be challenging and stressful for the elderly and such environmental stressors in evidence particularly with the institutionalised life provided by nursing homes, sheltered care settings and hospital wards can exert powerful effects on our wellbeing, physical health, interactions with others, satisfaction and morale (Holahan 1982). Cassidy (1997) explains that the impact of the environment upon our senses has implications for predicting and explaining behaviour and must be considered in environmental design and planning. Furthermore, their impact on health and emotion has implications for health, clinical and developmental psychology. By manipulating the ambient environment in a positive way, it is suggested that atmospherics can increase consumption volume partly because they simply make it comfortable or more enjoyable for a person to spend more time eating.

The term ambience is defined by Collins (1998) as the atmosphere of a place. Upon entering a ward setting, Edvardsson *et al.* (2003) believe that most of us sense in a split moment the atmosphere of that setting. Eating takes place in an ambient environment and the effect of these stimuli has been illustrated in several studies (Bell and Meiselman 1995; Meiselman *et al.* 2000;

Mathey *et al.* 2001; Bellisle *et al.* 2004; Stroebele and de Castro 2006). In using ambience to serve as an effect-creating medium and a surrounding influence, Stroebele and de Castro (2004) believe that more attention to manipulating ambient elements as a whole or individually should be applied therapeutically to alter food intake. Considerable research indicates that environments that elicit feelings of pleasure encourage people to spend more time and money (Donovan and Rossiter 1982) and that the physical setting may also influence the customers' ultimate satisfaction with the service (Bitner 1990).

Knowledge about the way in which the physical environment affects performance has been applied to the formulation of design standards for some aspects of the ambient environment in buildings (Holahan 1982). Such effects of atmospherics or physical design and décor elements on consumers have been recognised by many service providers and managers in marketing, retailing and organisations (Bitner 1992). Other environmental objects such as the quality of materials used within an environment can create an overall aesthetic impression (Bitner 1992). This was in evidence when the ambience of a restaurant was changed to creating a typical Italian atmosphere with red and white table cloths, the Italian Flag and the provision of Italian menus (Bell *et al.* 1994). Everything on a restaurant table can potentially communicate to a customer, including the table covering used, if any, the use of paper or cloth napkins and their texture, and the cleanliness of the table; such assessment is then combined with reactions to the presentation of the meal and the food itself (Wall and Berry 2007).

3.3.3 *The need for personal space and privacy*

In recognition that environments are experienced holistically, consideration of different aspects of the atmosphere should involve not only smells, visual impact, temperature, noise but also issues such as personal space, and privacy (Cassidy 1997). Personal space is described by Holahan (1982) as the invisible zone around an individual into which other persons may not trespass and which moves with an individual as he or she changes location. It spans a vast continuum which is a function of an individual's relationship with the people involved and the society or culture to which we are accustomed and can be defined further as interpersonal space. This invisible 'bubble' expands or contracts when interacting with others in a range of situations and is used to communicate a person's relationship with others, to protect their territory and to generally regulate their social interaction, with the use of interpersonal distance being a function of the physical environment. It is not necessarily the case that the person desires to isolate themselves; simply having the option to do so as and when required may be sufficient. Ultimately however, it is the physical environment that enhances or restricts control over access to privacy (Cassidy 1997).

It is also essential to recognise a person's need for privacy which involves the regulation of interpersonal boundaries where control over choice, access and stimulation (from other people, visual intrusions and unwanted noise) are paramount. Institutional privacy provided can affect the range of behaviours in which hospital patients engage (Holahan 1982). The findings from Douglas and Douglas (2004) confirm that within a hospital environment patients felt that the ability to feel at home and look after oneself in relative privacy was important.

Cassidy (1997) identified a need to obtain a balance between achieved and desired privacy which will be governed by the different processes that control access to the self. Such process involve aspects of personal space which may, if not operating effectively, result in either crowding or alternatively social isolation, loneliness and lack of social support. When operating effectively, by enabling people to be alone when desired, yet providing access to interaction with others, then less stress, better health and satisfaction and general wellbeing will be enhanced and will have a major effect on the human experience within a hospital. This is a view that appears to be

supported by Todres *et al* (2009) who suggest that at different times, in different ways, privacy, intimacy and human connectedness are all important. Accordingly, it is pertinent when considering the design of the hospital environment, that conflicts of interest are acknowledged not only between staff and patient needs but also between staff and visitors to the hospital. The social psychological requirements in the layout of hospital space are complicated by this need to balance the patients' needs for privacy with their needs for social contact, as well as with staff demands for functional efficiency (Winkel and Holahan 1986). In cases where the impact on people has been considered in hospital designs, the outcome has resulted in an improvement of the quality of the life for both patients and staff in addition to improvement in the visiting experience which has ultimately led to an increase in the amount of visiting which is in turn a significant issue for the elderly and those in long term care (Cassidy 1997). Patients have suggested that space away from the bedside to interact with family friends and other patients would help in the healing process and although many hospitals are designed with such space, these areas are frequently used for other purposes than originally intended (Williams *et al*. 2008).

3.3.4 Community experiences

Each person is a unique individual and this uniqueness exists in relation to others as "to be human is to be in community" (Todres *et al*. 2009). This aspect of togetherness can develop a sense of empathy with others engaged in similar experiences. Often in healthcare environments, such everyday social connections are disrupted and patients can feel lonely, isolated and alienated from others (Todres *et al*. 2009). Human beings have a natural desire to coalesce around common interests, needs and experiences, described as "thematic consumer communities" where individuals share ideas and feelings without regard for geographic or social barriers (Prahalad and Ramaswamy 2004). On occasions, this 'co-creation' experience can be seen with patients (Prahalad and Ramaswamy 2004) and this concept is demonstrated whereby patients on a hospital ward reported the importance of interacting with each other for mutual support and that even when very ill, when able to interact they preferred being in the company of others (Rowlands *et al*. 2008).

Lugosi (2008) takes this a step further where, 'meta – hospitality' is described as an overt willingness, not only to share one's social space, but to create a shared experiential space in which participants become part of a contextually defined social entity with emotional experience being at the heart of the encounter. There is a shift in the host-guest relationship to the guest-guest transaction in the creation of hospitable space. This notion of communitas experiences involves a temporary sense of unity or sociality between individuals. Such experiences are lived and created in particular spaces and times and whilst they involve the production and consumption of food, drink and the offer of shelter they are essentially about the creation of a shared emotional space. These experiences may require a physical layout that encourages close physical proximity and intergroup interaction but that the layout of the service environment alone is unable to ensure such interaction. It is suggested that these communitas experiences can be created using the roles of an instigator, an enhancer, a director and a facilitator to provide the context, to mediate between those involved or indeed ensure non interference (Lugosi 2008).

Consequently, further factor influencing the atmosphere for the meal environment involves not only the physical surroundings of the room where the meal is taking place but the company at the table. Comfort and warmth, being an accepted and a valued member of the social group all influence the guest's emotions and contribute to the atmosphere (Rapp 2008). Riley (1994) describes atmosphere in a more holistic way as the tone or mood conveyed by the place, the attributes of which are influential as they interact with and influence the diners who subsequently contribute to the atmosphere themselves. In a study conducted by Lashley *et al* (2004), the consequences of a positive atmosphere were acknowledged as a spirit of enjoyment between the

members of the company that promoted a feeling of sharing, belonging and togetherness in a socially relaxed atmosphere. A significant feature of atmosphere was a feeling of being 'at home' characterised by descriptions of the atmosphere as warm, homely, cosy, traditional and friendly. These were all highly valued and were purported to contribute to the overarching desire for comfort and a sense perhaps of a knowable and non threatening environment. Lashley *et al* (2004) recognise that service in the provision of hospitality involves the management of emotions; in particular, it required the emotional engagement of both the guest and service staff in the quest for enjoyment and entertainment, and the need to make the guest feel at ease or 'at home' and 'special' while still respecting their social spaces.

3.3.5 Communal hospitality

Sherringham and Daruwalla (2007) postulate that by sharing food, even for one meal, a common bond with all humanity is signified. This statement could be interpreted as meaning the actual physical sharing of food or perhaps sharing the experience of eating food together. They suggest that food and eating forms bonds that link people together. Lashley (2000) also proposes that hospitality related activities in the form of eating and drinking can assist in the development of social bonds with others and the subsequent satisfaction of social needs. Selwyn (2000) supports this notion believing that when people eat together it creates a situation that can convert strangers into familiars, enemies into friends, friends into better friends and outsiders in to insiders. Lashley *et al* (2004) also evidenced this concept, describing that where the members of the company were unfamiliar, it was acknowledged by the end of the meal, that the sharing of hospitality had also turned 'strangers into friends'. It was apparent that a sense of security, social cohesiveness, belonging and trust experienced in such a dining environment, contributed positively to the potential for each individual to enjoy the meal. This atmosphere created a feeling of being 'at home' whilst the social space of the guest was respected. Gustafsson (2004) explains that the atmosphere is created by the diners themselves and that the verbal communication at the table between the diners is especially important. The pleasures and positive emotions elicited from such experiences are types of affect with a known determining influence on consumption behaviour in general (Dube *et al.* 2004). Such sociological variables have been stated to have more impact on eating than any other (Herman *et al.* 2003). Mealtimes not only provide sensory pleasures but by dividing up the daily activities provide a rhythm and a focus for such social interaction (Sobal and Nelson 2003; Hopkins 2004).

3.3.6 The influence of sociological variables

Social withdrawal has been widely reported amongst patients, particularly the elderly in institutions, and it has been suggested that this behaviour of social disengagement can be manifested in an environment which offers little opportunity or resources for engaged activities (Davies and Snaith 1980). Research conducted by Edvardsson *et al* (2005) illustrates that by engaging in activities or conversations of interest could evoke experiences of being able to escape one's situation and divert one's mind for a time, adding meaningful content for the day and hope for tomorrow for patients, staff and significant others. Webster and Bryan (2009) concluded that communication with the staff that conveyed a caring and interested attitude helped patients feel important and cared for.

Eating alone is not generally a pleasant experience for most people, where individuals are not especially eager to prolong the situation (Herman *et al.* 2003). Institutional meals are rarely pleasant social occasions; patients are often left to eat in isolation which may restrict consumption (Holmes 1999; Xia and McCutcheon 2006). To rectify this situation, the hospital eating environment should be welcoming, supporting the social aspects of eating (Hospital Caterers Association 2004). Davies and Snaith (1980) found that the behaviour of geriatric patients at mealtimes is strongly influenced by the physical and social setting where both formally

isolated patients and previously sociable patients benefitted when placed at tables during mealtimes. Edelman *et al* (1986) established that patients ate more in a social rather than an isolated situation confirming that eating together appeared to increase intake where subjects talked with each other and lingered at the table with many continuing to nibble at their left over food. This positive influence on patients' behaviour is further supported by Wright *et al* (2006) whose findings suggest that providing a supervised dining room for ward meals on an acute elderly medical ward at lunchtime will increase an individual's energy intake. Such interaction at meals provides the platform for sociability and socialisation (Sobal and Nelson 2003). In most hospitals, this social aspect of mealtimes is immediately lost as patients are often served meals at their beds (Fulham 2004).

Very little research on the eating behaviour of adults has been conducted in the natural environment; however an observational study conducted by Klesges *et al* (1984) investigated the effects of a social setting in fast food outlets and formal dining restaurants. Their findings indicated that individuals eating with groups of people ate more than those who ate alone and that those in mixed sex groups ate even more when eating in fast food restaurants. These results supported similar effects found in laboratory studies and were used to begin to document the ability to generalise the social influences on eating behaviour in public eating environments (Klesges *et al.* 1984).

De Castro and Brewer (1992) also indicated that the amount of food an individual eats increases incrementally as a power function with subjects eating an average of 28% more when one other person is present increasing to 53% more with three or more people are present. However, this power function model of social facilitation was not supported in a studies conducted by Clendenen *et al* (1994) and Feunekes *et al* (1995). Notwithstanding, more recent research strongly supports that social facilitation extends the duration of the meal which in turn leads to an increase in consumption (de Castro 1990, de Castro and Brewer 1992; Feunekes *et al.* 1995; Pliner *et al.* 2006).

When reviewing the influence of social facilitation, consideration must also be made with regard to eating companions, as companions at mealtimes have differing effects on a subject's intake, with family and friends exerting an effect beyond other companions (de Castro 1994; Clendenen *et al.* 1994). Not only does the social relationship between the people consuming a meal tend to influence consumption but the behavioural attributes of eating companions can affect intake (Stroebele and de Castro 2004). For most people, eating is a pleasant experience, as long as individuals are eating with people they like. Although group dining generally facilitates intake, the effect can be less dramatic when eating companions are strangers rather than friends and relatives (Herman *et al.* 2003). Nevertheless, there is evidence of social facilitation between strangers where a meal with strangers is more of a social occasion than is a meal eaten alone (Herman *et al.* 2003). Figure 3.4 illustrates how social interactions influence food consumption volume.

Figure 3.4 **The influence of social interactions on food consumption**
Volume

[pic]

(Wansink 2004)

The research into the phenomenon of social facilitation indicates that the amount an individual consumes is likely to be influenced by many factors, including acquaintance, comfort, pleasantness and concurrent activities or conversation (Clendenen *et al.* 1994). Social influences on eating are profound, arguably greater than any other influence on eating where social models override the effect of substantial hunger and satiety (Herman *et al.* 2003). Eating together operates to develop functional relationships between individuals as well as nurturing and fuelling their bodies (Sobal and Nelson 2003).

3.4 THE ROLE OF ENVIRONMENTAL FACTORS ON EMOTIONS

Seminal research conducted by Mehabrian and Russell (1974, 1974a) has focused on the role that environmental factors have on emotions. Emotional reactions represent the common core of human response to all types of environments and that three basic emotional responses illustrated in Figure 3.5, can be used to describe an emotional state.

Figure 3.5 Components of emotional state

[pic]

Adapted from Mehabrian and Russell (1974a)

Each of these three basic dimensions of emotion is independent of the other two; none of the three dimensions can be subsumed by others. Physical or social stimuli in the environment directly affect the emotional state of a person, thereby influencing his behaviour in it. If there are complex and changing combinations of multimodal stimulation encountered in every day environments these cannot be readily related to the emotional response dimensions. This must be considered when developing a conceptual framework that indicates what variables are relevant or irrelevant and which should be explored and which should be controlled.

A person enters a situation with different levels of emotion; characteristically these emotional levels associated with personality and temporary internal states (such as hunger) combine with the situation (environmental stimuli) to determine the overall emotional response that the person reports and that mediate other behaviours in the situation. The pleasure state of an individual prior to their contact with a situation is not as important as their arousal state in determining their approach-avoidance reaction to that situation, thus, whatever level of pleasure a person starts with, they are likely to prefer situations where pleasure is enhanced; however, this will depend on their arousal level. An individual's preference for an environment is closely related to their preferred arousal level; characteristically some people prefer calm settings whilst others actively strive to find novel, complex or unpredictable settings that heighten their arousal. Physical approach, preference, liking or positive attitudes, exploration, performance and affiliation are all maximised at a moderate level of arousal.

Approach behaviour of all types increases as a person experiences increased pleasure. Preference is increased by pleasant stimulations that are not contingent on the approach behaviour but can be simply due to a person's associations with a pleasant environment, tasks or persons within it. The desire to performing some task or level of affiliation can be increased by making the surrounding more pleasant or decreased by making it less pleasant. Russell and

Pratt (1980) believe that properly designed physical environments may elicit feelings of excitement, pleasure or relaxation.

5. MOODS

The functional consequences of malnutrition not only involve the physical changes but also mental changes such as depression, anxiety, irritability, apathy, and loss of concentration which are all dimensions that had been evidenced to influence the measurement of a person's mood (McNair *et al.* 1971; Zanga *et al.* 2007).

Moods are defined conventionally as a 'relatively' sustained and predominant emotional state that is more likely to vary over hours and days rather than over minutes or seconds (Trzepacz and Baker 1992). Mood states refer to the general, pervasive, affective states that are transient and particularised to specific times and situations (Gardner 1985). Within the service sector, mood induction can be contiguous to an encounter, thus increasing the likelihood that its effects will have an impact on a transaction. Mood induction may be affected by aspects of the transaction procedure, interactions with service providers and physical settings (Gardner 1985). In addition, the mood state can be significantly affected by social interactions and changing physical environments (Lorr and Wunderlich 1988). A mood state can also be altered by food, drink, recreation and music (Trzepacz and Baker 1992).

There is growing evidence of the positive impact that an environment can have on health and healing (Kings Fund 2006). Each person enters an environment in a particular mood state which is likely to be affected by variations in the physical surroundings. When considering an environment's physical surroundings, there is evidence to indicate that design related factors can have powerful effects on human behaviour (Gardner 1985). Indeed Rowlands *et al.* (2008) found that the patients they studied felt that the care environment affected their moods. Several reports illustrate that improving the environmental stimuli known as ambience will significantly influence arousal emotions (Bitner 1992; Stroebele and de Castro 2004).

Positive emotions are the best predictors of patient satisfaction with foodservice (Bélanger and Dubé 1996). Every day emotions can have a strong influence on decision making, particularly with the elderly and have been shown to influence the food intake, perception of quality and satisfaction even in a younger population (Paquet *et al.* 2003).

3.6 THE INFLUENCE OF EXPECTATIONS

Carman (2000) recognised that expectations of those who have not experienced a service differ from those who have; thus it is inappropriate to assume therefore that persons who have never experienced an acute hospitalization will have well formulated views on the importance of various attributes of that hospitalisation (Carman 2000).

Individuals have different expectations to different eating environments (Meiselman *et al.* 2000). Perceptions of food quality are affected by people's expectations about the eating location (Stroebele and de Castro 2004). Meiselman *et al.* (2000) suggest that one of the simplest and most powerful influences of the eating environment on food acceptance is that consumers are rating their expectation of the food in addition to its actual properties. The quality and acceptability of hospital food often receives a negative attitude even when an average consumer has not had any experience of it (Cardello *et al.* 1996). The results of previous research conducted (Cardello 1996; Tourila *et al.* 1994) have shown that prior to any experience of the actual food, negative expectations will decrease the acceptance of food when eaten, whereas positive expectations will increase the acceptance. Changing these expectations of the eating environment will ultimately change the behaviour of the consumer (Cardello 1996; Cardello *et al.*

1996).

In a series of studies carried out by Cardello *et al* (1996) the expected acceptability and expected quality of foods served in a hospital, a military institution, on an airline and at a school fell below those for other foodservice settings studied; the home, full service restaurant and fast food diner. Once established, this negative attitude may influence subsequent exposure to that food, so that even if the food were quite high in quality, the negative attitude could lower the perceived acceptability to make it consistent with the attitude. An alternative explanation for the findings of these studies is; it is assumed institutional food is poor, which is accurately communicated by the media and other sources; such information can then create negative attitudes toward the food, even among those who have never eaten it. The primary causes for such negative attitudes are attributed to poor variety, poor presentation and poor physical dining settings and it is these expectations that can affect actual likes and dislikes for food when eating. Cardello *et al* (1996) also maintain that their findings indicate a simple association with food with an institutional foodservice system lowers the expected liking for the product and the actual like or dislike for foods when tasted rarely attains the cognitive extremes reflected in the attitude ratings. Their data show consistency with an assimilation model of the effect of disconfirmed expectations on food acceptability evidencing that when consumer expectations for the acceptability of a product are high, actual acceptance of the product 'assimilates' the higher expectation. When expectations are low, regardless of how the expectation is created actual acceptance of the product assimilates towards the lower expectation. This may perhaps indicate support for Vroom's (1995) Expectancy Theory which states that an individual will act in a certain way based on the expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual.

Cardello *et al* (1996) advocate that rather than spending time and effort on trying to improve the intrinsic qualities and acceptability of the food, time and research effort should be spent on developing better consumer marketing strategies for institutional foods.

3.7 THE EFFECT OF ATTITUDES ON BEHAVIOUR

In addition to understanding the role that expectations play on behavioural outcomes, consideration must be given to the effect that attitudes have on behaviour. An attitude is not just some vague kind of mood or sensation, but a form of experience that refers to specific objects, events, people or issues and is primarily evaluative. We express our attitudes by describing the objects of our experience in evaluative terms. We do not typically treat our attitude as 'just a matter of opinion'; we regard our attitude as 'the truth' at least, until someone can introduce new facts or arguments to change our mind (Eiser and Van der Plicht 1988). Defined by Ajzen (2006) as a disposition to respond favourably or unfavourably to an event, object, person or institution, many social scientists agree that attitudes involve people's evaluative feelings towards some object or issue that tell us how much we like or dislike something (Holahan 1982). Holahan (1982) believes that environmental attitudes are people's favourable or unfavourable feelings towards some feature of the physical environment or towards an issue that is evident to the physical environment and that these serve an important psychological function in our lives helping us to make decisions about a wide range of behaviours.

Ajzen (2006) classifies attitudes into three categories of responses: cognition, affect and conation. Responses that reflect perceptions of and thoughts about the attitude object are categorised into the cognitive responses. Affective responses from which attitudes can be inferred has to do with evaluations of and feelings toward the attitude object. Conative responses are behavioural inclinations, intentions, commitments, and actions with respect to the attitude object.

3.7.1 *Theory of Reasoned Action*

The Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975) considers how people's behaviour is influenced by their attitudes and their intentions. The theory is based on the assumption that human beings are usually quite rational and make systematic use of all information available to them. People consider the implications of their actions before they decide to engage or not engage in a given behaviour. It suggests that behaviour is determined by a person's intention to perform a behaviour and that this intention is, in turn a function of his/her attitude toward the behaviour and his/her subjective norm. The best predictor of behaviour is intention and intention is the cognitive representation of a person's readiness to perform a given behaviour and is considered to be the antecedent of behaviour. Most actions of social relevance are under volitional control and therefore a person's intention to perform behaviour or not is viewed as the immediate determinant of the action. This theory can be used to predict people's behaviour but whilst there will not always be perfect correspondence between intention and behaviour a person will generally act in accordance with his/her intention; however, there is a need to understand a person's behaviour and not just to predict it. In the TRA, a person's intention is a function of 2 basic determinants as shown in Figure 3.6.

Figure 3.6 Factors determining a person's behaviour in the Theory of Reasoned Action

[pic]

Notes:

- (1) Attitude towards behaviour is one of a personal nature that reflects the individual's positive or negative evaluation of performing the particular behaviour of interest.
- (2) Subjective norm reflects the social influence which is a person's perception of social pressure to perform (or not) the behaviour under consideration. Individuals will tend to perform a behaviour when they evaluate it positively and when they believe that other important others think that they should perform it.

adapted from Ajzen and Fishbein (1980).

Attitudes are a function of beliefs; generally a person, who believes that performing a given behaviour will lead mostly to positive outcomes, will hold a favourable attitude towards performing a given behaviour. A person who believes that performing a particular behaviour will lead to mostly negative outcomes will hold an unfavourable attitude. The beliefs underlying a person's attitude towards behaviour are called behaviour beliefs.

Subjective norms are also a function of beliefs; it is the person's belief that specific individuals or groups think he should/should not perform the behaviour. Generally speaking, people who believe that if the referents with whom they are motivated to comply think that they should perform the behaviour, they will perceive social pressure to do so. Conversely, people who believe that if the referents with whom they are motivated to comply, think that they should not perform the behaviour they will perceive social pressure on them to avoid performing the

behaviour. Thus, the subjective norm may exert pressure to perform or not to perform a given behaviour, independent of the person's own attitude towards the behaviour in question.

TRA whilst referring to a person's attitude toward the behaviour does not include such traditional attitudes as attitudes towards objects, people and institutions. Its emphasis is on attitudes towards behaviour and not attitudes towards objects and questions a fundamental assumption that a person's behaviour towards a target is determined by his attitude toward that target. The analysis of behaviour in TRA also discounts personality characteristics such as authoritarianism, introversion-extroversion, and the need for achievement; demographic variables including sex, age, social class and race in addition to social role, status, socialization, intelligence and kinship patterns.

3.7.2 Theory of Planned Behaviour

The TRA was developed to establish the determinants of behaviour intentions with respect to volitional behaviour; that is, the theory was concerned with the causal antecedents of intentions to perform behaviours over which people have sufficient control. The Theory of Planned Behaviour (TpB) is a more recent extension of this model which addresses the possibility of incomplete volitional control by incorporating the additional construct of perceived behavioural control (Ajzen 2006).

Behaviours which can usually be executed (or not executed) at will are sometime's subject to the influence of factors beyond one's control; thus volitional control can be best viewed as a continuum. Consequently, the performance of most intended behaviours and the attainment of most desired goals are subject to some degree of uncertainty. Factors that influence successful performance of an intended action can be classed as internal and external factors. Internal factors relate for example to information, skills and abilities of an individual which can be overcome but other internal factors such as intense emotions, stress or compulsions, are more difficult to neutralise. External factors can be situational and environmental factors which impinge on a person's control over behaviour, as is the case with lack of opportunity which disrupts an attempted behaviour despite the basic desire to perform the behaviour not changing. Dependence on others will also influence behaviour but as with lack of opportunity, will often result in a temporary change in intentions. However, when repeated efforts to perform the behaviour result in failure, more fundamental changes in intentions can be expected. Hence, a measure of intention is likely to predict performance of behaviour only to the extent that these criteria are under volitional control.

Whilst it is unclear what constitutes actual control over behaviour, it is possible that people's perceptions of the extent to which they have control over a behaviour quite accurately reflects their actual control. This sense of self – efficacy or perceived behavioural control refers to the perceived ease or difficulty of performing a behaviour and it is assumed to reflect past experience as well as anticipated impediments and obstacles. When volitional control is high, intentions are good predictors of behaviour, and including a measure of perceived behavioural control accounts for little if any additional variance. When behaviour is not under complete volitional control, however, measuring perceptions of control can make a valuable contribution.

According to TpB, intentions and behaviours are a function of three basic determinants as illustrated in Figure 3.7. The third, perceived behavioural control considers the issues of control and is the sense of self efficacy or ability to perform the behaviour of interest.

Figure 3.7 Factors determining a person's behaviour in the Theory of Planned Behaviour

[pic]

adapted from Ajzen and Fishbein (1980) and Ajzen (2006).

Usually, people intend to perform a behaviour when they evaluate it positively, when they experience social pressure to perform it and when they believe they have the means and opportunities to do so. The theory assumes that the relative importance of attitude toward the behaviour, subjective norm and perceived behavioural control depends in part on the intention under investigation. For some intentions, attitudinal considerations are more important than normative considerations, while for other intentions, normative considerations predominate. Similarly perceived behavioural control is more important for some behaviour than for others.

In the hospital environment, the patients and visitors evaluate their perceived experience and build their future intentions based on their service experience (Severt *et al.* 2008). Such consumer behaviours are underpinned by the TRA and TpB. A study conducted to investigate the basic dimensions of patient emotional experience of hospitalisation identified that patients who felt in control of the situation during hospitalisation expressed significantly more positive emotions (Bélanger and Dubé 1996). It has been proposed that one way to increase higher perceived control is to give as much responsibility as possible to every patient in making choices (Langer and Rodin 1976; Bélanger and Dubé 1996).

Whilst Douglas and Douglas (2005) purported that this sense of personal control was an important feature of the hospital environment, Williams *et al* (2008) confirmed that patients indicated that it was usually difficult for them to be independent and have personal control when hospitalised. They were usually confined indoors, having to eat different food than they might normally eat at home, sleeping in a different bed and being told what to do. When patients were able to have some independence in their daily living and when they were able to make personal choices, they felt more comfortable both physically and emotionally.

8. THEORY DEVELOPMENT

A thorough review of this research has led to the development of a conceptual model in respect of the factors that might influence patients' mealtime experience and is presented at Figure 3.8.

Figure 3.8 Conceptual model for factors affecting patients' foodservice experience

[pic]

3.9 CONCLUSION

With the intention of focusing on the hospital dining environment, identifying any provision of hospitality that is afforded therein and determining what factors influence patient's behaviour and experience within this context, the critical evaluation of published literature continued to use an interdisciplinary approach. This specifically focused on a review of hospitality, environmental psychology, sociology, marketing, and consumer behaviour.

The review highlighted that despite acknowledging that the physical environment of the hospital can have a critical role to play in both prevention and treatment, it represents one of the most disregarded and obscured constituents of both prevention and care. What has been clearly demonstrated is that the problems encountered by patients with regard to meeting their basic nutritional needs, may be prevented if the medium through which care is administered, could be changed so that it is more congruent with the healing process.

Whilst it is apparent that the hospital mealtime experience provides the basic needs of hospitality, truly hospitable behaviour that focuses on enhancing individual's experience, generally provided within the private domain of hospitality, is not in evidence within such institutional healthcare settings. Hospitality should at the very least enhance a patients' wellbeing by transforming their experience from just 'eating out of necessity' and restoring them to a position of a positive state of mind and body.

In addition, it is evident that environmental variables such as light, sound, temperature, amount of space, and privacy can influence a person's behaviour, experience, and daily activities. Many human activities can be affected by both the designed and natural environments experienced in daily life and environmental change can be used to address existing difficulties and prevent new problems (Winkel and Holahan 1986).

An important aspect highlighted throughout the research is the comfort and security gained from being able to feel 'at home' in a welcoming and secure environment. The research suggests that social interaction can have positive influences on people's experience. Mealtimes are social experiences which often provide a patient with relief from the hospital routine, tests and tasks, and are thus an ideal platform to improve the quality of the patients' hospital foodservice experience, which will ultimately result in improving their overall wellbeing. In the hospital environment, patients have shared and common needs, interests and experiences. Creating a more homelike environment may provide an opportunity to promote feelings of sharing, belonging and togetherness which will in turn support the rehabilitation process and ultimately enhance their overall nutritional intake.

Appreciating that it is an issue that has to be addressed by a multidisciplinary approach; aware that initiatives have been adopted in terms of the intrinsic qualities of the food, the delivery system for the food and the attempts to bring improve clinical standards, this stage of the research has focused on understanding the influence that sociological and environmental variables could have on the eating environment which might impact on patients' wellbeing, food acceptance and foodservice experience. To establish if such variables have a positive outcome, the Expectancy Theory and the TpB have been used to underpin this study and the way in which

it is conducted. TpB has been applied to hundreds of studies (Ajzen 2006) since its inception which have provided considerable support for the theory in a large variety of behavioural domains.

CHAPTER FOUR

Methodology & EMPIRICAL STUDIES

4. INTRODUCTION

The purpose of this chapter is to present the justification for the research design and to provide the methodology used. It initially provides an overview of the research and then presents the ontological and epistemological approach adopted which is illustrated with the schematic diagram of the research design and process. The empirical studies have been conducted within 4 sequential phases and thus the work is presented in the order of these phases.

4.1 OVERVIEW OF RESEARCH DESIGN

Teddlie and Tashakkori (2009, p21) define research methodology as a broad approach to scientific enquiry specifying how research questions should be asked and answered (Bryman 2001; Robson, 2002). This includes worldview considerations, general preferences for designs, sample logic, data collection and analytical strategies, guidelines for making inferences, and criteria for assessing and improving quality.

The rationale of this study was to evaluate the effects a hospital ward eating environment had on patients' foodservice experience by focusing on establishing which environmental and contextual stimuli and other contextual factors affected their assessment of hospital foodservice. Having collected, analysed and evaluated data regarding the patients' foodservice encounters, a profile for Orthopaedic patients has been developed which focused on their mood, food intake and their assessment of the foodservice provision. An enhanced dining environment was provided which endeavoured to offer an environment that would enable a unique co-creation to evolve by facilitating the creation of communitas experiences (Lugosi 2008); whilst encouraging the natural emergence of the thematic consumer community (Prahalad and Ramaswamy 2004).

The methodological approach adopted has considered the contextual setting and the stakeholders within this setting where examination of the behaviour, perspectives, feelings and experiences of the patients, staff and stakeholders involved was essential (Holloway and Wheeler 2002). Consequently, an exploratory case study approach was adopted to correspond with the emergent nature of the study (Creswell 2003).

1. *Ontological and Epistemological Approach*

To address the fundamental aim of this research effectively, a mixed methods design was chosen which was considered to be superior to the single approach design (Teddlie and Tashakkori 2009) in the following ways. The research simultaneously addresses a wide range of confirmatory and exploratory questions with both qualitative and quantitative approaches; it provides stronger inferences and presents the opportunity for a greater assortment of divergent views.

Qualitative research

Qualitative research involves the quality and nature of human experiences and what these phenomena mean to individuals, by focussing on this more naturalistic and holistic way subjects are studied in naturally occurring settings (Teddlie and Tashakkori 2009). It is used within phases

1 and 4 as a form of exploratory research (Creswell 2003) with the aim to generate information about aspects of a patient's foodservice experience and the context in which it occurs.

Frequently applied to research into health and nutrition, it aims to understand patterns of behaviour and how these patterns may influence and interact with health and nutritional status including patterns of food consumption. Of particular interest to this study, is its use in designing and implementing interventions that are appropriate to healthcare contexts and groups of individuals within such contexts (Draper 2004). Non participant observation, patient interviews and exploratory interviews with the staff and other stakeholders were used to elicit the patients' and stakeholders' views, opinions, values and advice to gain an understanding of the real world environment of the hospital ward at mealtime (Holloway and Wheeler 2002). Undertaking any kind of exploration involving people is complex and perhaps even more so when investigating hospital patients which requires a very sensitive approach; a qualitative, principled approach of enquiry helped to gain an understanding of mood and behaviour (Robson 2002). Such research can offer insights and understandings with wider relevance; concerned with the nature of human experiences it seeks to understand and explain beliefs and behaviours (Draper 2004) whilst acknowledging the human instrument as forming the context and multiple realities within which phenomenon operate (Davies 2003). Several advantages in using qualitative research as indicated in Figure 4.0 were acknowledged as being particularly relevant to this study.

Figure 4.0 Advantages of using qualitative research in the Hospital Eating Environment study

Adapted from Johnson and Onwuegbuzie (2004)

Whilst recognising the advantages that qualitative research would contribute to this study it was important to acknowledge its restrictions (Johnson and Onwuegbuzie 2004):

- Knowledge produced can not be generalised.
- Difficulties in making quantitative predictions.

- Not appropriate for testing hypotheses and theories.
- Possibility of reduced creditability with the relevant stakeholders.
- Results are more easily influenced by the researcher's personal biases.

However, findings of qualitative research can be used to draw different kinds of inference that are of a theoretical or conceptual nature rather than empirical which is more concerned with developing concepts, understanding phenomena and theoretical propositions that are relevant to other settings and other groups of people (Draper 2004). With its emphasis on meaning and understanding, qualitative research complements quantitative research by answering questions that are opaque to quantitative research (Draper 2004).

Quantitative research

Quantitative methods are succinctly described by Teddlie and Tashakkori (2009) as the techniques associated with the gathering, analysis, interpretation and presentation of numerical information. This approach was adopted for Phase 2 of the study, allowing for analysis to provide a description of the variables that influence the dining experience of patients and to establish any differences between such variables (Teddlie and Tashakkori 2009). Phase 3 of this study concentrated on developing and evaluating a profile of Orthopaedic patients' experience of foodservice which measured their food intake, attitude to foodservice and mood prior to and following the meal experience. This quantitative approach provided an objective hypothetico-deductive method for testing the theoretical findings and hypothesis, moving from the general to the specific (Holloway and Wheeler 2002) not contaminated with subjective preferences and personal bias (Carr and Kemmis 1995).

Quantitative research is often confirmatory in nature and driven by theory and the current state of knowledge about the phenomenon under study. It involves conducting investigations to test propositions that can be based on a conceptual framework. Descriptive research, on the other hand, is conducted with the goal of exploring the attributes of a phenomenon or the possible relationships between variables (Teddlie and Tashakkori 2009) and is the approach adopted for this phase of the research. Several advantages in using quantitative research shown in Figure 4.2 were acknowledged for this study.

Figure 4.1 Advantages in using Quantitative research in the Hospital Eating Environment study

Mixed methods research

Constructing a framework to establish the relationships between the variables and the phenomenon being reviewed involves consideration of what effects should be controlled, what effects might interact with the independent variable and how to integrate different variables and methods (Mehabrian and Russell 1974). When researching the behaviour of human beings in their real environment it is impossible to completely control the conditions of any experiment. Aspects of attitudes, motivations, actions and personalities may not be capable of being examined with a one “reality” approach (Davies 2003). In consideration of this, taking a purely positivist stance was inappropriate because of the requirement to look for the existence of a constant relationship between two variables or events. Within this study both natural and social phenomena exist and as there are fundamental differences between them, different methods were used for different subject matters (Robson 2002).

Mixed methods research is formerly defined as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study (Johnson and Onwuegbuzie 2004). Implicit in the prominent role played by a single study is the valuing of mixed methods in producing converging evidence, more compelling than might have been produced by any single method alone (Yin 2006, p41). The goal of mixed methods research is to draw from the strengths and minimize the weaknesses of both quantitative and qualitative research in such studies (Johnson and Onwuegbuzie 2004).

Mixed methodologists advocate the use of whatever methodological tools are required to answer the research questions under study. It is the research questions that have guided the mixed methods investigation with the answers ultimately presented in both narrative and numerical forms (Teddlie and Tashakkori 2009). Taking a non – purist or mixed position has enabled this study to be designed in a way to mix and match the components that offer the best chance of answering the research questions (Johnson and Onwuegbuzie 2004).

Mixed methods research applies the pragmatic method and system of philosophy with its logic of enquiry including the use of induction, deduction, and abduction. This approach was adopted for the design of research methods, data collection and analysis used. The pragmatic method applied in this study was to interpret each notion by tracing its respective empirical and practical consequences (Johnson and Onwuegbuzie 2004). Consideration was made of what plausible effects of a practical kind the patients’ hospital foodservice may involve; what sensations could be expected from it and what reactions must be prepared (James 1907). This then provided the whole conception of the patients’ foodservice experience.

Pragmatism is a method that provides an indication of the ways in which existing realities may be changed (James 1907). It recognizes the existence and importance of the natural or physical world as well as the emergent social and physiological world that includes language, culture, human institutions, and subjective thoughts. Knowledge is viewed as being both constructed and based on the reality of the world we experience and live in; placing a high regard for the reality of and influence of the inner world of human experience in action (Johnson and Onwuegbuzie 2004).

The mixed method research employed in this study has provided an approach to knowledge in terms of both theory and practice that endeavours to consider multiple viewpoints, positions, perspectives and standpoints (Johnson *et al.* 2007). Using this pragmatic stance and a balanced

position within this health environment, each area reviewed for the study has been considered on its own terms with the relevant scientific approach taken. Both approaches have been adopted and address the particular topics involved, with qualitative research not substituting or competing with quantitative research (Hutchinson and Webb 1991). With the emphasis for qualitative research on meaning and understanding, it can supplement quantitative research by answering questions that are opaque to quantitative research (Draper 2004). Using a flexible methodology has allowed the design to evolve, develop and unfold as the research project has proceeded and has provided the ability to capitalise on unexpected eventualities (Robson 2002). Appreciating that quantitative and qualitative research differ from each other from their ontological foundations, they have been used in this study to complement each other (Draper 2004). Adopting such a position has allowed an examination retrospectively of the practical consequences and the empirical findings which have then influenced the future action to be taken for the pilot of the group dining part of Phase 4 of this study.

A major advantage of mixed methods research is that it enables the researcher to simultaneously ask confirmatory and exploratory questions and therefore verify and generate theory in the same study (Teddlie and Tashakkori 2009). The mixed methods approach has been applied in a wide range of disciplines: psychology (Waszak and Sines 2003) sociology (Hunter and Brewer 2003), education (Stevens 2009), evaluation research (Rallis and Rossman 2003), management and organisational research (Currall and Towler 2003) and health sciences research (Forthofer 2003).

A critical review of the literature indicated that due to the complexity of the research environment, there may have been one or more mechanisms and contexts involved which could explain certain aspects of human behaviour in terms of eating behaviour and emotional affect. By employing a sequential exploratory strategy (Creswell 2009), where one method notably informs the next, qualitative and quantitative methods were used at separate phases of research to logically explore and understand the patients' experience of their mealtimes whilst eating in a hospital environment (Christ 2007). This approach enabled conclusions from an initial stage of the study to logically guide critical components, including the research question and analysis of subsequent phases of the study (Christ 2007). The different approaches applied to this study are illustrated in a schematic diagram of the research process and data collection in Figure 4.2.

Figure 4.2 Schematic diagram of the mixed methods sequential exploratory research process and data collection.

[pic]

*Profile of Mood States

Phase 1 began with an exploratory qualitative component to establish if such postulated mechanisms were operating to produce the particular outcomes being studied. Initially, at this stage, the ontological stance adopted was that of realism represented through the eyes of the participants (Robson 2002). The real world is very complex and stratified into different layers; realists work in an open system of real world research where people and information may change

in ways that may or may not be under consideration of the investigation (Robson 2002). The hospital ward cannot be protected from external influences thus whilst it is possible to explain an event after it has happened we cannot predict it. This phase of the research considered different possible mechanisms and contexts at different levels within the complex social system evident in hospitals.

Phase 2 involved a quantitative method to extend and explain data collected from Phase 1, and develop further the understanding of the characteristics that constitute a patients' overall foodservice experience. This phase was undertaken to facilitate a more in depth analysis of how the different variables identified in Phase 1 related and interacted with each other. The sequential exploratory process was applied to develop a questionnaire to measure a patients' mealtime experience as existing instruments were not apparent in the literature. For instrument development, the themes and specific statements from participants in the initial qualitative data collection were used to create the questionnaire that was grounded in the views of the participants. This second phase was conducted to validate the instrument with a larger sample, representative of a population. At this stage the purpose of the strategy was to use quantitative data and results to assist in the interpretation of the qualitative findings; the primary focus being initially to explore the phenomenon of the hospital dining experience (Creswell 2009).

Phase 3, used a quantitative approach and was directed by both the results from Phase 1 and 2, together with the literature review to develop and evaluate a patient profile. It provided a more in depth exploration of the patient's actual mealtime experience and highlighted important aspects of the whole experience in terms of their mood and food intakes as well as their attitude to their overall dining experience.

Phase 4 adopted an Action Research approach, and was driven by the outcomes of phases 1 and 2 to identify issues that would have an impact on enhancing a patient's whole overall foodservice experience. The data collection process employed qualitative methods.

The data from all 4 phases were displayed and transformed appropriately with comparisons, correlations and consolidation. A full integration of all the data obtained from the study was interpreted and concluded. The study whilst having to be extended and reformulated over time allowed each phase to inform the next. Mixing of the two types of data occurred at several stages; data collection, data analysis, and interpretation (Creswell 2009). Connections permeated through all phases of the research which ultimately resulted in a richness of findings with regard to the contextual considerations for the whole environment under study.

Dellinger and Leech's (2007) Validation Framework illustrated in Figure 4.3 was reviewed and considered when designing the study at the outset. It provided support and direction to carefully plan the methodological issues to accrue the appropriate evidence that would support data meanings. As the phases of the study progressed, it was also referred to, to analyse the strength of the validation evidence and to make appropriate adjustments to the research process.

Figure 4.3 Key elements of Dellinger and Leech (2007) Validation Framework

Elements of Construct Validation

Foundational Element

What pre-conceptions, pre-logic, biases, prior knowledge, and/or theories are (un) acknowledged by the researcher as relates to the meaning of the data? Is the review of literature appropriate for the purpose of the study? What is the quality of the review of literature (e.g., evaluation and synthesis of literature is appropriate, comprehensive, relevant, thorough, etc.)? Does the review inform the purpose, design, measurement, analysis and inferences? Does the review confirm or disconfirm grounded theory?

4.1.2 Action Research

Described as a self reflective spiral of cycles of planning, acting, observing and reflecting (Lewin 1997), Action Research involves the improvement of practice, the improvement of understanding of a practice by its practitioners and the improvement of the situation in which the process takes place (Kane and O'Reilly-de Brun 2001., Robson 2002). Grounded in real problems and situations it provides a strategy to engage in action and ascertain knowledge in an integrated manner using a participatory and cyclical process where the process and outcome and application are inextricably linked (O'Leary 2004). It includes interventions and change within the situation being studied with a view of improving the quality of action within it (Holloway and Wheeler 2002). Accordingly, an Action Research approach was adopted to facilitate the completion of Phase 4.

To be Action Research there must be a praxis which is informed, committed action that gives rise to knowledge rather than just successful action. It is informed because other people's views are taken into account (McNiff *et al.* 1996). Knowledge means understanding about events and things and procedures: it includes descriptions, explanations, interpretations, value orientations as well as knowledge of how these can be arrived at (Bassegy 1995). Since the 1990's Action Research has been increasingly applied for use in professional, organisational and educational settings and in the nursing environment in particular, it is used to address the theory - practice gap (Holloway and Wheeler 2002).

This study sets out to establish what factors can be used to improve certain outcomes for patients and Action Research generates practical knowledge intended to assist in raising standards of care and delivery of service in general (Holloway and Wheeler 2002). It is an ideal technique to be applied to Phase 4 as it is particularly appropriate in an environment where problem solving and improvement are key requisites (Hart and Bond 1995). By integrating the researcher and practitioner in the same knowledge generation process, 'Co-generative Learning' will emanate (Greenwood and Levin 1998) and provide the knowledge base for decisions. This strategy focused on the convergence between the everyday knowledge of the practitioner with the scientifically constructed knowledge of the researcher. A significant core value of Action Research is the value of respect for others which means that their views and values must be accommodated (McNiff *et al.* 1996).

The process of Action Research involved the review of the current situation, the diagnosis of the problems, the planning and implementation of change interventions and evaluation of the outcomes. The type of Action Research used in this study was the Experimental kind which aimed to test a particular intervention based on a pre specified theoretical framework; it was a deductive and predictive approach (Mc Niff *et al.* 1999; Holloway and Wheeler 2002). This then overlapped with the organisational type where the researcher and practitioner identified the problems and established the possible causes and ways of intervening to change them (Holter and Schwarz- Barcott 1993).

4.1.3 Case study

This study set out to understand Orthopaedic patients' mealtime experience in depth and within the natural environment in which they occur; the Orthopaedic wards and Orthopaedic outpatients clinic at an Acute Care Hospital. Case study research is described by Yin (2006) as:

"an empirical enquiry that investigates contemporary phenomenon within its real life context when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used".

Employing a case study strategy in this research was considered the most appropriate approach to be adopted in order to discover, develop, understand and conceptualise important features of the patients' experience (Sarantakos 2005). This case study is associated with the location on two hospital wards and the community within and it endeavours to be an intensive detailed examination of the contextual setting and its community at specific periods of time i.e. the patients' mealtimes. This idiographic approach was essential to illuminate any unique features that affected those particular patients on those particular wards (Bryman 2004).

1. EMPIRICAL STUDIES

The central premise of this study was to develop an idea that was supported in the literature in other contexts with empirical validation in the location of the hospital environment. Several empirical studies and data collection have been conducted within 4 phases at an Acute Care Hospital that formed part of an NHS foundation Trust in South West England. A schematic representation for the data collection process is incorporated within and presented in Figure 4.2. This framework has been developed to link purpose, theory, the research question, the methods and sampling strategy (Robson 2002).

1. *Ethical and contextual considerations*

To enable this fieldwork to be conducted, using patients as the participants, approval from the Acute Care Hospital Research Governance and the Dorset Research Ethics Committee (DREC) was obtained. The informed consent procedure stipulated by the DREC for each patient and the requirements of the clinical leaders and hospital managers influenced the methodology undertaken for the data collection. Once appropriate respondents had been identified, each patient was approached individually to explain the purpose of the study, and to provide them with an information sheet required and approved by the DREC. The patients were given time to consider participating and on agreement they completed an informed consent form.

Throughout all phases of this research, although patients were identified by gender and in the cases of Phase 3 by ward, bay and bed number, this was necessary purely to prevent the data being transposed. The anonymity and confidentiality of both patients and staff was maintained by the provision of their own unique number for data analysis.

4.2.2 *Case Study research environment*

To date, eating behaviour has mostly been studied in controlled laboratory settings (Meiselman *et al.* 2000; Stroebele and De Castro 2004) which can often miss essential variables that can only be evidenced in the "real world" (de Castro 2000). Hence, this study was conducted on two Orthopaedic wards and the Orthopaedic outpatient Clinic at an NHS Acute Care Hospital to allow observations of the natural, uncontrolled environment. This enabled the identification of how the many complex variables interacted within the contextual environment of a patients' foodservice experience where everyday issues and challenges were experienced (Meiselman and Bell 1995). It provided the opportunity for certain variables to be tested in the actual environments they may possibly be used within (Meiselman *et al.* 2000).

The hospital provided over 3000 patient meals per day with 42 staff preparing the meals for all the wards. In addition, they also supplied the day wards with cold lunches and snacks and provide the meals for both main hospital restaurants for the staff, visitors and some ambulant patients. Similar procedures were followed for the wards for both the lunchtime and evening meals. Special dietary meals were prepared which included vegetarian, vegan, ethnic meals, gluten free, pureed meals and those for diabetic patients. The total orders were telephoned to the kitchen by the ward staff for the following day; these were entered into a computer system for the kitchen manager, chefs and food preparation staff. The hospital used seasonal menus and had 4

per year on a two weekly cycle an example of which is given in Appendix 1. The ward staff requested the orders from the patients for the following day. However, sometimes, patients were transferred or discharged and new patients were provided the meals ordered for patients that may have left. In some circumstances, ward staff did not collect patients' menu requests and placed a bulk order for the ward.

The two adjoining Orthopaedic wards in the hospital consisted of one ward with 35 beds and the other ward with 27 beds. The smaller ward was divided into 4 patient bays which had 4-6 beds per bay and 3 single side rooms. The larger bay was divided into 4 bays with 4-12 beds per bay and 6 single side rooms. The occupancy levels on both wards changed on a daily basis; the majority of beds were used for Orthopaedic patients during the spring and summer and at times during the winter months to accommodate other patients in response to the "winter pressures" experienced at this hospital.

Both wards shared a very small kitchen which was used to accommodate a fridge, a dish washer, a sink and for storage. The hospital used a bulk - order system with the meals being prepared in the main hospital kitchen. Once prepared the food would be placed in heated trolleys and transported by porters to the corridors of the individual wards. They would be left there for the ward staff and would be collected by the porters after the meal service. Once the trolleys arrived on the wards they were wheeled to the individual bays by either the Health Care Assistants or the Ward Hostesses who would then serve the individual patients by their bedsides. When the wards were short staffed and there were no hostesses or Health Care Assistants available, the nurses would serve the individual patients. If patients required feeding this was generally conducted by the Health Care Assistants or the Ward Hostesses after the other patients had been served.

Breakfasts were served on the wards between 07.00 and 08.00, the lunch trolleys would arrive on the wards at approximately 12.15 and the dinner trolleys would arrive on the wards at approximately 17.30.

4.3 PHASE 1: UNDERSTANDING THE PATIENTS' AND STAKEHOLDERS' EXPERIENCE AT MEALTIMES

This phase was undertaken to meet the objective;

- *To evaluate what individual environmental stimuli and other contextual stimuli influence a patients' assessment of hospital foodservice.*

In accordance with the schematic diagram for the research process and data collection illustrated in Figure 4.2 the following action was undertaken at the Acute Care Hospital:

- Observation in the hospital kitchen of the food production staff; observation on the wards of the foodservice staff, clinical staff and patients prior to, during and after the meal service.
- Exploratory interviews with foodservice and support/clinical staff.

- Semi structured scoping interviews with Orthopaedic patients.

Sample – Phase 1: Observations and Interviews

Hospital patients in general are not a homogenous group and thus perceptions of service quality and satisfaction fluctuate not only among different population groups but also can differ depending on the purpose of the hospital stay (Carman 2000). Consequently, a purposive, homogenous sample of patients experiencing similar medical conditions was chosen using consenting inpatients in the convalescence stage of their recovery in accordance with the defined criteria as set out in Figure 4.4

Figure 4.4 Criteria for patient participation in Phase 1, 3 and 4

A list of patients potentially able to take part based on their medical condition, their diet and rehabilitation was provided by the clinical leaders of the wards; consequently, a purposive sample was selected. The sample size used for Phase 1 is shown in Table 4.0.

	Observations	Interviews
Phase 1	1day @ Acute Care Hospital Kitchen and Wards.	Stakeholders @ Acute Care Hospital (n=18)
	2 Orthopaedic Wards @ Acute Care Hospital	Patients on 2 Orthopaedic wards
	3 Breakfast sessions.	@ Acute Care Hospital
	3 Lunch sessions.	(n=30)
	3 Dinner sessions.	

Table 4.0 Sample size for Phase 1

1. Observation days at the Acute Care Hospital

Theoretical Considerations

Fieldwork involves the study of human beings in social interaction where the research involves small numbers, complex relationships and nothing occurs the same way twice (Wolcott 1995 p19). It requires not only careful observing and reporting but also the researcher using their instincts and experience to have an understanding of what is known and what is not (Wolcott 1995). It is important that investigators spend an adequate amount of time in the field to build

trust, learn the “culture” (Huberman and Miles 2002) and test for misinformation either from respondents or from their own biases thus providing “scope” by increasing a researcher’s awareness of the multiple contextual factors and multiple perspectives of the patients within their social location (Tashakkori and Teddlie 2003).

Social scientists are observers both of human activities and of physical settings in which activities take place (Angrosino 2005). Accordingly, exploratory, non-participant, unstructured observations were conducted in the kitchens and wards of the hospital where the researcher did not participate in the social setting under study (Bryman 2004). These were commissioned to provide evidence of the contextual environment in which hospital patients’ experience their mealtimes; to develop an understanding of the complex process involved in providing up to 3000 meals daily to satisfy the patients’ needs; whilst observing relevant stakeholders in the natural environment of the wards (Tashakkori and Teddlie 2003).

Observational research is frequently used in operant conditioning research thus observing patients’ experiencing their foodservice provides an ideal opportunity to focus on the relationship between environmental stimuli and behaviour (Tashakkori and Teddlie 2003). When conducting observations, it is important that the researcher creates an environment where people act as naturally as possible, without considering the researchers presence, whilst the researcher must be aware of the roles that the persons being observed may be playing in response to the researcher’s presence (Tashakkori and Teddlie 2003); objectivity remains central to the researcher (Angrosino 2005).

Empirical Study - Observations

Observation of the preparation and delivery of three breakfast, three lunch and three dinner services to patients on the two Orthopaedic wards at the hospital was undertaken which focused on:

1. Identifying issues involved in a patient’s mealtime experience to improve the validity for the empirical study in Phase 3 by establishing the current procedures and processes for staff and patients at mealtimes.
2. Identifying any relationship issues between foodservice staff and patients that might affect the enjoyment and food intake of patients.
3. Observing and comparing differences in experiences of patients when meals are served by foodservice staff or by clinical staff.
4. Observing how meal times are managed to highlight appropriate issues for the conduct of the empirical studies for Phase 3 and 4.
5. Identifying any issues to inform the development of the attitude to foodservice questionnaires.
6. Identifying any issues to inform the interview topic guide.
7. Investigating any confounding variables that may influence the outcomes from the empirical studies for Phase 3 and 4.

Detailed field notes were taken during and after the observation period where the knowledge gained was essential to ensure that during the patient profile study in Phase 3, the meal time procedure reflected accurately the patients’ current experience of mealtimes. These findings were used to minimize or acknowledge the impact of any confounding variables that might have influenced the pilot group dining study for Phase 4.

2. Patient and Stakeholder Interviews

Theoretical Considerations

Through qualitative interviews, one can appreciate experiences, the meaning respondents make of those experiences and reconstruct events in which you did not participate (Seidman 2001, Rubin and Rubin 2005). The Interviewer becomes the interlocutor, who by taking charge of the agenda can aim to establish what they want to know (Wolcott 1995) whilst engaging and gaining cooperation from the respondent (Denscombe 1998). It involves one-to-one interaction between researchers and interviewees where the interviewer can elicit depth and detail about the research topic by following up on answers given by the respondent providing opportunities for explanations to clarify unclear issues (Rubin and Rubin 2005, Teddlie and Tashakkori 2009). Acknowledging that the spoken or written word has always some trace of ambiguity however carefully questions are worded, responses are reported or the answers coded, interviewing is considered one of the most common and powerful techniques applied to gain and understand human beings (Fontana and Frey 1998).

The way in which interviews are structured is important; selecting the most appropriate open questions for respondents to have freedom to talk about various aspects of the topic is crucial but using a narrative unstructured approach causes difficulties assessing timing as this largely depends upon the respondent's goodwill and strength of feelings in the subject area (Bell 2005).

Whilst interviewing can bring efficiencies into fieldwork with the investigator being able to some extent tighten up the questions to get the necessary information, errors can commonly occur from three areas (Wolcott 1995):

1. Respondent's behaviour – when the respondent gives a 'socially desirable' response to please the interviewer, or omits relevant information.
2. The wording of the questions.
3. An interviewer with flawed interview techniques or who changes the wording of the interview.

To develop the reliability and validity, using an interview schedule ensures that all basic questions are asked and answered thoroughly. This allows the researcher to give the respondents the same stimulus and thus minimize the variation within the interview process with the ultimate aim to ensure, as far as possible that the variation between responses could be attributed to actual variations between interviewees rather than any variability in the interview process (Bloch 2004).

In terms of the content of the interview questions, it is important to consider the use of language and specific terms to ensure that both the interviewer and respondent "shared" the same meanings and understandings of the contextual nature of the interview (Fontana and Frey 1998).

The use of non verbal elements of communication defined by Gorden (1980) as Proxemic, Chronemics and Kinesic are important for both researcher and respondent alike as they inform and set the tone for the interviews (Fontana and Frey 1998) forming part of a more complete response (Bell 2005). The observation of non-verbal indicators also provide the opportunity to evaluate the validity of the respondent's answers (Barriball and White 1993).

Empirical Study: Patient Interviews

Fully aware of the contextual environment and the resultant constraints that it imposed, in addition to conforming to the timing requirements of the DREC, the type of interview required was considered. This precluded the use of a nondirective interview strategy where knowledge is gained without framing questions in a way that introduce and pursue topics. Conversely, the interviews were not fully directed and structured where the content became the researchers. A

balanced approach in between the two strategies was adopted where the interviews were structured to start open ended and inductive in order to obtain information of a more interpretative nature, with the topics and questions designed to elicit the interviewees ideas and opinions, rather than the interviewee being led toward preconceived choices. Aware of the time restrictions, the questions asked in the latter part of the interviews used a more closed, theoretical approach to provide definition and description with the interviewer guiding the follow up questions to cover any significant unanswered questions. Consequently, this structure enabled a large amount of the content to remain the patients'. Use of this predetermined formation of a semi structured interviewing technique enabled errors to be minimized. Aware of the social interaction context, and the researcher being influenced by such a context, the respondent's differences were recognised and the structure provided flexibility to make any adjustments for unanticipated developments.

Prior to commencing any interviews, the researcher considered the following issues:

- . How to conduct the Informed consent procedure
- . How and where the interviews would be conducted
- . How to make the informants comfortable within the environment and in the interview situation
- . What questions were to be asked and how the accuracy of the informants' answers could be checked (Wolcott 1995)
- . How to end the interview

The interview content followed a pre defined interview schedule informed by the literature (Cardello 1996; Pearson *et al.* 2003; Walton *et al.* 2006; Desai *et al.* 2007) and the findings of the observations at the Acute Care Hospital. The first draft of the interview schedule was tested for a preliminary assessment by five individuals so that any ambiguities, inappropriate questions and overall criticisms could be discussed and analysed. A role play was conducted with a member of the healthcare profession and an academic using the questions on the schedule to establish the ability of potential respondents to answer the questions, to look for any issues of confusion or ambiguity that might arise, and to address any timing issues. This pilot phase enabled the researcher to make informed changes and adjustments to the interview schedule before the main data collection commenced. Whilst the analysis of the pilot data helped to establish the efficiency of the interview schedule, the restrictions imposed by the DREC prevented it being used on the patients until their full approval for the whole study was given; this reduced the ability of the researcher to identify any issues that might have been specific to and evident with actual patients. The interview schedule was amended accordingly and the final draft was forwarded to the DREC for approval and is shown in Appendix 2.

The potential interviewees were identified by the clinical leaders of the wards who provided a list of patients meeting the selection criteria as shown in Figure 4.4 and whom they considered were well enough to partake in the study. These patients' were approached by the researcher who conducted the informed consent procedure. The aim was to achieve a diverse sample of patients in respect of gender, age and ethnicity.

Accordingly, semi structured interviews (n=30) were conducted with patients at their bedsides on the two Orthopaedic wards at the hospital, which focused on:

1. Establishing the patients' own feelings and experience of hospital mealtimes.
2. Ascertaining the patients' expectations of the hospital mealtime experience.
3. Obtaining patients' attitudes towards the use of different variables to provide an enhanced dining environment.
4. Identifying the factors that patients felt would enhance their mealtime experience on the

wards.

5. Highlighting the issues influencing the patients' enjoyment of their meals, their mood and overall well being.
6. Highlighting differences in experience of a patient when meals are served by either foodservice staff or support/ clinical staff.
7. Investigating any confounding variables that may influence the outcomes from the empirical studies for Phases 3 and 4.

In addition to these requisites, there was a need to establish issues to inform the development of a questionnaire to measure patients' attitudes towards the hospital foodservice. The interviews enabled the origins, complexities and ramifications of the attitude areas in question to be explored, in order to consider the suitability for their use as statements in an attitude scale (Oppenheim 2006; Pallant 2007).

A neutral role was adopted to avoid any interjection of opinions of the respondent's answers. The observational work conducted provided an insight into what the respondents might be experiencing providing the opportunity to view the situation from their perspective; this was essential and enabled the interviewer to establish a strong rapport and position of trust with each patient. Assurances of anonymity were given to provide patients' confidence to generate honest opinions and attitudes; patients were advised that there were no right or wrong answers to the questions. The atmosphere was kept friendly and relaxed with the interviewer being attentive and sensitive to the patient's views and opinions whilst probing and prompting to improve the reliability of the data. This facilitated a greater exploration of interesting and relevant points and to clarify ambiguous and unclear statements that were made. A regular check back was carried out to ensure clarity and a non judgemental unbiased stance was maintained.

Empirical Study: Stakeholder Interviews

Exploratory interviews were conducted throughout each phase of this study with various stakeholders as identified in Table 4.1:

Respondents* at Acute Care Hospital site	
Catering Manager	
Catering team (n=4)	
Consultants (n=2)	
Head of Acute Care Hospital research	
Dieticians (n=2)	
Quality Manager	
Clinical leaders of Orthopaedic Wards (n=2)	

Ward Hostesses (n=4)	
Voluntary worker	
Staff Nurses (n=2)	
Health Care Assistants (n=2)	
Clinical leaders of Orthopaedic Outpatient Clinics (n=2)	
Physiotherapists (n=2)	
Clinical Leader of Orthopaedic Unit	
Nutritional Link Nurse	

Note: n= number of respondents

* A discussion was also undertaken with the undergraduate nursing coordinator at the local University.

Table 4.1 Respondents for stakeholder interviews

These have been conducted to allow access to the gatekeepers, for the purpose of Action Research and to establish the views of the staff with regard to the hospital mealtime experience. The planned exploratory interviews were subjected to the same preparation as the patient interviews. However, there were several opportunities where impromptu exploratory interviews took place, specifically within the Action Research process where the questions asked were far more specific and directed giving consideration to the time constraints that the staff members were under.

4.3.3 Data Analysis: Thematic Analysis

Observations, patient Interviews and stakeholder exploratory interviews were transcribed verbatim and the data entered into NVIVO 8 software programme (QSR International Property Ltd, Doncaster, Victoria, Australia). This was used purely as an organisational tool that provided the ability to work with a large amount of text and complex coding schemes; it facilitated an in depth refined analysis. Hierarchical coding enabled the analysis of the texts at different levels of specificity. The program stored first ideas in rich text and initially first concepts, ideas and categories were generated and were stored at nodes that were explored, organised or changed. It provided tools to assist in theory emergence and clarification of concepts working with text coded at a node, naming and describing it (Bazeley and Richards 2005). NVIVO facilitated concepts to be assessed; review of performance of nodes, and node system; an exploration of associations and relationships; find and validate patterns and review the data to provide detailed understanding and insight (Bazeley and Richards 2005). This process was undertaken to move from raw interviews and observations to evidence-based interpretations. It entailed classifying, comparing, weighing and combining material to extract the meanings and implications, to reveal patterns or to describe events into coherent narratives (Rubin and Rubin 2005).

Descriptive use of Thematic Analysis was chosen as the desirable technique for analysis as the particular methodology chosen for the study required enhancing the clarity of the results or findings and the ease of communication (Boyatzis 1998). However, within this case study research Thematic Analysis was used for understanding the complexity of cases within the study and not for generalisation (Creswell 2009). Numerous themes from each individual transcript were generated to ensure all data were represented, which were subsequently collapsed down several times in order to group together connecting and overlapping issues identified at the manifest level. The compatibility of coding between theory, previous research and raw data were checked and the data were coded appropriately.

Theoretical Considerations

Holton (1973) adopted Thematic Analysis as a quantitative method of analysis where he

considered thematic concepts, thematic propositions and hypothesis and suggested linkages between both qualitative and quantitative research. From the 1990's it was used as a qualitative method of analysis and is a tool that can be used across different methods of qualitative analysis (Boyatzis 1998). Described as the foundation method for qualitative analysis it should be considered as a method in its own right (Braun and Clarke 2006). Stated to be independent of theory and epistemology, it can be applied across a range of theoretical and epistemological approaches and thus can provide a flexible research tool that can potentially provide a rich and detailed, yet complex account of data (Braun and Clarke 2006).

Initially used to identify, analyse, describe and report patterns (themes) within a data set in rich detail, it is used more recently to interpret various aspects of a phenomenon (Braun and Clarke 2006). It empowers a researcher with a qualitative method and design to translate observations and to apply statistical analysis to determine the validity of the themes (Boyatzis 1998).

Thematic Analysis differs from other analytical methods that seek to describe patterns across qualitative data e.g. grounded theory and Interpretative Phenomenological Analysis. These both seek patterns in the data, but are theoretically bound. Interpretative Phenomenological Analysis is attached to a phenomenological epistemology (Smith *et al.* 1999; Smith and Osborn 2003) which gives experience primacy (Holloway and Todres 2003) and is about understanding people's everyday experience of reality, in great detail, in order to gain an understanding of the phenomenon in question (McLeod 2001). It establishes patterns across an entire data set, rather than from within a data item, such as an individual interview (Braun and Clarke 2006). In contrast to Interpretative Phenomenological Analysis or grounded theory, as Thematic Analysis is not linked to any pre-existing theoretical framework, it can therefore be used within different theoretical frameworks.

Establishing the 'keyness' of a theme is not necessarily dependent on quantifiable measures but on whether it captures something important in relation to the overall research question. Prevalence and relevance of a theme is determined in a number of ways. It can be counted at the level of the data item; in terms of the number of different speakers who articulated the theme across the entire data set, and each individual occurrence of the theme across the entire data set (Braun and Clarke 2006).

Process of Thematic Analysis

A theoretical deductive approach was adopted for the data collected specifically via interviews and observations. In this study, it is more explicitly analyst driven providing a less rich description of the overall data to give a detailed analysis of particular aspects of the data. It has been directed by the different particular analytical issues that this research is endeavouring to address in the study:

1. Understanding and evaluating the current experience of patients at mealtimes.
2. Identifying issues that influence their enjoyment of meals, food intake and mood.
3. Establish confounding variables which may affect the empirical studies.
4. Understanding the patients' feelings about the variables to be used in the empirical studies.
5. Findings to be used to inform the attitude to foodservice questionnaire.

Thematic Analysis was conducted to analyse patient and stakeholder interviews and the observations made. Each interview was unique but themes emerged that needed a greater explanation than just counting numbers; it was important to decide what counted as a theme. Identifying, cultivating, defining and elaborating themes involved looking for concepts and themes in the data. Overall themes and sub themes were initially generated deductively from the

research and prior research and were identified at manifest level from the data set. Figure 4.5 illustrates the process of Thematic Analysis undertaken for the patient and stakeholder interviews and observations. The interpretation and evaluation of the emergent themes conducted in this phase established the appropriate variables to provide the content for the development of a questionnaire to measure a much larger sample of patients' dining experience. The development and administration of this scale was conducted in Phase 2 of the study.

Figure 4.5 Thematic analysis process for defining themes for patients' mealtime experience.

[pic]

Adapted from Rubin and Rubin (2005)

3. PHASE 2: MEASURING PATIENTS' ATTITUDES TO THEIR FOODSERVICE EXPERIENCE

In order to investigate and explain further the variables indicated in the conceptual model (Figure 3.8) and the findings from Phase 1, the responses of a much larger group of the population providing the focus of this research were accumulated, critically analysed and evaluated. This was essential in order to meet the following objectives:

- *To develop, analyse and critically evaluate a questionnaire to measure hospital patients' overall foodservice experience*
- *To develop a theoretical model for hospital patients' overall foodservice experience*

In accordance with the schematic diagram for the research process and data collection illustrated in Figure 4.2 an attitude scale was developed, administered and the resultant data critically analysed and evaluated.

Theoretical Considerations

An attitude is a form of experience that refers to specific objects, events, people or issues and is primarily evaluative. They are expressed by describing the objects of our experience in evaluative terms and are regarded as 'the truth' and not 'just a matter of opinion' at least until someone can introduce new facts or arguments to change our mind (Eiser and Van der Plight 1988). Social scientists assumed attitudes could be used to explain human actions as attitudes were viewed as behavioural dispositions (Ajzen and Fishbein 1980). Henceforth, to understand why people perform a behaviour one aspect for consideration is their attitude (Fishbein and Ajzen 1980; Ajzen 2005).

This study is underpinned by the Theory of Planned Behaviour. As discussed in Chapter 3, this theory suggests that behaviour is determined by a person's intention to perform a behaviour and that this intention is, in turn a function of his/her attitude toward the behaviour and his/her subjective norm. A person's intention is further influenced by their perceived behavioural control. The issues of perceived behavioural control and subjective norms have been considered in this study during Phase 1. The consideration of attitudes is undertaken in this Phase 2.

Defining attitude as "The affect for or against a psychological object", Thurstone (1932), applied psychometric methods using a specified continuum ranging from positive to negative or favourable to unfavourable. A score was given to identify a person's position on a bipolar affective dimension with respect to attitude dimension by assessing people's beliefs and opinions which were considered to be verbal expressions of attitude. Assuming that differing opinion statements express differing degrees of 'favourableness' or 'unfavourableness' towards the attitude object, he developed different methods to assign scale values to opinion statements; the most widely used being the 'equal-appearing interval scale'. This involved a collection of a large pool of belief items related to the attitude object under consideration. The Thurstone scaling methods were widely used in assessment of attitudes (Ajzen and Fishbein 1980). Likert's proposed 'methods of summated ratings' was later considered far less onerous for the selection of items for inclusion and was extensively adopted (Eiser and Van der Plight 1988). After collecting a large pool of opinion items the investigator decides whether agreement with each item implies a favourable or unfavourable attitude towards the object in question. Neutral or ambiguous items are immediately eliminated and the remaining items are administered directly to a sample of subjects' representative of the target population.

Recognising the qualitative nature of attitudes, Ajzen and Fishbein (1980), purport that they are not only comprised of affect but also of cognition and conation. Attitude is a hypothetical construct which is inaccessible to direct observation, and must be inferred from measurable responses that reflect positive or negative evaluations of the attitude object. They can be verbal or non verbal in mode and can be categorised into cognitive response, affective responses and conative responses (Ajzen 1988).

Language is important to attitudinal experience and expression, with most techniques for measuring attitudes relying heavily on verbal material in the form of interviews and questionnaires (Pett *et al.* 2003). Thus, in the desire to define and clarify the structure of the constructs of hospital patients' mealtime experience, a sensitive instrument for data collection was required. Scale items are usually a means to the end of construct assessment which cannot

generally be assessed directly as they are not observable and such are often referred to as latent variables. It is presumed that the latent variable can cause an item or cluster of items to take on a certain value for a specific subject at a specific time which then allows an examination of their relationships to one another (De Vellis 2003). By converting peoples answers to a numerical score a comparison of different people's attitudes can be made (Eiser and Van der Plicht 1988).

A thorough search of the published literature on this topic did not reveal the existence of an instrument capable of capturing the attitudes of people to their mealtime experience on a hospital ward. Consequently, a questionnaire was developed that consisted of appropriate attitude statements that are the observed or empirical indicators for the attributes of the construct (Pallant 2005). These indicators were used to measure constructs in the real world and accordingly were informed by the interpretation and evaluation of literature, the patient and stakeholder experience and researcher observations from provided by Phase 1.

4.4.1 *Designing the pilot questionnaire*

The main purpose of measurement in this phase of this study was to produce reliable evidence that can be used in evaluating the outcomes of the research. Appreciating that developing a reliable and valid questionnaire requires revising and retesting before it is ready for use as a measurement tool for others (Rempusheski 1990), the construction of a questionnaire to advance the knowledge of a hospital patients' mealtime experience was undertaken on the basis that it constituted development in the preliminary stages. Aware that there is a proliferation of unreliable and invalid questionnaires, specific steps recommended by Rempusheski (1990) were considered as indicated in Table 4.2 specifically to increase the rigour of the process and the quality of the instrument.

Purpose	Considerations
Identifying the phenomenon to be	What is the variable to be

measured	measured?
	What are the characteristics or attributes of the variable?
	What other variables define or delimit the variable of interest?
	Item pool
Types of measurement scales and the rules for structuring items into a particular scale	How will the numbers be assigned: on a nominal, ordinal, interval or ratio?
	How are items arranged and formatted?
Types of responses wanted from subjects answering the questionnaires	Is a correct response wanted?
	A judgement?
	A cognitive response?
	A measure of knowledge?
	Is an affective, feeling response wanted?
	Personal reaction?
	Preference?
	Interest?
	Attitude?
	Like/Dislike?
The procedure for collecting data using a questionnaire?	What written and/or verbal directions are necessary to communicate the appropriate way to respond to the items on the questionnaire?
	How will the questionnaires be distributed or facilitated? In person? By mail? By telephone?
	What strategies will be used to assist persons who may not understand the meaning of or how to respond to an item in the questionnaire?
The Process for analysing data	How are the items in the questionnaire scored?
	How do the items in the scale relate to each other and to the total scale?
	What does the score or number mean?
	How will the numbers be analysed?
	What mathematical formulas or analysis procedures will be used?
The Process of Interpreting data	What meaning do the numbers represent?
	Is the questionnaire a valid and reliable measure of the variable of interest?
	How does this questionnaire relate to other tools devised to measure the same variable?
	Are the data statistically significant?
	Is the tool practical and useable

	in the clinical arena?	
	What revisions are indicated?	
	What are the next steps in the	
	testing of the questionnaire?	

Adapted from Rempusheski (1990)

Table 4.2 Questionnaire design

The variables of the construct that were observed were stated as declarative statements that were designed to be easily understood. At this pilot stage, it was not possible to determine which sub areas would have the most powerful correlations with the remainder of the attitude cluster and which of them is more peripheral. This item pool was balanced with positive and negatively worded items with the aim being to arrive at a set of items that includes some items that indicate a high level of the latent variable when endorsed and others that indicate a high level when not endorsed (De Vellis 2003). The reversed - phrased items were important for reducing response bias as patients had to actually read the items in case they were phrased the other way around (Field 2009). Before use, the items were placed in random order (Oppenheim 2006). The resultant set of attitude statements were compiled in line with the conceptual model (Figure 3.8), phrased in a way that respondents could agree or disagree with them (Oppenheim 2006). When formatting the statements, a critical examination of them reviewed how accurately they captured the central idea as suggested by De Vellis (2003).

Pilot pre and post admission Hospital Dining Experience (HDE) questionnaires were developed using a between group design with different subjects used for each (Pallant 2005). They were designed to measure the following:

- . Patients' attitudes towards the different environmental variables currently experienced during hospital mealtimes.
- . Patients' attitudes towards specific environmental and sociological factors that might influence the enjoyment of their meals.
- . Patients' preference for the location of their dining environment whilst hospitalised.

The pre admission HDE questionnaire was structured to incorporate a measurement for both individual's expectations and their previous experience of hospital mealtimes.

The instrument consisted of a stem which were the different declarative statements, and a series of response options which were a series of descriptors worded to have roughly equal intervals indicating the strength of agreement with the statement (De Vellis 2003). The response set was based on the Likert scale which is the most popular and widely used in instruments measuring attitudes and reliability tends to be good, often higher than others (De Vellis 2003; Oppenheim 2006). When determining the number of response items, the respondent's ability to discriminate meaningfully was considered particularly as they were hospital patients with many of them being more elderly. Consequently, a five - point Likert scale was initially chosen for its simplicity for respondent completion (Sclove 2001). Participants were asked to respond to each item defined by the labels strongly agree, agree, etc. Likert scaling results in a single score that represents the degree to which a person is favourable or unfavourable to the attitude object (Ajzen and Fishbein 1980). Dawes (2007) discusses that simulation and empirical studies generally concur that reliability and validity are improved by using a 5 to 7 point scales rather than those with fewer scale points but that scales with more scale points do not make any further improvements to validity and reliability. Space was allocated for patient comments and any comments made were entered into the NVIVO 8 programme and were analysed using Thematic Analysis.

To improve the potential validity and reliability of this attitude scale, at the early stages of the construction, an expert in the design of assessments and questionnaires, research design and clinical evaluation of services employed by a Research and Development Support Unit for the NHS was consulted and provided support both at the conceptual stage and also at the final draft stage for the pilot questionnaire. The resultant scale of attitudes was developed into a questionnaire and to obtain peer evaluation (DeVellis 2003) it was tested on 10 peers who were requested to complete it as if they were participating, providing appropriate feedback. This was repeated with 17 members of the public which enabled every question, question sequence, every scale, question layout, instructions given, answer categories and question numbering to be reviewed (Oppenheim 2006). This review focused on identifying poorly worded and ambiguous questions and was concerned with the convenience and comprehension of the respondents to ensure that the questions made sense to the respondents. Also considered at this stage was how much space on the questionnaire was appropriate for comments and the timing of completion for each section (Oppenheim 2006). The process undertaken in the construction of the attitude questionnaire is shown in Figure 4.6.

Figure 4.6 Constructing and administering the Hospital Dining Experience questionnaire

[pic]

Pallant (2005) suggests piloting it on the same type of people to be used in the main study. Respondents need to be a judgement sample; as similar as possible as those in main enquiry (Oppenheim 2006). However, at this stage in the development of the questionnaire, the sample population were hospital patients and access to them could not be gained until receipt of ethical approval from the DREC. The application for this approval required that any questionnaire to be used on patients had to receive their approval. Once the appropriate amendments were made the final draft was submitted to the DREC for their final approval prior to it being piloted on the appropriate sample population of patients.

4.4.2 Administering the pilot questionnaire

A pre admission HDE questionnaire consisting of 37 questions was administered to patients attending the Pre Admission clinics at the Orthopaedic Outpatient clinic at the Acute Care Hospital. In accordance with the ethical requirements stipulated by Dorset Research and Ethics Committee, the researcher provided the patients with an information sheet which discussed the requirements and purpose of the study. Patients decided whether or not to partake; on agreement to proceed, they were given an informed consent form and then a questionnaire to

complete. Written instructions for completion were provided to present directions for using the questionnaire and to give the participants to the study a common frame of reference for the hospital dining experience. To avoid any confusion and to be available for any questions, the researcher administered each questionnaire individually. A total of 70 completed questionnaires were collected.

4.4.3 Final design of the Hospital Dining Experience questionnaires

The design of the final questionnaires reflected the results of a critical analysis and evaluation of the administration process for the pilot questionnaires, the findings from the patient interviews and the initial statistical analysis conducted. After assessing these results it was decided to increase the choice of responses giving a wider range of possible scores to increase the statistical analyses available. When reviewing the number of response options, the respondent's ability to discriminate meaningfully was considered (De Vellis 2003). Dawes (2007) confirms that there is evidence that respondents do use more scale points when given a scale format with more response options. A review of the administration issues arising from the pilot indicated that the respondents completing them had no apparent issues with regard to their understanding. Consequently, the part of the questionnaire specifically measuring attitude was rescaled from a 5 point Likert response set to a 7 point Likert response set. In relation to the distribution of the data about the mean, more scale points provide more options for the respondent and thus by increasing the number of scale points there could be a greater spread in the data which may not only result in a greater variance and less skewed data by allowing for more gradations of positive responses but also reduce the overall mean score (Dawes 2007). In addition, certain categorical questions were altered and removed. The negatively worded questions were spaced more evenly throughout the scale for the final questionnaire to avoid the respondents becoming confused about the difference between expressing their strength of agreement with a statement, regardless of its polarity, and expressing the strength of the attribute being measured (De Vellis 2003). Changes were kept to a minimum as firstly, the pilot indicated a Cronbach's alpha result of 0.86 and secondly, restrictions imposed by DREC had to be considered. The final HDE questionnaires are shown in Appendices 3 and 4.

4.4.4 Administering the Hospital Dining Experience questionnaires

Exploratory interviews were conducted with the Clinical leaders of the Orthopaedic unit and the Orthopaedic outpatient clinics to establish the most efficient and productive way to obtain 600 completed pre admission and post admission HDE questionnaires.

Sample – HDE questionnaires

Respondents for the pre admission HDE questionnaire were recruited from the pre assessment clinics and respondents for the post admission HDE questionnaire were recruited from the post assessment clinics and the Orthopaedic wards on discharge. Informed Consent procedures described at 4.2.1 were repeated for this phase of the research. The clinical leaders provided a list of patients who met the appropriate criteria (Figure 4.4) and a purposive sample was selected on arrival at the clinic; the selection method chosen to overcome any inherent bias.

To understand the relationships between the variables identified in Phase 1 and the literature, that influence patients experience of the hospital foodservice received, the method of analysis chosen for this data was Factor Analysis. The number of subjects needed to undertake a Factor Analysis of an instrument depends on the number of items that are initially included (Pett *et al.* 2003). The reliability of the factors emerging from the Factor Analysis depends on the size of the sample for which there is no definitive answer; however, there is agreement that there should be more participants than variables. Factor Analysis can be carried out on samples smaller than 100 and whilst relationships between variables will be evident, little credence can be placed on using

these factors for a separate sample (Bryman and Cramer 2005). The correlation coefficients among variables are less reliable in smaller samples with factors from small data sets not generalising as well as those from larger samples (Pallant 2007). Whilst Tabachnick and Fidell (2007) suggest a sample size of 300, they do concede that a smaller sample (e.g. 150 cases) should be sufficient if solutions have several higher loading marker variables (above 0.80). Field (2009), suggests the common rule is to have at least 10 -15 participants per variable. In addition, to establish the sampling adequacy a statistical measures generated from SPSS to establish the sampling adequacy is the Keiser-Meyer-Olkin (KMO) measure where the minimum value of 0.6 is suggested as the minimum value for a good Factor Analysis (Tabachnick and Fiddell 2007). The sample size for Phase 2 is indicated in Table 4.3.

Phase 2	Hospital Dining Experience questionnaires administered		Hospital Dining Experience questionnaires completed	
	Pre Admission	Post Admission	Pre Admission	Post Admission
Pilot	70		70	
Final	300	300	292	267

Table 4.3 Sample size for the Hospital Dining Experience questionnaire (Phase 2)

4.4.5 Data Analysis

The objective of this phase of the study was to conduct descriptive research by exploring the attributes of a patient's attitude towards their dining encounter on a hospital ward by identifying which variables influenced their overall dining experience. In addition, considering the possible relationships and strength of relationships between such variables (Teddlie and Tashakkori 2009) was important.

An initial statistical analysis of the pilot questionnaires was conducted using the SPSS computer software (version 16, Chicago, IL, USA) statistical and data management package. A critical evaluation of the feedback given regarding the content and the findings resulting from the administration of the questionnaire was conducted. Statistical analysis of the final pre admission and post admission HDE questionnaires was conducted using the same SPSS computer software (version 16, Chicago, IL, USA).

The data collected were of a non parametric nature and thus analysed appropriately using non parametric tests which make fewer assumptions about the type of data on which they can be used (Pallant 2005). Most of the tests undertaken worked on a ranking basis whereby scores are ranked from the lowest score upwards with high scores represented by high ranks and low scores being represented by small ranks (Field 2009).

Mann Whitney U test

The Mann Whitney test was used to measure the two different conditions; before and after experiencing mealtimes. Different participants were used in each condition (Pre assessment patients prior to admission and post assessment patients on discharge and in the follow up clinics).

Binary Logistic Regression

The data were then subjected to Binary logistic regression to provide predictions on categorical outcomes based on predictor values which allows the non linear non parametric data to be transformed in a linear way enabling the outcome that is likely to occur most often to be predicted (Field 2009). Logistic regression enabled the assessment of how well the set of predictor variables explained the categorical dependant variable, whilst providing an indication of the relative importance of each predictor variable or the interaction among predictor variables (Field 2009).

Factor Analysis

Concepts used to describe human behaviour consist of a number of different aspects which are particularly evident when understanding attitudes, behaviours and experiences (Bryman and Cramer 2005). When reviewing the dining experience of patients, this study has established that different components contribute to their judgement forming their attitude to the experience. Some of these components may be interrelated and some may involve interdependent characteristics (Bryman and Cramer 2005). To determine the nature of these characteristics patients were asked to describe their feelings about their dining experience. These data, together with the findings from the literature, and observations were used primarily to develop an explanatory model of factors influencing hospital patients' foodservice experience which then facilitated the development of the questionnaire to measure that experience.

Exploratory Factor Analysis was conducted to identify the extent to which those aspects reflect patient attitude and to consider which were correlated with one another and which are unrelated. The existence of clusters of large correlation coefficients between subsets of variables suggested that those variables being measured within this data could be measuring aspects of the same underlying dimension (Field 2009). Characteristics that go together constitute a factor and Factor Analysis was the statistical technique used to establish such relationships (Bryman and Cramer 2005).

There are several reasons why these techniques have been applied in this research, namely:

- . Factor Analysis has provided the ability for the factorial validity of the questions on the Hospital Dining Experience questionnaire to be assessed by identifying the extent to which they are measuring the same concepts or variables.
- . To ascertain if it is possible to reduce the number of variables to a smaller set.

Acknowledging the difficulties in developing a valid and reliable instrument it was carefully prepared and tested to enable evaluation by Factor Analysis with Bartlett's test of sphericity identifying that Factor Analysis would be appropriate (Pallant 2005).

At this stage, the number of factors necessary to explain the interrelationships between the set of characteristics was unknown and in order to determine how many factors were present, whether such factors were correlated and indeed to name such factors exploratory Factor Analysis in the form of Principal Component Analysis was used (Tabachnick and Fidell 2007; Stevens 2009). This enabled an exploration of the underlying dimensions of the construct to be conducted (Pett *et al.* 2003). Principal Component Analysis is concerned only with establishing which linear components exist within the data and how a particular variable might contribute to that component (Field 2009). Using Principal Component Analysis has enabled the variance to be described where it is shared by the scores of people on fifteen variables to provide a common variance and its unique variance (Bryman and Cramer 2005). Having determined the factor structure, the factor loadings were used as a gauge of the substantive importance of a given variable to a given factor. The quantitative data from the analysis of questionnaire findings were

qualified with a comparison of the themes from the qualitative database (Creswell 2009).

4.5 PHASE 3: EVALUATING PATIENT PROFILES

To extend the understanding of patients' experience during the hospital mealtime, a patient profile focusing on their mood, their actual food intake and their attitudes to the foodservice was developed, critically analysed and evaluated in accordance with the schematic diagram for the research process and data collection illustrated in Figure 4.2. This phase was undertaken to meet the objective;

. To develop, analyse and evaluate a profile for Orthopaedic patients' experience of hospital foodservice.

Evidence of such a profile for Orthopaedic patients within the literature was not apparent and whilst such a profile provided a greater, more comprehensive understanding for the present study, it also provided a starting point for the development of further research in this field.

Sample – Patient profiles

The same group of patients were recruited for all three measurements undertaken for this phase, i.e. mood, food intake and attitudes to foodservice. Aware of the limitations of the research environment, the numbers of potential patients admitted to the two Orthopaedic wards on a weekly basis and following discussions with the NHS management and Clinical leaders, a sample of 36 patients for the profile study were selected over a 14 day period. One week prior to their admission to the wards at the hospital, a list of appropriate patients who were likely to meet the criteria (Figure 4.4) was produced by the clinical leaders. On the day of admission, each patient was taken to the ward day room prior to being allocated a bed and formally admitted for either elective hip or knee replacements. At this stage, the patients were approached and completed the informed consent procedure.

4.5.1 Measuring patients' moods

Moods are subjective feelings that are sustained for a variable time frame; in general in the order of minutes to days. They differ from emotions which are shorter but more intense. There is no valid objective measure of any mood and consequently self reported feelings are recognised as the best method for assessing mood. The intensity and frequency of moods tend to be the most common dimension of mood measured with reports of how one is feeling at the moment being the most accurate measure of intensity (O'Connor 2006).

The Profile of Mood States (POMS) scale illustrated in Appendix 5, is a tool that was first designed to measure 'current' mood states in patients receiving counselling or psychotherapy treatment. Lorr *et al* (2003) confirm that the POMS standard assessment is a factor-analytical derived inventory that measures the following six identifiable moods or affective states:

1. Tension- Anxiety
2. Depression-Dejection
3. Anger-Hostility
4. Vigour-Activity
5. Fatigue-Inertia
6. Confusion-Bewilderment

An examination of the individual items defining each mood state support the context validity of the factor scores (Lorr *et al.* 2003). They are self reported inventories in which respondents rate this series of mood states, based on how well each item describes the respondents mood during one of three time frames; during the past week, right now and other (Lorr *et al.* 2003). The respondent rates the 65 items on a five point scale rating from 'not at all' to 'Extremely' and it takes approximately 10 minutes to complete.

Since 1971 the POMS assessment has proven itself to be an excellent measure of mood states and fluctuation changes in psychiatric outpatients, medical patients, normal adults, college students and many other groups (Lorr *et al.* 2003; Cheung and Lam 2005). Numerous research studies have provided evidence for the predictive and construct validity of the POMS standard assessment. Alpha coefficient and other studies have found the POMS standard to exhibit a high level of internal consistency, while product-moment correlations indicate a reasonable level of test, re-test reliability. A study by Nyenhuis *et al.* (1999) on 564 non clinical adult samples established further the validation of POMS in adult and geriatric standardised groups thus increasing its clinical utility. At least 500 published studies have used POMS or its derivatives to assess mood (Terry *et al.* 2005). It has been used in hundreds of clinical trials (Cochrane Library 2007) and has been widely used by the US Army Research Institute of Environmental Medicine, World Health Organisation, Universities and Hospitals worldwide (McNair *et al.* 2003). Indeed, McNair *et al.* (2003) have published a bibliography where over 2,900 journal articles, book chapters and research reports have either used or cited POMS; of which 98% pertain to the Standard POMS.

The purpose of undertaking this measurement was to:

- Assess patients' typical and persistent mood reactions to his or her current life situation whilst assessing the effects of their hospitalisation experience.
- To establish whether there were any significant differences in any of the six identifiable mood states prior to and after their hospitalisation and treatment.

Sample - POMS

Studies effectively using POMS have used samples as small as 7 respondents and as large as 2549 as illustrated in Table 4.4. For this study, POMS questionnaires were administered to the sample of 36 patients.

Date	Author	Study	No of Participants
2007	Stanga et al	Effect of Nutritional Management on Mood	22
2005	Terry et al	Influence of response time frame on mood assessment	135
2004	Ota et al	Evaluation of mood profile in a clinical setting	30
2004	Achten et al	Effect of dietary carbohydrate content	7
2001	Gueldner et al	Mood of Nursing Home	138

		residents	
2001	Terry et al	Construct validity of POMS	2549
2001	Nyenthus	Adult and geriatric norms.	564
		Validity of POMS	
1998	Reid and Hammersley	Effect of sweeteners on mood	27
1993	Young et al	Glutamine supplements	23

Table 4.4 Studies conducted using the Profile of Mood States

Administering the POMS Questionnaires

After agreeing to take part, patients were given a POMS questionnaire to complete. Written instructions for completion were provided to present directions for using the questionnaire. The questionnaires were self administered whilst the researcher was available to answer any queries. A further POMS questionnaire was given to the same patients for completion on the 4th day, post operative, prior to their discharge.

Data Analysis

Statistical analysis of the POMS questionnaires was conducted using the SPSS computer software (version 16, Chicago, IL, USA) statistical and data management package. The Wilcoxon Signed Rank Test was conducted as it is an appropriate analysis for repeated measure research where the same subjects are measured under two different conditions, i.e. pre admission and post admission.

4.5.2 Measuring patients' food intakes

Part of the rationale to conduct this empirical work was the desire to gain a greater understanding of the issues that affect patients' foodservice experience and ultimately their food intakes. It is evident within the literature that hospital patients can experience a reduced intake of food during their period of hospitalisation.

The purpose of undertaking this measurement was:

- To measure the patients food intakes.
- To compare their food intakes with the specific requirements for Orthopaedic patients stated in the Nutritional Guidelines for Hospital Caterers (Department of Health 1995) and the Reference Nutrient Intake provided by the Department of Health (1991).
- To directly observe what factors if any were influencing their mealtime experience.

Theoretical Considerations

Food consumption which is defined as the food ingested by individuals can be assessed directly by a variety of recording or interview techniques (Cameron and Van Staveren 1988; Nelson 2000). Edelman *et al.* (1986) discuss a major difficulty in field studies is obtaining a precise measure of amount eaten whilst the researcher remains unobtrusive. Consequently, researchers have relied on such indirect measures as amount ordered, type of food ordered, and visual plate waste estimates where such measures may not be related to actual calorific intake and may be contributing to the variability in results (Edelman *et al.* 1986). Appendices 6 and 7 list prospective and retrospective techniques applied to food consumption methodologies published by the Food and Agricultural Organisation for international use. Prospective assessment of food intake involves the recording of food intake with weights at the time of consumption. This type of assessment is considered to be the most accurate method for assessing food intake (Davies 1993). Retrospective assessment of food intakes focuses on food eaten in the past (Davies 1993). Most retrospective measurements are not quantitatively meaningful and estimates of dietary intake for the population usually cannot be made (Thompson and Subar 2008).

Nelson (2000) states that there are no entirely objective measures of an individual's food consumption or nutrient intake, except in the controlled condition of a metabolic unit. Cameron and Van Staveren (1988) identify a variety of sources of error and variations when estimating food consumption. With all methods of estimated intakes, the results may not be a reflection of 'normal food consumption' because subjects may choose not to record or to report certain items even though they have been consumed (Cameron and Van Staveren 1988; Nelson 2000). In the assessments where the subjects maintain their own records they may simplify their diets to make the recording process easier. In addition, errors are inherent when people may experience a poor memory or may record the information inaccurately and distortions can be difficult to detect (Nelson, 2000).

In addition to reviewing the strengths and weaknesses of the different dietary assessment techniques, other factors required consideration; the number of meals to be measured, the duration of the measurement, the research resources available and the duration of the patients' hospitalisation. A critical evaluation of past dietary assessment studies using the weighed food record was conducted. Those specifically involving hospital patients are illustrated in Table 4.5.

Date	Author	Duration of intake (days)
Medical condition, MRSA / Noro Virus, patient mobility, patient feeding, patient type, anxiety, poor appetite	Patients	Patients mealtime experience
Meals on ward, in bed, beside bed, hospital restaurant, day room.	Meal Setting	
Dieticians, Ward Hostesses, Nutritional link nurses, staff turnover, support/clinical staff, responsibilities, foodservice staff, nutrition training provision.	Key Personnel	
Food - bland, tasteless, good quality, poor quality hot, tasty, trolleys, inconsistent quantities, short staffed, menu issues, inconsistent deliveries.	Kitchen production (Food production)	
Food - breakfast, presentation, puddings, portion size, cold, dry, hot, tasty, temperature controls, delays, inconsistent service, short staffed, menu, bulk orders, disorganised, timings, meal sittings, trolleys, staffing, budget.	Ward Service	
Unsupportive staff, poor departmental relationships, good relationships, poor communications, no teamwork, meetings.	Teamwork and Support	
Staff - friendly, positive, unsupportive, supportive, stress and pressure.	Staff attitude to patients	
	Eating Environment	

No location choice, comfortable ward, busy ward, happy ward, noisy mealtimes, rushed meals, food smells, ward odours, routines, distractions, X-ray, toileting, chaos, cleaning, Doctors, Nurses, Physiotherapists, drugs rounds, commodes, washing, bed making, cleaning, ambient temperature, patient preparation, protected mealtimes.	Socialising.		
Chatting, rapport, camaraderie, boredom, loneliness, institutionalised.			

Table 5.0 Thematic framework: patients mealtime experience at the Acute Care Hospital

Throughout patients' representations of their overall mealtime experience was a strong appreciation for the contextual and cultural environment that they were in, acknowledging the constraints that such a situation placed on their foodservice provision:

"We are all in hospital having operations or whatever you are having and the ultimate aim is to get the hell out of it as fast as possible so you put up with what's going on."(Male patient)

The Patients

The staff on each ward were dedicated to providing care in specialist areas and patients were placed in the appropriate wards to meet their medical requirements. All wards observed were fully occupied and during the foodservice the patients were either in their beds or seated next to their beds.

The wards normally dedicated for elective Orthopaedic patients were during the winter months, commonly used to accommodate medical patients. For several months over the winter, one of the wards was used entirely for the medical elderly which according to the ward staff had consequences that affected the existing foodservice staff employed on the ward. There was only one ward hostess and many of the patients were in their 90's and required assistance with their feeding. The hostess was only able to feed one patient at a time. These patients required a high level of care and there were 6 nurses dealing with 26 patients:

"Nurses on the ward are not happy as they are trained for Orthopaedic patients, not medical....The nurses are now under a lot of pressure and stress.... they are not allowed any more than 6 nurses on duty."(Ward Hostess)

Over the winter months, several bays within wards or indeed complete wards were closed where patients who experienced the Noro Virus were isolated from the remaining patients. This not only impacted on the staff and management placing a strain on the resources of the hospitals but also affected patients' experience of mealtimes.

"The sickness virus.... Uh huh....I got it quite bad...Uh Huh... a lot of us had it down here but I tended to have it fairly bad, you know..."(Female patient)

Ten patients expressed their anxieties and nervousness with regard to their surgery and treatment and the stresses and strains of being hospitalised. Twenty patients explained their feelings of low morale, discomfort and poor appetite in the first couple of days after their surgery.

The Mealtime Setting

The six hospital wards visited in the Acute Care Hospital were set out in a similar way and generally consisted of 4 large bays, each providing a maximum of 12 beds, with each bay accommodating single sex patients. The wards also had between 6 to 8 side rooms to accommodate individual patients. When privacy was required in the bays, a curtain could be drawn to surround each individual bed.

Beside each bed there was an arm chair and every bed had an adjustable bedside table on wheels which could be wheeled over the bed or be independently placed beside the bed. One day room was provided which was shared between the two wards; it was used for staff mealtimes and breaks and on occasions, for patients being admitted waiting for beds to become vacant.

The hospital restaurant provided in the Acute Care Hospital was for patients, staff and visitors. A sandwich bar was provided in the main part of the hospital which was popular with staff, patients and visitors. Only a minority of patients used these facilities:

“Sometimes my appetite was not very good. Hospital Restaurant whilst is excellent is not practical quite often.”(Female Patient)

Key Personnel in the Foodservice setting

Providing a comprehensive meal service to hospitalised patients involved employing a variety of specialist staff which included, the catering staff, dieticians, nutritional link nurses, ward hostesses, Health Care Assistants and clinical staff on the wards. The foodservice on the ward was provided to the patients by ward hostesses when available or alternatively by the Health Care Assistants.

“The provision of Hostesses comes from the ward budget. If they [clinical leaders for the wards] had a choice they would prefer to employ a HCA who carries out other duties. They are generally unable to fund both. They are directly responsible to the ward management and not the catering management. The Sister on the ward chooses whether or not to have a hostess as they have to give up an HCA for a hostess.” (Quality Manager)

Hostesses are employed on about 60% of the wards, they are mainly available for lunch times; very few work evenings and occasionally some may work at weekends.

The undergraduate nursing coordinator for the local University that provides the courses for the nursing diploma and degree, confirmed that the training provided to the student nurses focuses on just some of the Macro nutrients (specifically Proteins, Carbohydrates and Fats) and the clinical skills of feeding patients who are unable to feed themselves. The Health Care Assistants receive no nutritional training and no training is provided to support/clinical staff that has a hospitality focus. When the student nurses and Health Care Assistants conduct their practical training on the wards, the only training they receive is in respect of basic food hygiene and the delivery methods and safety issues involved with the trolley service.

Kitchen production

At an agreed time, the wards were delivered heated food trolleys that had been prepared by the kitchen which contained the meals ordered by either the patients or the ward staff the previous day. Trolleys were delivered to wards in different batches following a set routine; some were old (over 15 years) and many were not working effectively. On occasions there were delays in the trolley arriving from the kitchen to the wards.

Menus were completed by the ward hostesses, Health Care Assistants or the patients and forwarded to the kitchen where the information was collated and entered onto a computer program. Ideally, the patients were supposed to choose their lunch and dinner for each day but this was often not the case. It took 1½ days from the order to the delivery; if the order was taken in the morning it would be available for the next day's lunch. A ward hostess advised that there were often problems with the kitchens not sending up the appropriate orders of food.

"2 or 3 times insufficient food was provided from the kitchen which was embarrassing for the staff serving."(Female patient)

There was a mixed reception by the patients to the quality of the food provided:

"The quality of food was disgusting, I would not feed dogs with the food given; you are meant to have decent food to build you up but you go without and end up even 'iller'the food they give you is torture – I'm sure you get better food in a POW camp." (Male patient)

Seven patients suggested that the food should be made to look more appetising so that the meals would appeal to the patients and entice and encourage them to eat.

There was also some resentment evident of money being spent on good food that was spoilt during the preparation and delivery processes, to the point where patients were unwilling to eat the meals.

"..... I will have lost weight in here but that won't hurt because I am overweight anyway."(Female patient)

However, 68% of patients confirmed that they were happy with the quality of their food:

".... I have been pleasantly surprised by the quality. Hospital catering has gone way up from what it was."(Female patient)

Ward Service

Most patients were served their meals whilst seated beside their beds although some patients chose to eat whilst they were in bed. The complete mealtime service lasted between 60 to 90 minutes depending on how many patients were being served. No visitors were allowed on any of the wards at mealtimes unless they were there to specifically help to feed the patients.

Breakfast was provided by the ward staff or hostesses and was cold; hot breakfasts were only available for special needs when the dietician made requests directly to the kitchen manager. Patients were provided a hot drink service with the breakfast and everything with the exception of croissants came from the ward. The breakfast trolley on the wards contained a variety of cereals, fruit juices, jams, biscuits and butter.

The food for the lunch and dinner services was contained in the heated food trolleys. Once delivered, the ward staff were responsible for serving the food from the trolley to the patients in accordance with the completed individual menus. On some wards, the trolley was taken into the bays and the foodservice was commenced immediately. On other wards, the food trolleys were left for up to 30 minutes before foodservice commenced. There was little consistency with regard to this procedure between the wards as each ward served the meals in a different manner determined at the time by the staff members serving the food.

The soup containers were placed on unheated trolleys and were taken into the other bays to serve the remaining patients. Whilst the soup or fruit juices were served, the main meals were kept on the heated trolleys. One of the most common complaints received was the temperature of the meals but some patients advised that they didn't complain to the staff about it as they did

not want to cause a fuss and just wanted to go home as quickly as possible:

“The last time I had a meal, I was on the end of the line for food – it was b***** awful – the food is always cold..... I suppose for me it wasn't a bad thing to be losing weight whilst I am in hospital (Female patient)

A member of the foodservice management team explained that where the wards did not have ward hostesses, the support/clinical staff didn't pay any attention to the control of temperatures of the food on the trolleys.

All of the puddings were served at the same time as the main meal. The ward hostess stated that this had to be done as the kitchen wanted the trolleys back as quickly as possible. Many patients were discontented with this as by the time they had finished eating their main meal, their hot puddings were cold or their ice cream had melted. Between mealtime services, patients were served with a hot drink mid morning, in the afternoon, with the evening meal and before bed time.

When the ward hostesses were not present or the Health Care Assistants were under pressure, the menus were not given to the patients for completing their individual requirements and a bulk order was placed by the ward staff without any consultation with the patients; this often led to problems at the time of the foodservice:

On several occasions the food ran out and more had to be ordered at the time of service.” (Ward Hostess)

The placing of bulk and not individual orders also impacted on the patients as they were aggrieved when not given the opportunity to choose their own food for the next day:

“There has been some, obviously a great deal of confusion over the menus. I don't know if anyone else has mentioned this but I think yesterday was the first time we actually received one. So we came in on Monday and I think yesterday was the first time that they were actually handed out.” (Male patient)

The quantity of food served to the patients was supposed to be directed by their menu requests but often these were ignored depending on who was serving the meals which left several patients disgruntled. Whilst this was often the consequence of poor service by the ward staff, the kitchen production team also exacerbated the problem in some instances by delivering insufficient portions to the wards, leaving the ward staff to use their discretion for distributing smaller portions of food than requested by most of the patients.

Ward hostesses were concerned with the food and diet of patients and ordered their food in accordance with their dietary requirements (e.g., gluten free). The hostesses' checked the ward report on a daily basis for an update on the patients to establish their dietary needs. They were required to complete a food chart for specific patients to monitor their food intake and they got to know who was eating well and who wasn't. They confirmed that they endeavoured to treat each patient as an individual and patients' acknowledgement of this was frequently made:

*“I have been served... the nurse, well normally, I get served by * who is the young lady that brings it around...a lovely lady..... and they know more or less what you want, but they also ask you independently, every time....tea or coffee or whatever you want.” (Female patient)*

At several mealtimes, hostesses received very little support with serving meals especially when the support/clinical staff were busy and there had been a high number of operations. When there was a shortage of foodservice staff, the support/clinical staff at all levels including clinical leaders were involved with serving meals to the patients. Infrequently, they were supported by voluntary workers.

“...just not enough staff - peoples meals get forgotten.” (Male patient)

On occasions, the delivery of foodservice provided by support/clinical staff, appeared

disorganised and unstructured:

*“....and on this particular ward... you know there is a girl that does it * she is quite wonderful.....she has been off for three or four days and its chaos here today... absolute chaos.” (Male patient)*

Some of the support/clinical staff served meals without following the menu requests and gave patients a free choice from the trolley which as the foodservice progressed through the ward, often resulted in many patients not getting what they had actually ordered; a source of several complaints:

“Didn’t get what was ordered – there was a mix up. One night there was no more soup, and no salad and I didn’t get what I had ordered - ended up with sandwiches and yoghurt.” (Female patient)

During such foodservice sessions, patients complained about the poor presentation of their meals. This was an important aspect that patients felt would impinge on their enjoyment of the meals:

“..... there is nothing worse than looking at it and thinking that that looks horrible.....sort of splashed on a plate or whatever....” (Female patient)

When the meals were served immediately on delivery of the trolley, patients noticed that the food looked moist and appetising but where delays were experienced they commented that many of the dishes appeared very dry and they found them difficult to chew. Eight patients made suggestions for improving this situation:

“Sometimes the food sat on the trolley for quite a while, if the nurses were busy. Maybe they could have somebody to just serve the meals so it is as fresh as possible.”(Female patient)

On some wards, most of the patients were ambulant and able to feed themselves whilst on other wards several patients were dependent on being fed by the staff, members of their family or by volunteers. The foodservice staff encouraged patients to be independent eaters whenever possible but where patients were too old, not cognitively able or unable to use their hands a ward hostess would feed them. On one ward which as a result of ‘winter pressures’ was accommodating medical elderly patients, one hostess was expected to help with 8 individual feeds and at the same time conduct the normal trolley service.

“She only has one pair of hands and can only do one thing at a time and needs help with the rest..... some nurses are not happy at having to help to “feed” the patients.”(Ward Hostess)

A clinical leader of a ward conveyed how she viewed the current mealtime experience from a management point of view:

“.... I think that probably mealtimes at present within most of the hospital set up...it’s something that is done; it has to be accomplished; each mealtime you have to get through another thing and it’s not necessarily a pleasurable time.” (Clinical Leader).

Notwithstanding the issues mentioned, overall whilst some patients had negative experience of their mealtimes, the majority had positive experiences.

Teamwork and support

The quality manager advised that each hospital ward displayed different teamwork dynamics and levels of support between the foodservice staff and the support/clinical staff and that this was evident not only between different wards but also between the different shifts on the same wards. One particular ward dealing primarily with elderly care appeared to exhibit good teamwork, with support/clinical staff working well together to feed patients. Conversely, on another ward the ward host often completed the whole meal service on his own with no help from staff at all. He was unable to plug in the trolley to maintain the temperature of the food as the socket was being used

by clinical staff. On another observed ward, all the nurses were extremely busy, two Health Care Assistants were conducting the foodservice during which one was called away; the remaining health care assistant was then also called away leaving the open trays of food on the trolley with no one to serve the food for approximately 15 minutes. No other ward staff were willing to provide any support to them. This situation occurred several times and was commented upon by the patients. The quality manager suggested:

“There is a very poor relationship evident between nurses and catering staff. People don’t want aggravation so the real issues are not tackled.”(Quality Manager)

She explained that the relationship between the catering staff and nursing staff would depend on who was in charge of the ward at the time, but that whilst there was a lot of operational tension, some wards conducted their mealtimes well.

The foodservice management held regular meetings with Ward Hostesses to gain a better understanding of the ward service provision for patients, and to strengthen the teamwork between the foodservice staff, the kitchen staff and the support/clinical staff:

“These meetings have clearly identified how the hostesses are under valued. There is a high turnover of hostesses and the very poor relationship they have with the ward managers is often the reason they leave. Not all wards have hostesses but where they do there is a problem because the ward staff rely too much on them.”(Quality Manager).

Staff attitude to patients’ foodservice

A member of the foodservice management explained that the attitude the support/ clinical staff and foodservice staff displayed to patients differed throughout the wards in the hospitals. Two wards in particular were recognised for their clinical staff exhibiting poor levels of input for the patients’ mealtimes, and poor relationships with the catering staff. This situation was further clarified by a volunteer who regularly helped to serve patients on these wards, disclosing that he often found that some of the clinical staff were reluctant to serve the meals to the patients as they believed it was ‘not their job to do so’.

Foodservice management, foodservice staff and support/clinical staff all confirmed that when they were short staffed or when the wards were experiencing large numbers of high dependency patients they were under intense pressure. According to several patients this was suggested as the underlying reason for negative displays of attitude towards patients by the staff. They were empathetic with the requirements of the staff to meet deadlines but felt that this often resulted in staff being “offhand” with some patients.

The eating environment at mealtimes

Breakfast Service

At the breakfast sessions, there was a lot of activity on the wards. The housekeeping staff commenced their cleaning duties from 0700 and during the breakfast service they worked amongst the patients, cleaning the floors, walls and doors using a variety of cleaning equipment including vacuum cleaners. The support/clinical staff would often be making up the patients’ beds whilst the patients were eating their meals sat by the side of the bed which some patients were unhappy with. The clinical staff were conducting their medical routines and helping patients to mobilize, wash and dress.

“One issue in the morning is when the nurses draw the curtains round a patient’s bed; I can’t serve any food and often nurses forget to draw them back. I find this so frustrating especially when nutrition is supposed to be so important..... It is a regular thing in this ward.” (Ward Hostess)

Patients being washed or going to wash themselves were not always available to have breakfast served to them.

Lunchtime service

The lunchtime service was provided in an extremely busy, noisy and at times disordered dining environment. Several patients suggested that mealtimes should be kept quiet:

"...It would be nice to ... just for everything to stop for a short time Well you stop at home don't you... I don't think it is all that much for half an hour as I say to stop I know they have got to go theatre but that is to me basic essentials but... it would be that part of the day which is just different and quiet." (Female patient)

Doctors consulted with patients and interrupted patients' meals to conduct examinations. The physiotherapists on duty during the lunchtime period disturbed patients whilst they were eating their meals. A patient who was eating soup was asked by a physiotherapist to demonstrate his mobility. His soup was left on his tray to get cold as the procedure took 5 minutes to complete.

"One of the things that has always struck me is looking at it from a patient's perspective and what it means to be in hospital is that the day is completely chaotic and disorderly." (Consultant)

Dinner Service

The dinner service compared to the lunchtime service was less busy and provided a quieter environment than lunchtime with minimal evidence of the presence of the doctors and specialists.

All meal services

Drugs were administered to patients and clinical staff conducted their patient observations during all the daily foodservice sessions. Several unhappy patients did not want medical interventions and blood tests to be conducted at their mealtimes:

"They often put on a drip at mealtimes.... so difficult to eat with one hand... this was a very big distraction at mealtimes." (Male patient)

When asked if it were essential that these medical interventions were administered at the patients' mealtime, a staff nurse advised that it wasn't a requirement but it was more convenient for the nursing staff to do it then.

".....various data, anecdotal or otherwise has been collected around the hospital to show that patients are just not getting meals because the meal is delivered and then the trolley comes to take them to X Ray and then they come back and the hot meal is gone then they get a sandwich or something. Frequently there is a ward round or something else happens ..." (Consultant).

Often, during mealtimes, patients used bed pans and commodes whilst meals were actually being served and eaten on the ward. A clinical leader explained that there was no preparation of patients prior to their mealtimes and that she believed that the use of bed pans during mealtimes was a horrible experience for both patients and staff.

Protected mealtimes

Only a few wards in the hospital were operating protected mealtimes despite the apparent support from the foodservice management:

"One of the things where I think that protective mealtimes needs to come to the fore..... is that everybody needs to take food as the important part of the day. Not the trolley arrives and everybody goes... food is so important and that's really trying to push the need for food as part of treatment." (Catering Manager)

The remaining wards did not change their procedures during the mealtime session

When asked for the rationale behind the decision not to conduct protected mealtimes, one of the ward hostesses explained that it was a contentious issue and that doctors could be very difficult. She confirmed that several wards had tried it in the past but that it was not adopted hospital wide

or embedded into consistent practice.

On one ward where they had adopted the protected mealtime's initiative, the teamwork between the hostess and staff appeared good. Recognising that the biggest problem for patients' mealtimes were the interruptions, the hostess shuts the ward door and only allows interruptions for emergencies, emergency medication and emergency admissions. She insisted that even the consultants and doctors stay away from the patients at this time and confirmed the need to be organised with the eating environment prepared for an uninterrupted mealtime:

"At mealtimes every patient should be prepared and ready to eat, no urine bottles out etc very off putting."(Ward Hostess).

Ambience of the eating environment

At times during the day, strong smells and odours would linger on the wards; some patients found these were very off putting affecting their appetites and making them feel nausea. Staff tried to resolve this by spraying air freshener but the patients felt that this smell also impaired their appetite. Many suggestions for improving the eating environment were put forward by patients:

"So if there are any nasty smells around which there can often be, this is going to mitigate against us enjoying the experience, so lets think in terms of making sure that if we do have the opportunity, of getting into a nice little dining area um..... that the atmosphere is conducive to eating...you know."(Male patient)

A further aspect that appeared to affect the patients' experience at their mealtimes and their overall comfort during their hospitalisation was the ambient temperature of the ward. It was a topic that was mentioned by the patients on several occasions and in every case, the temperature was described as too hot and that with the lack of airflow the environment had become stuffy and claustrophobic.

Socialising

This theme relating to social interaction was identified as one of the strongest themes from the data set, although there were no specific questions asked relating to the need to socialise. Figure 5.0 illustrates that the majority of patients felt that it was one of the most important issues and had a positive effect on their well being during hospitalisation.

Figure 5.0 The importance of socialisation for patients

[pic]

Note: n= number of respondents

On many occasions patients wandered around the ward chatting and getting to know each other. A particularly strong rapport between same gender patients was often evident in the bays with 6 beds and there was often laughter, discussions and lots of humour on display. Patients in general were observed interacting well with each other. Many of them appreciated that socialising was very important to them whilst they were in the hospital ward environment:

"..... as I say I think it's very important the repartee between the people you are in here with. It does encourage people to eat." (Male patient)

The importance of this aspect of a patients' experience was also acknowledged by the medical and foodservice staff who suggested that the camaraderie of the patients tended to help their recovery process.

Patients often mentioned that they experienced boredom during their hospitalisation; always waiting for something to happen to provide interest. Several of them acknowledged that socialising with other patients broke up the monotony and helped to pass the time and suggested that getting out to the restaurant where possible would provide more opportunity for social interaction. Some patients suggested that to alleviate the monotony, it would be nice to come away from the ward which would allow them to see the outside world. By doing this it was also felt that it would help prevent long stay patients getting too institutionalised.

5.1.2 The influence of the eating environment on patients' foodservice experience

During the semi structured interviews patients were requested to consider the influence the eating environment may or may not have had on their foodservice experience in hospital. The emergent thematic framework for their representations is illustrated in Table 5.1.

Raw data themes	Higher order themes	General Dimension
Relaxed, comfortable surroundings, unrushed, calm, socialising, décor, happy atmosphere, clean, bright.	Ambience & Setting	Influence of the eating environment on patient foodservice experience
In bed, beside bed, away from bed, group dining, separate dining area, alone, hospital restaurant, side room, day room.	Location of Meals	
Mood, manners, laughter, social occasion, chat, company, normality, like home, rapport, camaraderie, effort, relieve boredom	Group Dining	

Table 5.1 Patient representations of the influence of the eating environment on their hospital foodservice experience.

With regard to the environment in which the patients' mealtimes took place, some patients believed that this could influence their mealtime experience and perhaps their food intakes:

"I would say that it is probably about 90% of the eating experience. I think that anything that would take you away from out of the environment you are forced to be in um.....I think would be very helpful." (Male patient)

There was a strong appreciation of the contextual environment the patients were in, the lack of funding and resources available for the NHS service they were using and ultimately the lack of opportunities, constraints and limitations that such circumstances imposed:

"Well it's just something you expect. isn't it..... you know...you're in hospital... you don't have any option really."(Male patient)

5.1.2. a Ambience and setting

One of the main categories that was evident from the thematic analysis of the thirty interviews conducted related to the ambience and setting in which the meals took place. The significance of this issue is indicated in Figure 5.1.

Figure 5.1 The significance of the ambience & setting of the foodservice environment [pic]

Note: n= number of respondents

Five patients acknowledged that this issue is particularly important when their mobility is reduced and they are unable to move far from their hospital beds. Patients did acknowledge that being in a hospital environment placed restrictions on the extent to which a positive ambience could be created:

".....Quite a lot... but not here....It's hard to say in here... It is very important in real life, but this isn't... this isn't real life...It is real life because it is real but it is not the life that you would continue for a long time." (Female patient)

Four of the patients discussed what they would consider to create a good ambience:

I guess, it would have to be a relaxed atmosphere; it would have to be comfortable surroundings.... It would have to be everything a hospital isn't. (Female patient)

A category conceptualised by patients as being part of the positive ambience of a meal service environment related to social interaction and the need and desire of patients to socialise at mealtimes and within the hospital ward environment generally. 68% of patients believed that this was an important issue to have a positive effect on their well being during their hospitalisation:

"To be honest, in this sort of situation, it's the rapport between patients that keeps them going. Um we do have a good laugh, at each others expense.. always so.. yeah a bit of camaraderie between patients on the ward goes a long way. It does keep your pecker up.....Um if everybody's....and nobody is talking the feel of the ward goes down like a lead balloon.... really."(Female patient)

5.1.2 .b Location of meals

Another theme identified from the thematic analysis related to the location in which the foodservice took place. Many patients felt that this could have an influence on their enjoyment of their mealtime experience:

"..... I don't know.....because it would take you away from the medical side of people. Nothing against the medical profession or anything..... but I think it would make quite a difference.... Lighten the load for an hour or so." (Female patient)

76% of the patients however felt that if they were reasonably mobile, their mealtime experience would be enhanced if they were given the opportunity of eating away from the immediate vicinity of their bed, in a group with other patients:

"Because it is quite sociable, and it feels that you are actually sitting down for dinner where as you are not in your bedroom."(Female patient)

Most patients indicated a preference to have their meals in a completely separate dining area away from their beds as shown in Figure 5.2.

Figure 5.2 Patients' responses for the provision of a separate dining area [pic]

Note: n= number of respondents

When considering the reasons that underlie the desire behind this preference, several issues were highlighted.

“Well I suppose... it is a social occasion. At home eating with the family and um.... It just continues one of the sort of things you would normally do at home... you know, sit around a table and have a meal. I think that anything that would take you away from out of the environment you are forced to be in...um.. I think it would be very helpful.” (Male patient)

Five patients indicated a longing for a different environment that would provide an escape from their bedside as much as possible. Some patients believed that providing a different mealtime environment would help to relieve the boredom and monotony they were experiencing during their hospitalisation. A number of patients suggested that eating together may well encourage patients to eat where those with a poor appetite may be stimulated to eat by people they dining with:

“Mealtimes at the hospital are a social occasion and a very important part of the day. They brighten up the day. With the crowd they have in this bay if they got the opportunity, they would like to eat together.”(Male patient)

Four members of staff also recognised that an advantage of eating away from the bedside was that it provided a more hygienic environment for the patients’ mealtime:

“..... we are putting the food on to their little tables... they have had everything on that table; their wash stuff is on the table, the bowls used are put on the table after they have had a wash ... there is so much on there.....there is a time that their urine bottles.....We are moving stuff all over the place just to get their tray on with their meal. Whereas if you had it in a separate place...” (Ward Hostess)

This too was an important issue recognised by patients:

“It is not the appropriate room to.... Toilet..... in bed.... eat food... very unhygienic.”(Female patient)

5.1.2.c Group dining

An overriding factor considered by many was the ability to have a choice of being able to eat together if the patients were feeling up to it and if not, that the option was available to eat in bed or besides their beds. Their representations are quantified in Figure 5.3

Figure 5.3 Patients motivation to eat meals together

[pic]

Note: n= number of respondents

Seven patients were happy with the existing location of being beside their beds for their meals:

“.... because it is more of an effort to sit up at a table then relax by your bed and it is more of an effort to feel you need to make a conversation than it is just to relax.” (Female patient)

Those patients that were being cared for in the side rooms indicated that at times they felt isolated and lonely and missed the opportunity to chat and socialise. This was a view that was reinforced by some of the hospital staff.

77% of patients however, recognised that eating together would provide a social occasion where sitting around the table with others was described as like being at home; bringing a sense of normality to the unfamiliar environment that you are forced to be in. It was acknowledged that this experience could enhance their mood and facilitate an opportunity where they would feel freer and less contained thereby improving a general feeling of pleasure during their hospital stay.

5.1.3 Patient expectations

To develop an understanding of any influence patients expectations might have on their behaviour and perhaps their attitude towards their foodservice experience, during the semi structured interviews, 30 patients were asked to recall what their expectations of their hospital mealtimes were before they were admitted the responses for which are indicated in Figure 5.4.

Figure 5.4 Patient expectations of their hospital dining experience

Note: n= number of respondents

85% of patients had given this issue some thought prior to admission whilst seven had given it no thought at all. Patient representations of their expectations illustrated a mixture of responses ranging from very little consideration being given to a great deal of consideration where plans were made prior to admission for a patient's behaviour regarding mealtimes based purely on their expectations:

"I er... never liked hospital food. Oh, I couldn't eat at all.... I wouldn't eat at all.....Well our aim was that my husband would bring me in something everyday to eat." (Female patient)

The patients who had no previous first hand experience of hospital mealtimes and had not considered the experience of others had no expectations at all; those patients with good or poor expectations had based this assessment on the experience of others or first hand experience:

"Well... You know you hear the old, old stories of 'you don't want to eat in hospital... you would lose loads weight'. 'It's horrible' ...from the older people that you know have been involved in hospitals and things like that." (Male patient).

The patient responses are visually represented in Figure 5.5.

Figure 5.5 Influence of experiences on expectations

[pic]

Note: n= number of respondents

5.1.4 Theory development

The patient representations of their mealtime experience have arisen primarily from their first hand experience and to a lesser extent from the experience of referent others such as family and friends. Those mealtime experiences were affected by their cultural and contextual positioning within a mealtime environment in hospital which to a large extent was influenced by the stakeholders involved in providing such an experience for them. The complexity of the provision is reflected in their multifaceted representations; their perceptions, viewpoints and beliefs were at times both contradictory and in accord.

The analysis of the results from this qualitative phase of the research indicated the main factors influencing the patients' current mealtime experience and are summarised in Figure 5.6.

Figure 5.6 Explanatory model for factors influencing hospital patients' foodservice experience

[pic]

Over 70% patients assessed their overall meal experience as being good; many of them did

identify parts of their experience in a negative view where some areas would benefit from improvements. When considering factors which might influence their mealtime experience, eight patients identified that the actual environment in which the meals were consumed could contribute to their overall assessment. Pertinent factors would be grouped into ambience and setting, meal location and dining together, as presented at Figure 5.7.

Figure 5.7 Factors influencing the hospital eating environment

[pic]

5.1.5 Summary

The data produced from this qualitative Phase 1 together with documentary analysis, provided an in depth insight into what stimuli, environmental and contextual, might influence the mealtime experience of a small number of patients. The critical evaluation of the findings for both this primary research and the secondary research provided by the literature has directed and informed the next phases of the study. Consequently, this data has been used to develop and support a framework to design the questionnaire which was administered to a much larger sample of patients in Phase 2. Most of the factors identified in Figure 5.6 have been used to construct the attitude statements that form part of the Pre admission and Post admission HDE questionnaires.

The results concerned with the expectations of the patients for their anticipated experience of hospital food service illustrated in Figure 5.4 have indicated that such expectations are largely based on their first hand experience and the experience of referent others. Accordingly, in order to elucidate data from a much wider audience the Pre admission HDE questionnaire has been designed to collect data based on the sources of the patients' expectations.

Finally, the emergent data from this Phase 1 has indicated that the eating environment, the ambience, setting, the location of where meals are eaten and the patients desire to socialise may all contribute to influence their overall dining experience. These factors are taken forward and have been used to create an enhanced dining experience in Phase 4.

5.2 PHASE 2: EVALUATING PATIENTS' ATTITUDES TO THEIR FOODSERVICE EXPERIENCE

Phase 1 of this study involved an appraisal of what environmental and contextual stimuli influenced patients' assessments of hospital foodservice. This was orchestrated by a review of the patients' conceptualisation of their hospital foodservice experience and the observational data collated from the field notes provided by non participant observation of the hospital eating environment. This first phase successfully identified the variables that influenced a patient's overall foodservice. To explore these variables further it was necessary to provide an instrument in the form of an attitude scale that would capture the responses of a much larger, representative sample.

Accordingly, using the explanatory model provided in Figure 5.6, an attitude scale was developed and formed part of the Hospital Dining Experience (HDE) questionnaire. This phase was undertaken to meet the following objectives;

- To develop, analyse and critically evaluate a questionnaire to measure hospital patients' overall foodservice experience.
- To develop a theoretical model for hospital patients' overall foodservice experience.

Initially, the analysis undertaken commenced by focusing on variable by variable, looking at effect sizes using the ratings pre and post admission patients. The analysis then progressed to compare variable by variable for each of these 2 groups using patient assessment of their overall dining experience. Factor analysis was then employed for using the 2 groups of patients and the overall assessment of their hospital dining experience to identify the latent variables and explore the relationships between these variables.

For the purpose of the statistical tests undertaken for this study, the responses based on the Likert 7 response scale using ordinal values, were treated as discrete ordinal for the univariate analyses of Mann-Whitney U tests and treated as continuous and not categorical for the multivariate analyses of binary logistic regression and factor analysis. There has been a considerable amount of research undertaken where attitude responses have been analysed in this way (Rah *et al.* 2004; O'Dougherty *et al.* 2006; Whelan *et al.* 2007; Yen Soon *et al.* 2010). In the binary logistic regression analyses, had the variables been processed categorically, the output produced would have been extremely difficult to interpret. The rationale for adopting this approach was to help the process of classification; the study is not endeavouring to make any inference but is proposing to understand what the model of a patient's dining experience consists of and to provide an explanation for that model.

In all of the statistical analysis conducted with the exception of factor analysis, a comparison is made between the ratings of 2 different groups of patients; those prior to experiencing the hospital foodservice (Pre admission) and those having experienced the hospital foodservice (Post admission). It was not possible within the context of the hospital environment, conforming to the specified conditions stipulated by the Dorset Research Ethics Committee to conduct a repeated measures design for a larger sample.

Sample

Questionnaires were administered in accordance with the methodology previously discussed. The demographic distribution of the respondents is illustrated in Table 5.2.

CHARACTERISTIC	Pre admission (n=292)	Post admission (n=267)
GENDER		%

%			
AGE	Male	42	40
	Female	58	60
	18-29	7	1
	30-39	8	3
	40-49	13	5
	50-59	14	10
	60-69	24	25
	70-79	22	34
	80-94	12	22

Table 5.2 Respondents for the Pre admission & Post admission Hospital Dining Experience questionnaire

For the Pre admission and Post admission HDE questionnaires, the percentage of male and female respondents was very similar. The respondents were patients that were either due to be admitted or were actually admitted for elective surgery for hip and knee replacements; this is reflected in the apparent age profile of an older population. There were no significant differences between the sample groups, male and female.

Influence of experiences on expectations

Phase 1 provided evidence from a small group of patients of the sources from which their expectations were derived (Figure 5.5). An analysis of these social representations provided the direction for the content of the pre admission HDE questionnaire that focused on expectations. The distribution of the responses is illustrated in Table 5.3

Source of expectation	Mean	Median	Standard Deviation
First hand experience	0.85	1.00	1.11
Experience of friends and family	0.60	1.00	1.04
Media- TV /Radio, newspapers	-0.25	.00	1.08
Films and television programmes	-0.05	-1.00	1.02
Other factors	-0.25	.00	1.13

Note:

Response set: -2 = Strongly disagree; -1 = Disagree; 0=Uncertain; 1=Agree; 2=Strongly agree

Table 5.3 Sources of patients' expectations of their foodservice experience

Preliminary Interpretation

An initial interpretation indicates that the majority of the respondents confirm; the main influence on their expectations has been their own personal experience and the second major influence is the experience of their friends and family. The factors of the media, television, films and other factors, have been far less influential.

1. Comparing patients' expectations of hospital mealtimes with

patients' actual experience of hospital mealtimes.

The statistical tests undertaken with respect to the patients' expectations and actual experience of the hospital foodservice have focused on comparisons of predictive variables using the response set for pre and post admission experience as the dependant variable. The frequencies of the patients' ratings for the pre admission attitude scale and the post admission attitude scale are provided in Appendices 8 and 9 and an interpretation of these is provided in Chapter 6.

Mann- Whitney U Test

This analysis has been undertaken for 3 purposes:

- To establish if the attitude questionnaire is suitable for measuring pre admission experience and post admission experience. By testing separate groups, this will provide validation for the questionnaire.
- To establish if the data collected supports the theory of expectation by identifying if patients' attitudes derived from their expectation of a hospital mealtime differ from patients' attitudes after experiencing the hospital mealtime.
- To identify which particular variables evidence any significant differences between the groups.

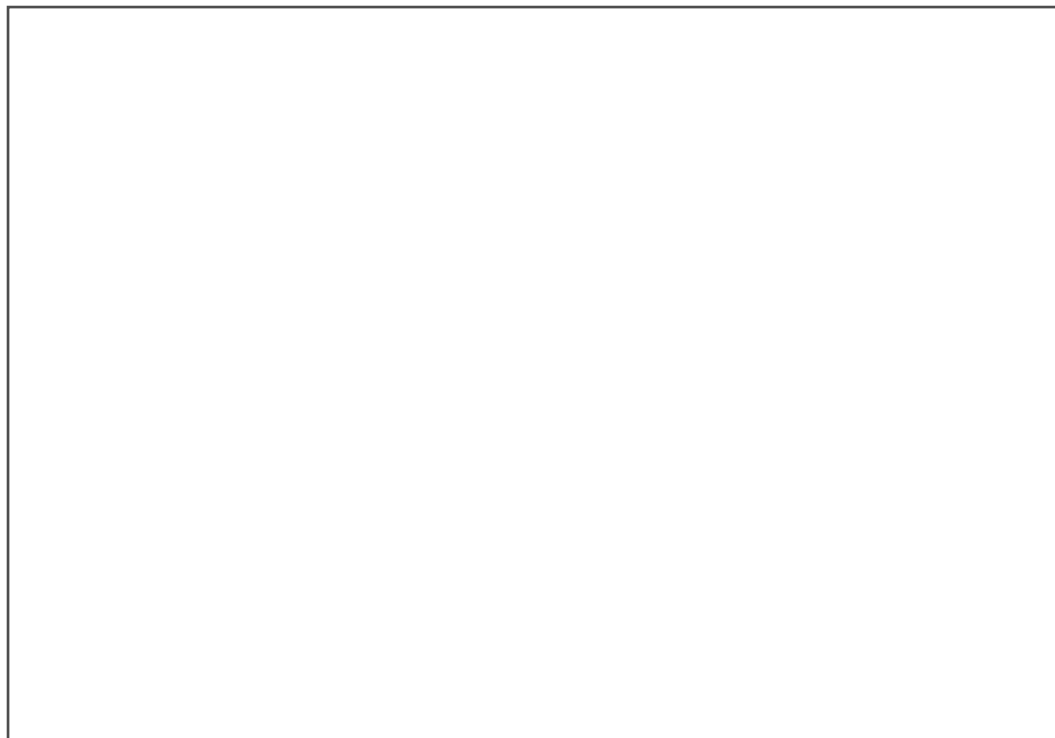
The results of this analysis are summarised in Table 5.4. U is the value of the Mann - Whitney test statistic, z represents the associated z-score approximation, and p indicates the significance of the test based on a two tailed value. Effect size, also known as 'strength of association' is represented by ' r ' which indicates the degree to which variables are associated with one another (Pallant 2007). It illustrates the relative magnitude of the differences between means (Tabernchnick and Fidell 2007). For the Mann-Whitney U tests this study has used, Cohen's (1988) criteria of 0.1=small effect, 0.3=medium effect, 0.5=large effect for interpretation and discussion.

	Median
	Pre
	Post
	admission
	admission
Q5. Distractions during meals will not/did not spoil my enjoyment of the meals	2.00
Q6. The temperature on the ward will spoil/spoilt my enjoyment of the meals	-1.00
Q7. I will be/was served with the appropriate meals that I had ordered	2.00
Q8. The noise level on the ward will not/did not spoil my enjoyment of the meals	2.00
Q9. I will be/was given plenty of time to enjoy my meals	2.00
Q10. The meal service provided will be/ was inefficient	1.00
Q11. The meals will be/ were served in a friendly and pleasant manner.	2.00
Q12. Smells and odours on the ward will spoil/ spoilt my enjoyment of the meals	0.00
Q13. The meals provided will be/ were served at the appropriate time	2.00
Q14. The portion size of my meals will be/ was just right	2.00
Q15. There will be/ was a poor variety of food to choose from	0.00
Q16. The meals will be/ were tasty	1.00
Q17. The meals will be/ were presented well and looked really appetising	1.00
Q18. The staff serving my meals will be/ were unhelpful and unsupportive	2.00
Q19. My meals will be/ were served at the right temperature	2.00
Q20. The hospital meals provided will be/ were not nutritious and well balanced	2.00
Q21. The overall experience of my dining encounter in hospital will be/ was good	2.00

Table 5.4 Comparison of patients' attitudes to hospital foodservice by Pre admission and Post admission experience.

Q8. The noise level on the ward will not spoil my enjoyment of the meals	1.00 2.00
Q9. I will be given plenty of time to enjoy my meals	2.00 2.00
Q10. The meal service provided will be inefficient	.00 2.00
Q11. The meals will be served in a friendly and pleasant manner.	2.00 2.00
Q12. The smells and odours on the ward will not spoil my enjoyment of the meals	-1.00 1.00
Q13. The meals provided will be served at the appropriate time	1.00 2.00
Q14. The portion size of my meals will be just right	1.00 2.00
Q15. There will be a poor variety of food to choose from	0.00 2.00
Q16. The meals will be tasty	0.00 2.00
Q17. The meals will be presented well and looked really appetising	-1.00 2.00
Q18. The staff serving my meals will be unhelpful and unsupportive	1.00 2.00
Q19. My meals will be served at the right temperature	0.00 2.00
Q20. The hospital meals provided will not be nutritious and well balanced	0.00 2.00

Table 5.7 Comparison of patients' attitudes to hospital foodservice by assessment of their anticipated overall dining experience



Distractions on ward	.08		
	1	2	3
Served appropriate meals	.76	.01	.02
Meals at appropriate times	.72	.02	.19
Time to enjoy meals	.69	-.05	.21
Right Portion size	.69	.22	.18
Tasty meals	.66	.45	.18
Meals served at right temperature	.66	.35	.08
Well presented / appetising meals	.63	.48	.19
Friendly / Pleasant meal service	.58	.16	.04
Poor variety	.22	.73	-.01
Inefficient service	.03	.62	.06
Not nutritious / well balanced	.24	.59	-.07
Ward Temperature will spoil enjoyment	-.31	.46	.45
Distractions not spoil enjoyment	.25	-.16	.76
Noise not spoil enjoyment	.26	-.06	.75
Smells/odours not spoil enjoyment	.13	.31	.70
Eigen Values	5.05	1.63	1.55
% of variance	33.68	10.87	10.34

Table 5.9 Summary of factor analysis results for the Hospital Dining Experience Questionnaire – Pre admission (*n* = 286)

Preliminary Interpretation

When reviewing the components, it was apparent that those variables that loaded on to component 1 related to the areas of responsibility of the service provided by the ward staff which suggested that component 1 could represent 'Ward Service'. Component 2 on further investigation indicated that the variables loaded related to the areas of responsibility of the service provided by the kitchen staff which indicated that component 2 could represent 'Kitchen Production'. The variables loading on to component 3 were related to the environment in which the foodservice took place and thus indicated that component 3 could represent 'Eating

Environment'. For these respondents, it was the ward service that exerted by far the largest contribution to their assessment of their anticipated hospital foodservice. The kitchen production and eating environment also contributed but to a smaller extent.

Mann- Whitney U Test - Factor scores

The critical analysis and evaluation of the PCA conducted on the whole set of variables, established that the underlying relationship among this set are represented by the respondents by the three factors suggested as; ward service, kitchen production and eating environment. A further analysis was undertaken with these factor scores using the two response sets; poor/weak agreement and good/strong agreement for the patients' expectations of "The overall experience of my dining encounter in hospital will be good". It was conducted for the following reasons;

- To establish any significant difference between the patients' expectations of their overall foodservice experience when influenced specifically by each of the three factors identified; ward service, kitchen production and eating environment.
- To identify the effect size of each factor on the patients' overall foodservice experience.

Table 5.10 illustrates the effect sizes of the three factors identified.

	U	z	p	r
Factor 1 - Ward Service	4500	-7.46	p< .001	-.44
Factor 2 - Kitchen production	3395	-9.10	p< .001	-.54
Factor 3 - Eating Environment	6319	-4.76	p< .001	-.28

Table 5.10 Comparison of effect size influenced by the three main components of the patients' expectations of their overall dining experience.

Preliminary Interpretation

The results indicate that the patients' expectations of receiving a good overall dining experience are influenced by all three factors. The largest influence is indicated as the Kitchen production, followed by the Ward service and finally the Eating environment displays the least effect.

2. Patients' assessment of their actual overall foodservice experience

The statistical tests performed in 5.2.2 for the patients' anticipated hospital foodservice experience have been repeated for those patients who had actually experienced the hospital meals.

Mann Whitney U

This analysis has been undertaken for the following purposes:

- To continue to validate the measurement tool by testing it on different groups of patients.
- To establish where patients assess their overall dining experience differently, which particular variables evidence any significant differences.
- To identify the effect size of any variables showing significant differences.

The results of the analysis are shown in Table 5.11

	Median
	Poor/Weak
	Good/Strong
	Agreement
	Agreement
Q5. Distractions did not spoil my enjoyment of the meals	1.00
	2.00
Q6. The temperature on the ward spoilt my enjoyment of the meals	2.00
	2.00
Q7. I was served with the appropriate meals that I had ordered	2.00
	2.00
Q8. The noise level on the ward did not spoil my enjoyment of the meals	2.00
	2.00
Q9. I was given plenty of time to enjoy my meals	2.00
	2.00
Q10. The meal service provided was inefficient	1.00
	2.00
Q11. The meals were served in a friendly and pleasant manner.	2.00
	2.00
Q12. The smells and odours on the ward spoilt my enjoyment of the meals	1.00
	2.00
Q13. The meals provided were served at the appropriate time	2.00
	2.00
Q14. The portion size of my meals was just right	2.00
	2.00
Q15. There was a poor variety of food to choose from	-1.00
	2.00
Q16. The meals were tasty	-1.00
	2.00
Q17. The meals were presented well and looked really appetising	-1.00
	2.00
Q18. The staff serving my meals were unhelpful and unsupportive	2.00
	3.00
Q19. My meals were served at the right temperature	.50
	2.00
Q20. The hospital meals provided were not nutritious and well balanced	0.00
	2.00

Table 5.11 Comparison of patients' attitudes to hospital foodservice by assessment of their actual overall dining experience.

Preliminary Interpretation

The initial interpretation of this analysis indicates that each one of the variables measured forms a significant part of a patients' assessment of their actual overall foodservice experience; some to a lesser extent, for example, "The temperature on the ward spoilt my enjoyment of the meals"; and some exerting greater influence, for example "The meals were tasty".

The analysis of the results for the two groups of respondents; poor/weak agreement and good/strong agreement with "the overall experience of my dining encounter in hospital was good", provides further validation for using this measurement scale for different groups.

Binary Logistic Regression

Binary logistic regression was performed to assess the ability of several variables, used as a multivariate set, to predict the attitude of patients to their actual overall dining experience i.e., Q 21 of the Post admission HDE questionnaire; the summary of results is shown in Table 5.12

	B	S.E.	Wald	df	p	Odds Ratio	95.0% C.I. for Odds Ratio	
							Lower	Upper
Distractions on ward		.09		1				
Poor variety of food		.74		1	.12			.15
Well presented and appetising		.72		1	.45			-.09
Not nutritious and well balanced		.70		1	.07			.22
The meals were tasty		.67		1	.49			-.02
Meals served at right temperature		.61		1	.35			.04
The meal service provided was inefficient		.60		1	-.01			.14
Meals served at the appropriate time		.02		1	.73			.11
Friendly and pleasant Service		-.00		1	.70			.13
Plenty of time to enjoy meals		.18		1	.68			.02
Served appropriate meals		.32		1	.64			-.04
The portion size of my meals was just right		.25		1	.53			.02
Noise level on the ward spoilt my enjoyment		.06		1	-.01			.81
Ward temperature spoilt my enjoyment		.05		1	.10			.78

Distractions spoilt enjoyment	.13	.05	.73	
Smells and odours spoilt enjoyment	.45	.09	.51	
Eigenvalues	4.69	2.06	1.35	
% of variance	31.29	13.71	9.02	

Table 5.13 Summary of factor analysis results for the Hospital Dining Experience questionnaire – Post admission (n = 265)

Preliminary Interpretation

When reviewing the components, it was apparent that those variables that loaded on to component 1 related to the areas of responsibility of the service provided by the kitchen staff which suggested that component 1 could represent ‘Kitchen production’. Component 2 on further investigation indicated that the variables loaded related to the areas of responsibility of the service provided by the ward staff which indicated that component 2 could represent ‘Ward Service’. The variables loading on to component 3 were related to the environment in which the foodservice took place and thus indicated that component 3 could represent ‘Eating Environment’. For these respondents, it was the kitchen production that exerted the largest contribution to their assessment of their hospital foodservice. This was followed closely by the ward service and finally the eating environment also contributed but to a smaller extent.

Mann-Whitney U Test - Factor scores

The critical analysis and evaluation of the PCA conducted on the whole set of variables, established that the underlying relationship among this set are represented by the respondents by the three factors suggested as; kitchen production, ward service and eating environment. A further analysis was undertaken with these factor scores using the two response sets; poor/weak agreement and good/strong agreement for “The overall experience of my dining encounter in hospital was good”. It was conducted for the following reasons;

- To establish any significant difference between the patients’ overall foodservice experience when influenced specifically by each of the three factors identified; kitchen production, ward service and eating environment.
- To identify the effect size of each factor on the patients’ overall foodservice experience.

Table 5.14 illustrates the effect sizes of the three factors identified.

	U	z	p	r	
Factor 1 - Kitchen production	1918	-7.54	p< .001	- .5	
Factor 2 - Ward Service	3216	-4.75	p< .001	- .31	
Factor 3 - Eating Environment	4662	-1.65	ns		

Table 5.14 Comparison of effect size influenced by the three main components of the patients’ assessment of their actual overall dining experience.

Preliminary Interpretation

The results indicate that the patients’ assessment of their actual experience of a good overall dining encounter are influenced by two factors. The largest influence is indicated as the kitchen production, followed by the ward service. The eating environment is not significant and shows no effect.

3. Theory development **Patients’ expectations**

Statistical analysis of the sources of expectations have illustrated the importance of patients' own first hand experience and the experience of friends and family in formulating people's attitudes and assessment of their foodservice experience.

The comparison of patients' expectations with patients' actual experience provided validation of the ability of the HDE scale to measure significant differences on the majority of variables that the patients identified forming their overall foodservice experience. Having been tested on these two groups of patients; those awaiting hospitalisation prior to experiencing mealtimes and those who have experienced the mealtimes, the results from the Mann-Whitney U Test indicate that environmental variables appear to have a greater influence on patients' expectations of foodservice than on patients' actual experience.

Using the variables provided in the attitude scale as a multivariate set, the Binary Logistic Regression analysis suggests that the variables used in the HDE scale can be used to predict the attitude of patients both prior to and after experiencing hospital foodservice. This analysis illustrated that environmental variables and some variables related to ward service provided, exhibited the greatest influence between patients' assessment of their expectations of foodservice and patients' actual assessment of their foodservice experience. It also provides further support of the use of the HDE scale to measure the attitudes of different groups to their hospital foodservice experience.

When reviewing the patients' expectations of 'The overall experience of my dining encounter in hospital will be good', the Mann-Whitney U Test again provided validation of the scales ability to measure significant differences on the variables that may contribute to the patients' dining experience. The results indicate that the individual variables having the greatest influence over this assessment are those relating to the service provided by the staff on the ward, followed by those variables relating to the service provided by the kitchen staff; the variables relating to the eating environment exhibited the least effect. The results of Binary Logistic regression conducted provided further confirmation that the variables exerting the greatest influence over the patients' expectations of 'The overall experience of my dining encounter in hospital will be good' relate to variables linked to the ward service provided and those linked to the kitchen production provided. Those variables relating to the eating environment did not reach significant levels. The results of this analysis also indicate the ability of the HDE scale to distinguish between two groups of respondents; thus supportive of its ability to measure patients' attitudes to their overall foodservice.

The scale reliability was assessed as good as reflected by the Cronbach alpha coefficient of .85. Results of the PCA conducted on the pre admission HDE questionnaire confirmed that all except one variable on the attitude scale formed the underlying latent variables of the patients' attitude to hospital dining experience. It established that the underlying relationship or factor structure of these variables were represented by three factors: ward service, kitchen production and eating environment. When assessing expectations of the hospital dining experience, variables relating to ward service provided the largest contribution, followed by those variables relating to kitchen production. Those variables relating to the eating environment provided the smallest contribution in the assessment of the patients' expectations of their hospital dining experience.

When using this three factor structure to compare with patients' responses to "The overall experience of my dining encounter in hospital will be good", kitchen production had the largest effect on patient ratings, followed by ward service, with the eating environment having the least effect on the ratings.

Patients' actual experiences

The same statistical tests were conducted on those patients who had actually experienced the hospital foodservice. Each one of the tests undertaken provided further support for the use of the HDE scale in measuring patients' attitudes to their foodservice experience.

As with the results of the patients' expectations, the Mann Whitney U Test indicated that the variables relating to ward service and kitchen production displayed a greater effect size than the environmental variables when compared to the patients' ratings of "The overall experience of my dining encounter in hospital was good". This was further supported by the binary logistic regression analysis where the variables reaching significance related to both ward service and kitchen production but not the variables related to the eating environment.

The PCA conducted on the responses of the patients who had actually experienced the foodservice confirmed the same 3 factor structure for the underlying latent variables. However, as illustrated in Table 5.15, the loadings on these factors were different; patients' who had not experienced the hospital food service, placed a far greater emphasis on the importance of the ward service and placed a lesser but similar emphasis on the kitchen production and the eating environment. Those patients who had experienced the hospital food service however, placed their greatest emphasis on the kitchen production, followed by the ward service and finally the eating environment.

	Kitchen production	Ward Service	Eating environment
Pre Foodservice	14.83	26.56	13.5
Post Foodservice	20.97	18.43	14.62

Table 5.15 Factor loadings from PCA

When these three factors were compared with patients' responses to "The overall experience of my dining encounter in hospital was good", kitchen production had the largest effect on patient ratings, followed by ward service, with the eating environment having no effect on the ratings.

5.2.5 Patients' dining preferences

Apart from completing the attitude scale on the HDE questionnaire, patients were asked to respond to a set of questions that related to their dining preferences. The frequencies of their responses are presented in Appendices 10a and 10b and an interpretation of the results is provided in Chapter 6.

5.2.6 Summary

The development and administration of the pilot HDE questionnaire and ultimately the final Pre admission and Post admission HDE questionnaires applied in this phase have provided a measurement tool to explicate a further insight into the expectations and actual experience of patients in their assessment of the hospital meal service. An in depth critical analysis, evaluation and interpretation conducted on the results is provided in Chapter 6.

What has been discussed and established at this point, from the initial interpretation of this phase of the research, is that the scale used in Phase 2 is supported by and has been further validated by using several complementary statistical techniques assessing its impact on different groups of respondents (the pre admission patients and the post admission patients and those patients with poor/ weak agreement with a good overall dining encounter and those with good/strong agreement). Consequently, the pre admission and post admission HDE questionnaires were administered in the repeated measures design which forms part of the development of patient

profiles in Phase 3.

5.3 PHASE 3: DEVELOPING PATIENT PROFILES

Phase 2 involved administering an instrument in the form of an attitude scale to capture the responses of a representative sample of two groups of Orthopaedic patients. The data collected provided the opportunity for an in depth exploration of the variables that influenced a patient's overall foodservice experience and provided an analysis of any possible relationships and strength of relationships between such variables.

In accordance with the schematic diagram for the research process and data collection illustrated in Figure 4.2, to broaden the discernment of patients' experience during their hospital foodservice, Phase 3 involved the development of a patient profile. This focused on patient attitudes to their foodservice experience, their mood, and their actual food intake.

This phase was undertaken to meet the objective;

- . *To develop, analyse and evaluate a profile for Orthopaedic patients' experience of hospital foodservice.*

Sample

In contrast to Phase 2, this part of the study involved the use of a control group of 24 Orthopaedic patients who had undergone elective Orthopaedic surgery as indicated in Table 5.16. This provided a repeated measure design where the same patients were used for data collection both prior to and after experiencing the hospital foodservice. Whilst the total number of patients recruited for this phase was 36, only 24 patients were able to complete the data collection process in full for the following reasons:

- Early discharges
- Transfers to different wards
- Heart attack
- Stroke

CHARACTERISTIC	INPATIENTS	
	Male (n=11)	Female (n=13)
GENDER	46%	54%
AGE (Years)	50-59	1
	60-69	6
	70-79	5

Table 5.16 Respondents for the patient profiles

5.3.1 Comparing inpatients' expectations and actual experience of hospital foodservice

The pre admission HDE questionnaire (Appendix 3) was administered to the patients on admission to the Orthopaedic ward prior to any foodservice experience. The post admission HDE questionnaire (Appendix 4) was administered to patients on day 4 post operative prior to their discharge.

The statistical tests undertaken with respect to the patients' expectations and actual experience of the hospital foodservice have focused on comparisons of predictive variables using the response set for pre and post admission experience as the dependant variable.

Wilcoxon Signed Rank Test

This analysis was conducted as it is designed where subjects are measured under two different conditions. It has been undertaken for the following purposes:

- To establish if the patients' expectations of hospital food service differ from their actual experience.
- To identify which particular variables evidence any significant differences between the pre admission and post admission conditions.

The results of the analysis are presented in Table 5.17

Attitude statements	Pre Median	Post Median	z	p	r
Q5. Distractions during meals will not/did not spoil my enjoyment of the meals	2.00	1.00	-.243	.81	
Q6. The temperature on the ward will spoil/spoilt my enjoyment of the meals	.00	1.00	-.504	.61	
Q7. I will be/was served with the appropriate meals that I had ordered	2.00	2.00	-.451	.65	
Q8. The noise level on the ward will not/did not spoil my enjoyment of	2.00	2.00	-.041	.97	

the meals						
Q9. I will be/was given plenty of time to enjoy my meals	2.00	2.00	.000	1.0		
Q10. The meal service provided will be/ was inefficient	2.00	2.00	-.385	.70		
Q11. The meals will be/ were served in a friendly and pleasant manner.	2.00	3.00	-2.138	.03	-0.41	
Q12. Smells and odours on the ward will spoil/ spoilt my enjoyment of the meals	2.00	2.00	-.240	.81		
Q13. The meals provided will be/ were served at the appropriate time	.00	2.00	-.917	.36		
Q14. The portion size of my meals will be/ was just right	2.00	2.00	-.460	.65		
Q15 There will be/ was a poor variety of food to choose from	0.00	2.00	-2.036	.04	-0.39	
Q16. The meals will be/ were tasty	1.00	1.00	-.776	.44		
Q17. The meals will be/ were presented well and looked really appetising	1.00	1.00	-.872	.38		
Q18. The staff serving my meals will be/ were unhelpful and unsupportive	2.00	3.00	-1.544	.12		
Q19. My meals will be/ were served at the right temperature	1.00	2.00	-1.485	.13		
Q20. The hospital meals provided will be/ were not nutritious and well balanced	1.00	2.00	-1.140	.25		
Q21. The overall experience of my dining encounter in hospital will be/ was good	2.00	2.00	-.362	.72		

Table 5.17 Results of Wilcoxon Signed Rank Test for the profile patients

Preliminary Interpretation

For the majority of the variables forming the attitude questionnaire, the patients' actual experiences were as they had expected. However, it appears that they did find that the service was more friendly and pleasant than anticipated. Conversely, the patients in the profile group indicated that the variety of food available was worse than anticipated.

5.3.2 *Measuring inpatients' moods*

The Profile of Mood States assessment was used to measure patients' mood states and fluctuation changes as a result of their experience of hospitalisation. The analysis undertaken was Wilcoxon Signed Rank Test which has been undertaken to:

- Illustrate the patients' typical and persistent mood reactions to his or her current life situation whilst assessing effects of treatments and hospitalisation.
- To establish whether there were any significant differences in patients' Profile of Mood states prior to and after their hospitalisation and treatment which could impinge on their evaluation of their dining experience.

When the POMS questionnaires were administered, several patients independently discussed their frustrations with regard to the long delays they had experienced in waiting for their admission for their operations and treatments. Several patients had been due for admission up to 6 months before and had found that their appointments had been cancelled and put back. Whilst

they were generally apprehensive about the procedures they were imminently about to undergo, they vocalised their relief that finally their treatment would be underway.

Wilcoxon Signed Rank Test

The results of the analysis for the Profile of Moods States of the profile group are represented in Table 5.18.

	Median Pre	Median Post	z	p	r
Tension	8.00	9.00	-.367	.714	
Depression	3.00	3.00	-.542	.588	
Anger	2.00	1.00	-2.676	.007	.54
Vigour	15.00	10.00	-2.483	.013	.50
Fatigue	7.00	11.00	-1.132	.258	
Confusion	4.00	7.00	-1.571	.116	
Total Mood Disturbance	15.00	19.00	-.686	.493	

Table 5.18 Results of Profile of Mood States for the profile patients

Preliminary Interpretation

There was no significant change in the profile patients' mood reactions in the following areas: tension, depression, fatigue, confusion and their total mood disturbance. The patients did however become less angry over their period of hospitalisation, with the Wilcoxon Signed Rank Test indicating a large effect size. In addition, their level of vigour also decreased during this period of hospitalisation, with the Wilcoxon Signed Rank Test indicating a large effect size.

With regard to the reduction in their anger levels, this may be supported by comments made by the patients at the time they completed the pre admission POMS questionnaires. Initially some patients were verbalising their distress and frustration at the time it had taken for them to finally get their treatment; this might explain a heightened level of anger. On discharge, several patients were relieved and grateful that they had eventually had their operations which may have contributed to a reduction in their level of anger.

When considering the patients' levels of vigour, they had all undergone major surgery for either hip replacement or knee replacement and were all in the very early stages of recovery and rehabilitation. Their mobility was considerably reduced and the major treatment they had experienced is likely to have left them with reduced energy levels. This may provide some rationale for the reduced ratings on vigour.

3. Measuring inpatients' food Intakes

As previously described in Chapter 4, food consumption data were collected from day 2 post operative up to and including day 4 post operative for the profile group of respondents indicated in Table 5.16. Data were collected for breakfast, lunch and dinner. Using these consumption figures, analysis was undertaken using the Microdiet nutrient analysis software system (version 2, Downlee systems Ltd). Table 5.19 illustrates the comparison of the nutritional composition for the average daily intake for the profile patients compared to the specific requirements for Orthopaedic patients stated in the Nutritional Guidelines for Hospital Caterers (Department of Health, 1995) and the Reference Nutrient Intake provided by the Department of Health (1991).

Nutrient per day	Male - Age Range 54-85 yrs			n=	Female - Age Range	
	11				13	
	Recommended Daily Intake	Actual Daily Intake	% of Actual Daily Intake contribution to Recommended Daily Intake		Recommended Daily Intake	
Energy (Kcal)	2500+ *	1139 ± 348.2	45	?	2500+ *	
Protein (g)	53.3 ?	44 ± 15.5	83		46.5 ?	
Protein (%)	15-20 ?	15 ± 2.1	75		15-20 ?	
Protein per main meal (g)	18 *	14.6 ± 7.2	81		18 *	
Fat (% of energy)	35 +	27 ± 6.2	77	?	35 +	
CHO (% of energy)	50 +	52 ± 9.0		104	50 +	
Vit C (mg)	40 *	51 ± 28.3		129	40 *	
Iron (mg)	8-7 *	8 ± 1.8	92		8-7 *	
Calcium (mg)	700 ?*	635 ± 183.7	90		700 ?*	
Zinc (mg)	9.5 ?*	5.5 ± 2.3	58	?	7.00 ?*	
Folate (?g)	200 *	210.07 ± 52.9	105		200 *	
Vitamin D (?g)	65yr + *	10 1.0 ± 1.0		10	?	65yr + *

* Recommendations for Orthopaedic Patients from Nutrition Guidelines for Hospital Catering (Department of Health, 1995)

? Reference Nutrient Intakes (Department of Health, 1991)

+ Recommendations from Dietary Reference Values (Department of Health, 1991)

? Statistically significant (p<.05) - 2 tailed paired sample t-test

Table 5.19

Orthopaedic patients' mean daily nutritional intakes

Preliminary Interpretation

This research has primarily focused on the mealtime experience and food intakes of Orthopaedic patients who have undergone elective surgery for hip and knee replacements. The Department of Health (1995) have defined Orthopaedic patients as having; short to medium term disabilities; this group covers a wide age range and diverse population. It could include people with severely restricted mobility, trauma/post surgery or injury and patients in hospital for repeated surgery. Accordingly, specific nutritional guidelines have been provided for this particular category of patients which have been used for the interpretation of the results (Department of Health 1991; Department of Health 1995).

Energy

The menu must provide for the maximum required; 2500 kcal per day. But some patients may need extra food. Energy is important to maintain life, growth and wound healing. Each main meal choice must provide a minimum of 300 kcals. Other dishes such as puddings can be used to provide for those with extra requirements. The actual intakes reported over the period of measurement are significantly ($p < .05$) less for both men and particularly women.

Protein

Protein consumption which is particularly important for aiding wound healing and protecting the immune system was below recommendations and for women was significantly ($p < .05$) less. The hospital guidelines state that a main meal (including accompaniments such as potatoes, rice or pasta and vegetables but not puddings) should provide a minimum of 18g of protein.

Vitamin C

Levels of Vitamin C consumed were above the recommendations.

Iron

Iron is required for the efficient production of haemoglobin, the levels of intake were just below the recommendations for men but the women's intake was significantly ($p < .05$) lower.

Calcium

Calcium is essential for the building of bones and wound healing, intakes were lower than recommendations with the women's intakes significantly ($p < .05$) lower.

Zinc

Zinc has an important role for the building and repair of bones and wound healing. Intakes were significantly ($p < .05$) below the recommendations for both men and women.

Folate

Folate is required for the efficient production of haemoglobin, intakes were below the recommendations for men and significantly ($p < .05$) lower for women.

Vitamin D

This vitamin helps with the absorption of calcium and ultimately helps in building bones. Intakes were minimal and significantly ($p < .05$) below the recommendations for both men and women of this age group.

Results illustrated in Table 5.19 which have specifically focused on those energy and nutrient requirements for Orthopaedic patients highlight that the actual daily intake of this profile group of patients is below the levels recommended and required for patients recovering from Orthopaedic surgery. Whilst the male intake for energy were not dissimilar to those recorded in some previous studies (Shahar *et al.* 2002; Hartwell and Edwards 2003) the female intakes were lower which required further investigation.

During their mealtimes, all patients being monitored were unobtrusively observed in order that details could be recorded with regard to interruptions, distractions or any other incidences that

might influence their food consumption. In addition, if any of the patients left food uneaten at the end of the foodservice, they were politely asked by the staff the reason why. Table 5.20 documents the reasons for reduced intakes in the appropriate cases ascertained from an analysis of the observations and social representations of those patients.

Patient No	Gender	Meal Service	Reason for reduced intake
4002	Male	Day 2 - Dinner Day 4 - Lunch & Dinner	Poor appetite Unwell
4004	Female	Day 2 - Lunch	Taken to toilet halfway through meal. Remaining food cold & uneaten
4005	Female	Day 2 - Breakfast	Unwell
4006	Male	Day 2 - Breakfast Dinner	Interrupted for medication. In Pain. Interrupted for medication
4007	Female	Day 2 - Dinner Day 3 - Lunch	Unwell Unwell
4010	Male	Day 2 - Lunch & Dinner Day 4 - Lunch & Dinner	Unwell Unwell Noro Virus
4011	Male	Day 3 - Lunch Day 4 - Dinner	Unwell Unwell
4012	Female	Day 2 - Lunch & Dinner Day 3 - Breakfast Lunch & Dinner	Unwell Noro Virus Noro Virus
4013	Female	Day 3 - Dinner	Unhappy with quality of food - Dry *
4014	Male	Day 2 - Dinner Day 3 - Lunch	Poor Appetite Unhappy with quality and smell of food
4015	Male	Day 2 - Lunch & Dinner	Poor Appetite
4016	Female	Day 2 - Lunch Day 2 - Dinner Day 3 - Lunch	Unhappy with quality of food - Dry * Poor appetite Poor choice of main meal-

		Day 3 - Dinner	just vegetables
4018	Female	Day 2 - Breakfast & Lunch Dinner	Poor appetite Unwell Meals looked unappetising & cold
4019	Male	Day 4 - Lunch & Dinner Day 2 - Lunch & Dinner Day 3 - Lunch Dinner	Noro Virus Unwell Unwell Given injection after soup course - No further food eaten
4021	Male	Day 4 - Breakfast Lunch & Dinner Day 3 - Dinner	Noro Virus Noro Virus Unhappy with quality of main course
4022	Female	Day 2 - Lunch & Dinner Day 3 - Breakfast & Lunch Day 4 - Dinner	Unwell Unwell Unwell
4024	Female	Day 2 - Lunch	Poor appetite
4025	Female	Day 2 - Lunch & Dinner Day 3 - Lunch Dinner	Unhappy with food Unhappy with quality of food - tough and dry + Unhappy with food
4026	Female	Day 2 - Lunch	Poor Appetite
4027	Female	Day 3 - Lunch Dinner Day 4 - Breakfast Lunch Dinner	Unhappy with quality of food - tough + Unwell At X-ray dept Interrupted by physiotherapist - left remaining food
4029	Male	Day 2 - Dinner	Unhappy with quality of food Gluten free - no appropriate main course
4030	Female	Day 4 - Dinner	Insufficient meals provided to ward - small portions only given

* Same meal service – same menu choice
+ Same meal service – same menu choice

Table 5.20 Factors causing reduced food intakes of patients in Acute Care Hospital

The number of meals provided for the male patients that were partially eaten or not eaten at all, identified in Table 5.20 were 24 which represented 24% of the total meals provided for the men over the 3 day period. The number of meals provided for the female patients that were partially eaten or not eaten at all represented in Table 5.20 was 36 which represented 31% of the total meals provided for the women over the 3 day period. Reduced intakes for the 60 meals were influenced by the reasons indicated in Figure 5.10.

Figure 5.10 Number of meals missed or partially eaten

[pic]

Having critically analysed and evaluated these data, it is considered that the factors described in Table 5.20 and Figure 5.10 may well provide the explanation for the lower intakes being recorded for the women in this study compared to previous studies undertaken. A review of the data also revealed that in some cases patients' unhappiness with the quality of the food related to two dinner services where the trolleys were left untouched by the ward for in excess of half an hour before service. On these occasions there were several complaints about the food being dry and tough.

To obtain a comprehensive picture of the nutritional provision available for patients on the orthopaedic wards of the hospital, an analysis was undertaken to establish the actual daily level of energy content for the complete meals served to the patients. In the cases analysed, the patients ate the total meal that they were served. Table 5.21 illustrates the results.

	Men	Women
Total number of meals served (Includes breakfast, lunch, dinner)	99	117
Total number of meals consumed in full	75	81
Total daily energy intake served and consumed in full (kcal)	1425	1041
% of recommended daily energy intake (2500kcal)	60%	42%

Table 5.21 Levels of daily energy intake provided to Orthopaedic patients at the Acute Care Hospital

Even if the patients were to eat all of the meals provided in their entirety, an evaluation of these data indicates that the patients were not being provided with the optimum amount of food to meet the recommendations in terms of energy content. Notwithstanding, the menu is capable of providing adequate nutrients if patient choice and portion size is served appropriately.

4. Theory development

Profile patients' expectations and attitudes to their food service experience

Using the HDE to measure patients' attitudes to their hospital meal service established that for the majority of the variables measured, patients' actual experience did not change from their expectations. The two issues that did exhibit significant differences were; meals were served in a friendlier and more pleasant manner than they had anticipated and the variety of the food provided was actually worse than anticipated. **Profile patients' mood states**

It is recognised that for the measurement of mood states, the POMS questionnaire has been validated for studies involving very different sizes of groups; from very small numbers to very large numbers of participants. One limitation of its use at this preliminary stage of developing patients' profiles is that it is not possible to attribute the changes in mood reaction specifically to the patients' experience of hospital foodservice, but more appropriate to a patients' overall

experience of 'hospitalisation' of which the foodservice is an integral part. In this study, it is conceivable that the experience of hospitalisation particularly for patients undergoing replacement of hips and knees could provide an appropriate rationale for those mood reactions that did evidence significant changes, i.e. reduction in anger levels and reduction in the patients' levels of vigour. For future studies, to develop theory further, it is suggested that the measured mood states provided in this phase could be used as a baseline measurement when considering using interventional research, such as providing a different dining environment to a similar sample of patients.

Profile patients' food intakes

The analysis of the data provided at this stage clearly evidences that in most areas, with the exception of Vitamin C and carbohydrates patients' intakes of energy and nutrients were significantly lower than those recommended by the Nutritional Guidelines for Hospital Caterers (Dept of Health 1995) and the Reference Nutrient intakes provided by the Department of Health (1991). The figures for women were particularly low and on further investigations, it was apparent that their intakes were affected by some factors identified in the previous two phases e.g. food quality, interruptions and distractions but also by the contraction of the Norovirus and the experience of feeling unwell.

Having established the reasons for the meals not being eaten in full, a further analysis has revealed that for this phase of the study, the profile patients were not being provided with the appropriate amount of food to meet the recommended nutritional required in terms of energy.

In Chapter 6, a full interpretation is undertaken, taking into consideration the evidence reviewed from previous studies undertaken with hospitalised patients together with the outcomes from Phases 1 and 2.

5.4 PHASE 4: ENHANCING THE PATIENTS' DINING ENVIRONMENT

The emergent thematic framework from Phase 1 (Figure 5.3) together with the literature discussed in Chapter 3 indicated that providing a group dining environment for hospital mealtimes may positively influence patients' enjoyment of their mealtimes and may improve their food intake. Accordingly, the qualitative Phase 4 was undertaken to meet the following objective:

- *To appraise and evaluate the outcomes for patients and stakeholders of the provision of a group dining environment for hospital mealtimes.*

In order to achieve this, the following action was undertaken at the Acute Care Hospital

- A group dining environment was created in an empty bay on an Orthopaedic ward for up to 12 Orthopaedic patients for a period of 7 days. Breakfast, lunch and dinner were served for this period to the patients in this environment.
- Exploratory interviews were conducted with foodservice staff, support/clinical staff, physiotherapists and a nutritional link nurse who were involved in the provision of this group dining environment for the Orthopaedic patients.

As with the qualitative Phase 1, the analysis undertaken has provided an emergent thematic framework which has ordered themes into raw data, higher order and general dimensions. The higher order themes have been used as sub headings for the descriptive representations in 5.4.1. A diagrammatic representation of the appropriate thematic framework is placed at the beginning of this section in Table 5.22.

1. Group dining at the Acute Care Hospital

During this phase of the research, to gain a greater understanding of the issues and outcomes arising from this enhanced foodservice environment, the narrative accounts of those stakeholders involved with this provision have been reviewed and are presented to illustrate, enlighten and provide the representation and descriptive reconstruction of the effect of the group dining experience during patient mealtimes.

Raw data themes	Higher Order Themes	General Dimension
Peer support, staff encouragement, monitoring intakes, eating more, dignity.	Motivation to eat	Influence of group dining in separate dining area
Motivation to walk, comparison with peers, staff encouragement.	Improved mobility	
Laughter, smiling, happier patients, more compliant, more stimulated, more alert, easier to nurse, wound healing, better mental and physical state, reduces boredom, focus to a day, provides structure, uplifting moods, quicker recovery, improved rehabilitation.	Improved well being	
	Ward service	

Serve together, eat together, quicker, easier to serve, hotter food, served separately, hot puddings, more hygienic, fewer distractions for staff, happier staff, not rushed, well organised better for staff, better for patients, like restaurant, fewer distractions and interruptions.	Socialising		
Talking, interacting, like home, reduce anxiety, good atmosphere, not isolated, not lonely, staff to interaction with patients, cheered up, friendships, extended mealtimes, family culture, more relaxed, not like being in hospital, change environment.	Preparing patients		
Preparing patients, toileting, washing, mealtime routine.			
Pain, dislike change, variation in mobility levels, lack of privacy, immobile patients left behind.	Limitations		

Table 5.22 Thematic framework: patients’ group dining experiences at the Acute Care Hospital

Motivation to eat

The foodservice and support/clinical staff involved at these mealtimes vocalised the opinion that by seating patients together around one table encouraged those patients less willing to eat to do so.

There were two reasons considered for this, one was peer pressure:

“I think so as there was a very bossy woman there who was saying well you need to eat more than that. I think that was good and they do say you’re not eating and that and they encourage each other to eat.”(Clinical Leader)

The other reason proposed was the desire not to waste food where it was suggested by a clinical leader that by being in a group environment, visible to others, patients did not want to be seen by the other patients not eating the plate of food that they had placed in front of them.

These suggestions related to the effect other patients could have on encouraging others to eat. The staff also felt that they would have a greater influence than in normal circumstances as currently the patients are given meals by their beds and the staff go elsewhere, but by having a

group of patients all together they were able to stay with them and observe what was being eaten and by whom:

"It was nice to see them together, to see what they were eating and you had a better input as to what they were eating and to encourage them."(Staff Nurse)

A staff member confirmed that in the normal foodservice environment, as the clinical staff were not always involved in the foodservice, they took little opportunity to monitor a patient's food intake unless a particular patient had been highlighted for monitoring by the doctors or the dieticians:

"With everyone in the same room you can see what is left and say who wants more and it's all in front of you."(Staff Nurse)

A further aspect that was discussed was the provision of a more dignified and civilised environment in which patients could eat. Apparently, one particular gentleman who was not eating well came to the table and ate well. He was used to eating with a knife and fork, sat up at a table not eating on a tray on a little table in front of him.

"The old school have been brought up properly and some of us carry that on."(Nutritional Link Nurse)

The nutritional link nurse believed that this was an important consideration as many of the patients requiring replacement hips and knees and patients using the Orthopaedic wards were in that age group.

Improved mobility

A senior member of the clinical staff stressed the importance of mobilising the patients who had undergone hip and knee replacements as soon as the day after surgery; indeed according to this member of staff, it was apparently the belief of one of the senior surgeons that they should be mobilised to a small extent on the actual day of surgery. There was an overall agreement from the majority of the involved stakeholders that providing this group dining experience of food service encouraged patients to mobilise and would increase their motivation to do so even where they may be less reluctant to do so.

Again, it was felt by some ward staff that perhaps a latent peer pressure may well have operated in such circumstances:

"I think it could motivate some people in terms of they are at a similar level, similar sort of operation that type of thing and if they see so and so walking down you know it might spur them on to. ... for some people they need that encouragement." (Physiotherapist)

Improved well being

When describing the ambience of the environment at mealtimes, most of the staff recalled patients laughing and smiling confirming that the patients had a really lovely, enjoyable time. This appeared to have beneficial knock on effect for the staff:

"The patients were happier which made it easier for you to nurse them because they were more compliant, they were more stimulated, they were more alert, they weren't so sleepy."(Nutritional Link Nurse)

The rapport and chat that was kindled at the dining table apparently continued after the meal when the patients returned to their own bays.

"they didn't really want to go, they chatted and it was just a nice social thing it really was. One patient said "are you trying to rush me out of here"... so they really enjoyed it."(Clinical Leader)

In terms of the patients' mental, physiological and psychological well being, a strong feeling conveyed was the belief that this situation would bring about various improvements and perhaps an increase in their food intakes:

“Yes..... and its better for their wound healing, their physical, their mental....., I would change it tomorrow if I could.”(Nutritional Link Nurse)

Ward service

To enable the group dining experience to occur, the ward staff changed the way in which their requirements, actions and routines were organised.

“That went well as you don’t have to keep walking up and down from bed to bed back and forth to the trolley, it was all there on the table and the trolley was in the room with them and we dished it up and if they wanted a little bit more or something you were right there to give them a bit more.”(Clinical leader)

The foodservice and support/clinical staff confirmed that it was a different routine, organised so that everything that they and the patients needed was provided in the room. This reduced the amount of legwork they would normally experience going to each patient’s bed around the whole ward. The patients took their time with eating and there was no rush.

Members of the support/ clinical staff acknowledged the current challenges and difficulties with the patients dining beside their bedsides, confirming that when they are serving a full ward of up to 36 patients, it can be detrimental to the quality of service being given and that it can cause deterioration in the quality and temperature of the food being served. These were particular problems evident when they are short staffed and have only minimal staff available to serve patients. They stressed that they try their best to keep the food hot but that by the time they serve a full ward accommodating several large bays and side rooms, in practice it is not possible. With the normal hospital foodservice, the soup is served first but then the main meal and dessert are served together:

“in hospital wards you tend to get the main and dessert together so quite often if you were a slow eater by the time you got your dessert it was cool or melted either way if it was ice cream or crumble.” (Staff Nurse 2)

With the group dining environment provided, the staff were able to serve courses separately.

“It was easier, everything was hot, we were able to serve the food and they were all eating at the same time instead of one having soup and having to fix pillows and do other things that distracts us from serving the food. It was all done at the one time. It was much quicker.”(Health Care Assistant 4)

Several staff suggested that for the patients and from their point of view, it was akin to the service you would receive in a restaurant.

Another issue that was discussed was the ability within this dedicated dining space to serve the meals in a completely separate, more hygienic area as opposed to the normal situation where the meal is placed on a bedside table that has during the day, accommodated amongst many things, personal washing effects, wash bowls and in some cases urine bottles.

Socialising

There was overwhelming agreement from all stakeholders involved that by placing patients together increased their ability to socialise with each other. The staff felt that some patients whilst they are in hospital withdraw and become very isolated and lonely, particularly those that stay in side rooms.

“.....they interact for a start. They don’t when they are sitting in their little bed spaces and they have the food in front of them; they don’t talk to each other whereas this encouraged conversation, they got to know each other, it was easy to give the meals out as they were all sitting in the same place” (Clinical Leader 2)

Numerous staff members felt that by bringing the patients together gave them a sense of normality, recreating mealtimes they may have at home; providing them with a culture that they know perhaps and that this feeling of “normality” and the socialising had a positive impact on their psychological well being; it appeared to lift their moods and the staff perceived that they relaxed and ate more than they normally would. The staff recognised that by seating patients together away from their bedsides would provide to some extent an escape from the hospital environment.

“Also most humans would feel a bit anxious about coming in and having a big operation so they are all in a similar position aren’t they so they have things in common to talk about”. (Physiotherapist 1)

Whilst staff in the main believed that dining together and the socialising at mealtime was beneficial to the patients, there was recognition of the fact that it may not be an environment that all patients would want to participate in and that they must consider the needs and wishes of everyone; there was also concern for the patients left behind who for medical conditions were unable to join in.

It was also noticed that over all of the mealtimes that those more mobile patients were helping out those who were less mobile and able.

“Mothering instincts came out in the women and the old fashion men pushed chairs in helping so that all came out. It was like a bit of normal life came into their world”. (Nutritional Link Nurse)

This foodservice experience impacted on the staff and the way in which they interacted with the patients. With everyone being served together, they had the opportunity to interact with the patients more and spend more time with them. Some staff believed that this ultimately made their jobs easier and more enjoyable.

Preparing patients

Some stakeholders acknowledged that both the men and women enjoyed getting up, getting dressed and preparing themselves to join up with other patients to be seated around a proper table for their mealtimes; it provided them with a purpose and a point to their day and gave them something to look forward to. Patients would get up for breakfast, then get ready for lunch, have a nap in the afternoon and then get themselves ready for dinner. Some of the ward staff recommended that it was a great opportunity to improve the recovery process and by trying to get patients back to everyday life and into routines as soon as possible should be part of the rehabilitation procedure.

Limitations

Support/clinical staff acknowledged that patients at the very early stages of recovery from their operations were likely to be in too much pain to want to socialise. Some patients may still require catheters and drips and in those circumstances may feel that to be wheeled into a dining area may be undignified, inappropriate and they may feel very uncomfortable. For some patients that find mobility a problem it was suggested that the experience may be too demanding for them. Whilst the physiotherapists advised that there would be so much variation in terms of patients’ mobility, they did stress the need to encourage movement as soon as possible and perhaps challenge the patients to do more than they anticipate.

Patients’ privacy was another an issue mentioned, where it was feasible that some patients would just want their own space and minimal interaction with others.

“Some people don’t like to be forced or tried to encourage to get into a group environment. Some people just like being on their own and I know some people just didn’t want to participate and stayed by their beds.” (Staff Nurse 4)

There was concern for the patients left behind and some staff believed that for those patients

being left in bays on their own, their moods may go down and perhaps it was important that a staff member could keep them company if they wished.

It was recognised that staffing levels may effect whether group dining could take place. Some staff believed that when they were short staffed there may not be enough staff to get the patients to the table. Others believed that even when short staffed it could be beneficial and that it was purely a matter of organising things differently and changing existing routines.

Notwithstanding, when staff were asked to consider the optimum foodservice provision in terms of positive patient and staff outcomes without being influenced by any limitations on funding or restrictive practices in terms of the current procedures and routines, the majority of staff confirmed that patients should be given a choice to eat in a separate dining room with other patients if they so desired.

The stakeholder representations of their experience of providing a group dining environment for their patients have been influenced by the patients' behaviour and the patients' discussions of such experiences with them. A summary of the main, positive, outcomes is presented in Figure 5.11

Figure 5.11 Positive effects of patient group dining at an Acute Care Hospital

[pic]

The data produced from this qualitative Phase 4 has provided an insight into what outcomes and issues arose from providing a group dining experience to a small number of patients. It is acknowledged that the data provided were limited entirely to the stakeholders' perspectives. A critical evaluation of the findings from both this primary research and the secondary research provided by the literature is provided in the discussion at Chapter 6.

5.5 SUMMARY

This Chapter has provided the results, analysis and an initial interpretation for the empirical studies conducted within 4 phases of this research project. At the end of each phase, an interpretation has been undertaken to inform the future phases in accordance with the exploratory sequential process. The way in which the phases were conducted was principally driven by the patient and stakeholder social representations of their experience involving the eating environment and provision of the foodservice experience.

There is a clear distinction between patients' expectations and patients' actual experience and a measurement scale has been developed and used to capture the attitudes of a much larger sample of patients to explicate what latent variables form the underlying construct of patients' hospital foodservice experience. The role of the kitchen production, ward service and eating environment within a patients' overall dining experience has been clarified and a profile has been developed for a group of Orthopaedic patients in terms of their assessment of their food service, their mood and their food intakes whilst they were undergoing hospitalisation.

Using feedback from the patient social representations and data from the researcher observations, an enhanced dining environment was provided on a ward and the outcomes and issues arising

from this provision of a group dining environment have been highlighted.

Further in depth interpretation of the findings will be presented and synthesised with the findings of the primary research to provide a platform for discussion in Chapter 6.

CHAPTER SIX

INTERPRETATION AND DISCUSSION

6.0 INTRODUCTION

The purpose of this chapter is to review the findings and implications of all phases undertaken in relation to the patients' hospital foodservice experience. It reflects on the study aim and objectives, the outcomes of which ultimately informed the development of the theoretical model. Throughout this process, to meet the requirements of objective seven, both primary and secondary research were considered and synthesised to discuss issues pertinent to the aim of this study. The recommendations required to meet objective seven are also documented in Chapter 8. An evaluation of the design, methods and analytical approaches of the research undertaken is provided in Chapter 7. Conclusions, contributions to knowledge, consideration of the limitations and recommendations of the study are provided in Chapter 8.

6.1 THEORETICAL MODEL FOR INFLUENCES ON ORTHOPAEDIC PATIENTS' FOODSERVICE EXPERIENCE AND FOOD INTAKE

In order to provide the theoretical model for hospital patients' overall foodservice experience to meet objective six, the outcomes for the following five objectives were analysed, evaluated and synthesized.

- 1. Critically assess the current state of knowledge from the published literature encompassing; clinical, medical, healthcare, nutrition, hospital food service, and food science research whilst undertaking a review of appropriate government publications. Additionally, review the research undertaken relating to; the hospitality industry, the experience economy, consumer experience and behaviour, environmental psychology, behaviour and attitudes, eating behaviour, retail and service and marketing*
- 2. To evaluate what individual environmental stimuli and other contextual influences affect patients' assessment of hospital foodservice.*
- 3. To develop, critically analyse and evaluate a questionnaire to measure hospital patients' overall foodservice experience.*
- 4. To develop, analyse and evaluate a profile for Orthopaedic patients' experience of hospital foodservice.*
- 5. To appraise and evaluate the outcomes and issues arising from the provision of a group dining environment for hospital mealtimes.*

Throughout this research, the context of the patients' foodservice environment has been

considered and defined as encompassing everything that is occurring within the location of their foodservice; the actual physical surroundings; the tasks that are undertaken by any stakeholders in the vicinity; all interactions that involve the patients and any other issues that have formed part of a patient's experience. Reviewing such variables that concur at the point in time when meals are consumed in this holistic way, has provided an in depth explanation of what the patients are encountering which may affect their food service experience, food intake and ultimately their time spent in hospital.

The findings from the literature review provided the data to develop a conceptual model for the factors affecting patients' foodservice experience (Figure 3.8). This, together with the ontological and epistemological approach and consideration of the research location provided the focus and framework for the research design and data collection (Figure 4.2). Using this sequential exploratory research process to direct the data collection through the different phases enabled through critical analysis, evaluation and interpretation of results and outcomes, ongoing theory development as the phases of the study progressed. At each stage, the theory has been developed and synthesised and has resulted in the theoretical model provided in Figure 6.0.

[pic]

Figure 6.0 illustrates that there are a large number of issues that influence patients' foodservice and experience. There is no one individual issue that can be isolated and engineered to provide the ultimate improvement to the patients' mealtime experience.

An enhanced experience for a patient can be achieved by understanding their journey, from expectations they have prior to the experience, to the assessments they make after the experience (Berry *et al.* 2002). By following through the different levels of the influences explained in Figure 6.0 imparted the insight required for each patient's holistic foodservice experience to be understood and ultimately provided the criteria to bring about an improvement which is entirely context specific.

Development of the Hospital Dining Experience scale

The measure currently used by the hospital to assess its performance in terms of the food provision and the ward environment is the Patient Environment Action Team (PEAT) assessment which is a self assessment completed by a team of seven stakeholders. Six team members are NHS employees and one is a patient representative. It is considered that the completion of this may well be subjected to a degree of bias and not be an accurate representation of patients' ratings. In addition the assessment is based on one meal service on a percentage of wards in the hospital and in the knowledge that this is being conducted and their performance observed, the staff's behaviour for the meal service provision may reflect this and not be a true representation of the normal daily foodservice provision.

The understanding of patients' experience of their foodservice was crucial for the development of theory in this study. Consequently, one of the objectives of this research was:

'To develop, critically analyse and evaluate a questionnaire to measure hospital patients' overall foodservice experience'.

The development of a valid measurement tool was essential to provide one of the vehicles to capture and provide an in depth understanding of the patients' journey. The tool that was formulated was the H D E scale which allowed patients to rate different areas of their hospital foodservice experience. A total of 559 patients completed the questionnaires in full; the resultant data were subjected to a variety of appropriate statistical tests. The theoretical constructs presented as statements on the questionnaire, (termed variables) were reviewed in different stages of analysis and the psychometric properties of the HDE scale provided a good reliability. The frequencies of the patients' ratings are provided in a series of tables in Appendices 8 to 12.

Developing a profile for Orthopaedic patients' foodservice experience

The development of a profile for a sample of Orthopaedic patients was conducted to gain a deeper appreciation of the patients' actual foodservice experience in accordance with the following objective:

To develop, analyse and evaluate a profile for Orthopaedic patients' experience of hospital foodservice.

To facilitate such an understanding, this phase of the study presented a repeated measures design to establish attitudes of a group of 24 orthopaedic inpatients to their foodservice provision using the HDE questionnaire. The patients' mood states were assessed using the Profile of Mood States questionnaire and their nutritional intakes were measured over a consecutive 3 day period using the weighed food record.

6.2 THE PATIENTS' JOURNEY: FACTORS INFLUENCING PATIENTS' FOODSERVICE EXPERIENCE AND FOOD INTAKES

6.2.1 Patients

Psychological & Physiological wellbeing

Congruent with previous research (O'Regan 2009), patients explained that their medical conditions, medication, treatments, procedures and the overall experience of being hospitalised affected their mood and appetites. They were apprehensive and nervous prior to their operations and some patients expressed the discomfort they were experiencing post operatively; an issue acknowledged in several studies (Holmes 1999; Baillie 2008; Williams *et al.* 2008).

Several of the patients were feeling unwell on Day 2 post operative having undergone Orthopaedic surgery and medication. Some continued to feel unwell for the four day period under study, some developed Norovirus and others felt better after Day 2. Contracting Norovirus was discussed by patients and the effects observed during the measurement of nutritional intakes. It is an extremely infectious seasonal virus, prevalent during the winter months; the most common cause of gastroenteritis in England and Wales. In hospital settings it is contact and airborne transmission that cause most outbreaks. The duration of symptoms is usually 24-48 hours; the incubation period is usually 24-48 hours but can be shorter. People present with a range of symptoms, most characteristically sudden onset of vomiting and or diarrhoea. It can cause major disruptions in hospitals as it requires the immediate implementation of control measures as it is considered a highly infectious disease. Patients are considered recovered when there is evidence that they have been free of symptoms for 72 hours. Once closed, the ward will not be considered for reopening until both 72 hours after the last symptomatic patient and a full terminal clean has been achieved (NHS Dorset 2010).

Patients' mood states

The findings of the research undertaken indicated that the patients' overall mood disturbance did not significantly fluctuate over their time of hospitalisation. One specific area that did indicate a significant change was a reduction in the patients' level of vigour which is likely to be attributable to the major surgery that they had undergone and their very early stages of recovery and rehabilitation and ultimately a reduced ability to mobilize.

The other area which indicated a significant fluctuation was a decrease in their anger levels. On admission, patients revealed their unhappiness, frustration and distress at having to wait so long for their operations. On discharge they indicated their relief that surgery had finally taken place. It is feasible that this may have influenced a reduction in anger levels.

It was observed, that during their hospitalisation, some patients had developed friendships and strong rapport with other patients in their bays. This was further evidenced in the patients and staff social representations which identified that their social interactions were important to them and improved their experience of hospitalisation; a concept supported in previous studies (Pralhad and Ramaswamy 2004; Edvardsson *et al.* 2005; Rowlands 2008). Such sociability may conceivably be another issue that might have influenced a reduction in their anger levels.

It is acknowledged that the care environment can affect moods (Rowlands 2008) and a mood state can be altered by food, and drink (Trzepacz and Baker 1992). Whilst this particular study measured the mood states of the patients, it is appreciated that such changes in mood cannot necessarily be attributed to the patients' encounters of foodservice alone and must be representative of the patients' whole experience of hospitalisation. Notwithstanding, the foodservice provision does form a large part of that 'hospitalisation' and must be an element to be considered when reviewing and understanding the underlying variables that concur in the formation of a patient's mood state.

By undertaking this measurement, the data produced in this research have provided baseline figures for future interventional research that may involve making changes to the patients' dining environment.

Patients' perceived behavioural control and choices

Consistent with previous research (Douglas and Douglas 2004; Webster and Bryan 2009), within the Acute Care Hospital environment, it was apparent that patients have little control, if any of the experience to which they are subjected. For their mealtimes, they were a 'captive audience' who experienced their foodservice with minimal or no choices. Patients alluded to the lack of perceived behavioural control and the lack of the ability to make choices, quoting the constraints of funding and resources in the NHS; their perceptions of the staff's resistance to change routines. Some patients had low expectations from being hospitalised in a large institution for their treatment and initial recovery where their care was placed entirely in the hands of a large number of individuals. This patient experience observed was disparate to the NHS improvement Plan 2005 (Department of Health 2004) initiative to create a patient-led service that provides people with a far greater range of choices and information about choices. In respect of the foodservice provided in this Acute Care Hospital, the only choices that were palpable were the choices for meals and even then this was inconsistent from day to day.

Patients' food and nutrient intake

In line with numerous studies (Bayens 2005; BAPEN 2007a; Feldblum *et al.* 2009) the data from this study further validate the continuing problem of providing adequate food and nutrition to hospitalised patients. The findings indicated that the recommendations for patients' nutritional needs were not being met. These outcomes are similar to the findings of previous research (BAPEN 2007a); the women were consuming an average of 32% of the recommended energy level intake with men consuming an average of 45%. Consumption of protein, fat, Iron, calcium, zinc, folate and vitamin D were also significantly lower than the recommended levels of intake. The patient intakes were influenced by the following issues;

Poor food quality

A source of complaint for some patients related particularly to the services of meals; on several occasions there had been delays in the patients receiving their meals. The food had been left on the trolley exposed to the heat lamps which according to the patients left the food too dry and chewy to eat. At these meal service sessions, the clinical staff serving the meals were interrupted partway through and were unable to provide an uninterrupted coherent service. The patients who had experienced reduced intake and who had complained about the food quality at the time of their meals gave a lower rating not only to 'The overall experience of my dining encounter in hospital was good' but also to their ratings for 'The meals were tasty'. This was an issue that was apparent in the patient representations and observations; despite being recognised over 9 years ago (Audit Commission, 2001) it still remains an ongoing problem.

Poor appetite

Several patients experienced poor appetites on day 2 post operative; it is likely this may have been influenced by their compromised physiological condition and the effect of their medication which is consistent with explanations provided in the literature (O'Regan 2009). In these cases, there was no alternative provision offered. By day 3 post operative with the exception of one patient, all patients' appetites had improved.

Clinical interventions & Distractions

There was consistent evidence of distractions and interruptions to patients' meals. The activities on the wards and levels of interruptions and medical interventions to patients during the breakfast and lunchtime sessions in particular were not conducive to a relaxed, unrushed, peaceful, mealtime experience. Observations confirmed that non urgent clinical rounds and routines at times took precedence over patients' mealtimes; an issue that has been highlighted over many

years (Audit Commission 2001; BAPEN 2007b; Age Concern 2008 and RCN 2008). Several clinical staff confirmed that such procedures could be planned and conducted during the times when patients were not eating but that this would require clinical staff at all levels to restructure and reorganise their routines and activities. As the evening foodservice was conducted in a much calmer and quieter environment, when coupled with the findings from Stroebele and de Castro (2004) suggesting that the highest consumption of food occurs during the evening, this evening foodservice session could provide a platform to enhance and optimise the patients' food intake.

Evidence in the literature is supportive of the protected mealtime initiative (Paling 2008; National Patient Safety Agency 2008) in terms of patient outcomes for their foodservice experience. Indeed, the initiative was positively reinforced and in use in other wards within the case study hospital but was not supported and undertaken in all wards. This appears to substantiate the lack of a consistent approach for the provision of protected mealtimes experienced throughout NHS hospitals in the UK (National Patient Safety Agency 2008; Clews 2009). Further investigation is required to understand and address the resistance to undertaking this recommendation. It may be that there are practical implications that make it impossible, for instance it would not be possible in the Accident and Emergency Department. However, if it has not been undertaken because of lack of motivation to change routines, procedures and schedules, or perhaps a lack of confidence in its outcomes, training should be provided to illustrate to staff the benefits of such a practice. Had the protected mealtime initiative been in the wards under observation, it is possible that some of the patients' intakes may not have been compromised.

Insufficient portion size

At a number of meal services, there was insufficient hot food for all the patients; those patients who were not offered hot meals were offered salads or sandwiches. Further investigation confirmed that the patients had not placed individual orders for several days and that the staff had placed bulk orders; an apparent issue recognised in the patients' response and acknowledged by McCree (2007) and Age Concern (2008). It was observed that on some occasions smaller portions were served to everyone, to ensure that all patients had the opportunity of having a hot meal. Whilst several patients indicated that they wanted small portions, the younger patients felt that the portions were inadequate to meet their needs.

Although the menu provides for different size portions, where patients are given the opportunity to make their own orders, this takes place 1½ days earlier than the food is provided. Patients' appetites may well have improved during that period of time and they should be asked at the point of service what size portion they require. There should be sufficient food to provide them all with optimum sized portions if required. This should be catered for within the normal foodservice or alternatively, the provision of a practical and effective mechanism must be in place whereby additional hot food can be obtained quickly to meet the patients' needs.

Further analysis was conducted with the food intake data; in the cases where patients had eaten all the food that they were served, findings indicated they were not provided with sufficient food to meet the recommended daily energy intake. The findings suggest that men are only being provided with 60% of the recommended levels whilst the women are only being provided with 42% of the recommended levels.

When reviewing previous food intake studies of hospitalised patients (Hartwell and Edwards 2003; Roberts *et al.* 2005; Wright *et al.* 2006; Rüfenacht *et al.* 2009), it is unclear what time of the year they were conducted and there is no mention of patients contracting Norovirus or similar infections which may have influenced their intake. It is likely that the intake of patients in the

summer months may differ with fewer incidences of patient and staff sicknesses which ultimately should reduce the pressures and strain on resources. This, together with better patient appetites, may in turn lead to an enhanced dining experience and ultimately increased food intake.

Inadequate food choices and variety

During the period of study, some patients indicated their discontent with all of the main meal choices on offer; some had not had the opportunity to place their own orders and were unhappy with the provision made on their behalf; an area of concern observed in the past by Age Concern (2008). Other patients unable to eat gluten or with restricted diets stated that there were no appropriate main courses that they could eat and that the choice for them was very limited. This inadequate variety and provision of therapeutic meals for patients with special dietary needs was evidenced from observations, the patients' social representations and the qualitative section of the HDE questionnaire. There is growing evidence to suggest that more people are experiencing food intolerances and food allergies (Royal College of Physicians 2003; NHS choices 2010). The catering manager confirmed that they met the requirements for the ethnic minorities as they always stocked meals appropriate for different ethnicities eg: halal meals etc. However, with regard to the poor provision and choice of therapeutic meals, the catering team must recognise and address these issues (as they have for the provision of meals to meet ethnic minority requirements) to prevent certain sectors of the population from being excluded from receiving optimum nutrition during their hospitalisation.

Patients' expectations and attitudes to their foodservice experience

The tables presented in Appendices 8-12 indicate the ratings the patients had given to each variable forming part of their overall dining experience.

Although there are mixed reports with regard to how patients assess their hospital meals and foodservice, it is recognised that patients' expectations form part of that assessment (Association of Health Councils 1997; Cardello *et al.* 1996); this was also substantiated in the patient social representations in this study. The findings from the analysis of the patients' ratings have highlighted that the assessment of patients' expectations of their foodservice differ from the assessment of their actual experience (Table 6.4). In accordance with Vroom's (1995) expectancy theory, there was evidence to suggest that patients' eating behaviour had been moderated by their poor expectations derived from both their first hand experience and the experience of their referent others which is congruent with the Theory of Planned behaviour (Ajzen 1985). This would suggest therefore that in order to improve patients' expectations, the actual experience of patients and their referent others must be improved. By assessing patients' ratings of the variables presented in the HDE questionnaire in specific contextual locations would provide the information required for managers to bring about improvements for specific constructs.

Whilst patients' ratings for 'The overall experience of my dining encounter in hospital was good' was significantly higher than their expectations, the majority of those surveyed, who had actually experienced the foodservice provision, displayed weak levels of agreement with it. This is in accord with positive disconfirmation described by Oliver (1997). It is suggested therefore that in line with this theory of expectancy disconfirmation (Oliver 1997) the foodservice does not have to be of a high quality for the patient to be satisfied as satisfaction is a comparison between expectation and experience. Cardello (1996) purports that people may have lower expectations of hospital food, thus if the foodservice provided exceeds these low expectations they may well rate ordinary foodservice well.

When considering the patients' ratings of 'The overall experience of my dining encounter in

hospital was good', the statistical analysis has indicated that the most significant issues are those that are related to the service provided by the kitchen staff and the ward staff with the least significance being placed on environmental variables.

6.2.2 *Kitchen production*

The components for the kitchen production established by the factor structure of the HDE consisted of issues relating to presentation, variety, taste, food temperature the provision of nutritious and well balanced meals, and the efficiency of the meal service. The ratings given in all of the kitchen production components indicated that there was room for improvement in some areas. One area suggested for improvement for the kitchen production team was to make the meals tastier; an issue currently being researched (Nursing Standard 2008). However, whilst both the kitchen and ward staff can influence the taste of the meals, it is acknowledged that the patients may not be able to discern the source of any inadequacies as they are just experiencing the end result. It may well be that the poor taste of a meal relates to the recipe used by the kitchen, alternatively, as evidenced throughout the observations and the patients' representations, the taste of the food and possibly its nutritional value had been compromised and deteriorated by being left under the heat lamps too long or being served cold. This has been a topic of discussion over the last decade (Audit Commission 2001; Commission for Patient and Public Involvement in Health 2006; BAPEN 2007b) yet clearly has not been appropriately addressed.

There is a similar ambiguity evident with regard to the presentation of the meals in that the kitchen staff can influence what each food item looks like but the ward staff can influence the overall appearance of the meal on the plate. Patients in their responses did suggest that the presentation of the meals could be improved to make them more appetising and they also considered that the quality of the meals deteriorated as a result of the ward service.

A further consideration is that patient assessments of their foodservice experience may have been subjected to a degree of influence from the ward staff. It was observed that on the occasions where there was insufficient food the ward staff apportioned culpability to the kitchen production team for not sending up enough food to the ward whereas in reality the ward staff had not placed accurate orders for the food provision.

It was clear from the observations that some of the trolleys used were not working efficiently and sometimes they would arrive at the ward later than planned which caused staffing resource problems on the ward. The delay in trolleys reaching the wards was generally attributed to a shortage of staff in the kitchens. Perhaps to alleviate the resultant organisational issues experienced by the ward staff, the catering management could contact the clinical leaders of the ward early in the day to forewarn them of the possibility of delays.

Two other areas identified from the patient ratings for the kitchen production staff to focus on were; increasing the variety of the food, an issue recognised by the Royal College of Nursing (2008) and improving the provision of nutritious and well balanced meals.

6.2.3 *Ward service*

The components for the ward service established by the factor structure of the HDE scale were; meals served at the appropriate time; plenty of time given to enjoy their meals; patients being served the appropriate meals and the appropriate portion size. There was a degree of overlap with the kitchen production component in relation to the taste and presentation.

In the past and indeed currently, there is still a focus to direct attention to the preparation and

constituents of the food provision (Better Hospital Food 2006; Nursing Standard 2009) and whilst this study has shown its importance, in accord with the Audit Commission (2001) and BAPEN (2007b), patients' responses and observations have indicated that another of the main influences on the quality of the food served is the service provided on the wards. Whilst the provision of a good variety of well balanced, healthy meals is essential, even when these have been produced and delivered to the wards by the kitchen staff, what is clearly evident is that without strong coherent teamwork from the ward staff providing the meals, putting their patients' needs ahead of their other duties at this time, good meals can deteriorate to the point that patients no longer want to consume them.

There was a notable difference in the meal service that patients received when served by dedicated, trained foodservice staff compared to the service provided by the clinical staff which is a major issue to be considered. When the meal provision on the ward was managed by clinical staff, the menu ordering system was not conducted effectively for every meal occasion. For several of the observed meal services, patients were not given the opportunity to make individual choices for their food with the ward staff placing bulk orders; indeed staff were completing individual orders themselves without consulting the patients. This was an issue that was very apparent in the patients' representations and recognised by Age Concern (2008). Whilst the staff felt that when their resources were stretched bulk ordering appeared to solve this immediate short term predicament; the problems this created had far greater impact. In these circumstances, inadequate quantities of food were made available for the patients; the portion sizes provided per patient were too small and occasionally insufficient hot meals were available for them.

As patients were not always given the opportunity to order their own food, on occasions some food items were not served and were wasted as patients were unhappy at being offered food they did not order. Even when the patients had placed individual orders the day before, there was evidence on occasions of support/clinical staff not following them, giving the patients a choice of what was on the trolley. As the service progressed, many patients did not get offered the meals they were expecting as they had already been distributed to other patients. Patients showed their frustration at not being consulted and not being valued as individuals; an experience far removed from being patient centred as promoted in the NHS improvement plan 2005 (Department of Health 2005) and the Patient-focused benchmarking for Health Care Professionals (Department of Health 2006).

Periodically, there was a delay in commencing foodservice on the ward or the meal service was interrupted. There were times when the food was left on the trolleys for inappropriate times before service which resulted in the deterioration of the food to the point where the quality was unduly compromised and ultimately the patients chose not to eat the food that had dried up. The delivery of food was inconsistent and at times servers would be called away to deal with issues of a clinical nature; on their return to the food trolley the remaining patients were served food that was apparently not hot enough.

Congruent with Savage and Scott (2005) and BAPEN (2007b), the management, structure and quality of foodservice provision to patients were much improved when conducted by the dedicated foodservice staff. Indeed, it was observed in these circumstances that patients had the opportunity of enjoying unspoilt meals with full size portions. Critical to this provision was the ability of the ward hostesses to forward plan and place individual orders for their patients. In all observed mealtimes managed by ward hostesses the meals were served as soon as they arrived, the patients received the food that they had previously ordered and there were no

shortages of food.

Ward Hostesses were observed taking responsibility for feeding patients but when there were several patients to be fed simultaneously, they experienced difficulties in gaining help and support from their clinical colleagues; a topic that has been recognised and debated previously (Commission for Patient and Public Involvement in Health 2006, Age Concern 2008). These findings appear to support the view that nutrition of the patients is optimised when dedicated foodservice staff are used to organise and manage the completion of menu cards, and the ordering and service of meals (Savage and Scott 2005).

The current system of delivery for the different courses results in some hot meals being served warm or cold. Whilst the soup was being served to the patients throughout the wards, it was held in unheated containers. One solution would be to hold the soup in heated tureens which could be plugged in at the same time as the trolleys. The hot desserts ordered were served at the same time as the main meal and were often cold by the time of consumption; this could be resolved by retaining them on the heated trolley until they are required. These desserts whilst providing a good source of energy were often left uneaten.

The improvements to the ward service should involve enhancing the presentation of the meals to make them look more appetising; this corresponds with previous research (BAPEN 2006; Commission for Patient and Public Involvement in Health 2006; Age Concern 2008; Royal College of Nursing 2008). Whilst patients felt that the meals were served in a friendly and pleasant manner, they did acknowledge that the staff serving the meals were not helpful or supportive. This issue was reflected in previous research (Waters 2007, Age Concern 2008, Royal College of Nursing 2008) but also substantiated by some of the patients in their responses where they recognised that the staff were under pressure and too busy to provide extra support when needed.

The success of the patients' healing processes and rehabilitation is partly dependant on the way in which a number of stakeholders provide individuals with their personal care, of which the foodservice experience forms an integral part. It is only when such a team of people are working together in accord and coherently that the potential opportunities for optimum recovery can occur. This research has indicated that many tensions exist between stakeholders and groups of stakeholders and that ultimately these can influence the overall well being of the patients. In accord with the literature (Kopelman and Lennard 2002; Waters 2007; Lindorff-Larsen *et al.* 2007), at times, negative attitudes and comments were evident from the clinical staff with regard to the provision of patients' meals where they felt that it was not their role to perform such duties; when they did, it was occasionally done begrudgingly and clearly the patients' nutritional needs were not considered a high priority. This appears to support previous research that suggested a devolution of the hospitality-based service in the role of the support/clinical staff (Lee Ross 1999; Savage and Scott 2005) and indicates that despite the Royal College of Nursing initiative of Nutrition Now (2007), nutrition is still not recognised by some clinical staff as an integral and central component of patient care (O' Reagan 2009).

However, mindful that the majority of support/clinical staff endeavour to try their best to solve the problem of strict time constraints, staff shortages and increasing workloads it is also important to empathise with the fact that clinical staff are often put in a conflicting situation where they are asked to undertake duties of a clinical nature whilst endeavouring to provide a foodservice which in itself raises issues of concern with regard to cross contamination. This operational divergence does not occur when dedicated foodservice staff are managing the patients' food provision, as

they are not trained or able to provide any clinical procedures for the patients and thus are not distracted from providing an uninterrupted meal service.

In addition, in terms of education provision for nutritional care and services, whilst the need for nutritional training advocated and recommended by the Council of Europe (2003) Kopelman and Lennard-Jones (2002) and Kopelman (2004) may have been met in part by the local University, in its provision of nutritional training in macro nutrients for the nursing undergraduate programmes, there is no training provided within these programmes for the training in the importance of micronutrients which may be critical for the nutritional requirements of specific patient groups, such as Orthopaedic patients.

This research recognises and illustrates that responsibility for nutritional care of patients is not undertaken effectively as a multidisciplinary responsibility as supported by BAPEN (2007b) and the Hospital Caterers Association (2007). Whilst observations and discussions with foodservice staff and patients provided a clear indication that the foodservice staff accept such responsibility, it is not always the case for the support/ clinical staff. This issue is concurrent with the findings of the Audit Commission (2001) which recommended that 75% of the Trusts surveyed required an improvement in the service of meals.

During this study, apart from the issues identified, the incidence of Norovirus was an important factor that had other implications to be considered in terms of the foodservice provided. Food that has been exposed to aerolised Norovirus particles is likely to have been contaminated with the virus (NHS Dorset 2010). In the event of an outbreak, any uncovered food from patients' lockers, bedside tables and nurses' stations has to be removed and discarded. When serving meals and beverages, the affected bay must be served last where appropriate. Whilst this study was being conducted, there were outbreaks of the Norovirus on two of the Orthopaedic wards which caused considerable disruption to the running of the ward and also to the meal service provision. The additional control measures required placed a considerable strain on the existing resources which ultimately resulted in a compromised foodservice experience to the patients.

However, although an issue that is not under the control of the non clinical stakeholders involved with the foodservice provision, in the knowledge that it is more likely to occur in the winter months and that as a result, patients may miss meals, perhaps the winter menu could be strengthened and enhanced with the provision of meals that are more energy dense, having a higher protein, zinc, iron, calcium, folate and vitamin D content. This would then provide additional nutritional support to those patients who had experienced several days of missed meals, for when their appetites have improved.

6.2.4 *The Eating Environment* **The influence of environmental variables**

Some of the environmental variables that patients described as influencing their dining encounter, have been shown to contribute to their overall dining experience on an individual basis but when they have been clustered together with related variables the influence of the group of environmental variables have had minimum impact on the patients' ratings of their overall food service by comparison to the ward service and kitchen production.

During observations on the wards, conducted over the autumn and winter months, there was no evidence of inappropriate ward temperature, smells and odours although some patients acknowledged that they were evident at times during the day. However, some patients in the summer months identified a hot and stuffy atmosphere on the wards. Often mealtimes,

particularly the lunches were observed to be conducted in a noisy environment; this was an area of concern also acknowledged by some patients in their interviews and supported in the literature (David and Scholefield 2005; Naithani *et al.* 2008). It may be the case that on these particular wards, there were no other issues with regard to other environmental variables at this time.

Other patients were unhappy at receiving clinical interventions and being distracted during their mealtimes. Yet, when reviewing patients' ratings of the impact of distractions on their experience, they were unsure if the distractions had spoiled their enjoyment of the meals; an issue that was considered to be a key barrier to good nutrition in previous research (Audit Commission 2001; BAPEN 2006; Age Concern 2008). This study's findings indicate that there are a large and complex number of issues that influence patients' foodservice experience; it may well be that patients find some of those influences difficult to differentiate individually which may explain their uncertainty in this particular area. Perhaps patients' recollections of distractions during their meal times are short term and soon forgotten whereas the quality of the food may leave a longer lasting impression. Alternatively, it may be that they place a higher regard on these medical interventions rather than on consumption of their meals and are oblivious to the fact that in many cases these interventions need not be undertaken during the mealtimes. This issue requires further investigative research, particularly in view of the fact that such distractions have been shown to impede food consumption in this study and have had a negative effect on the nutritional status of patients in other studies (O'Regan 2009).

Location for patient mealtimes

In accord with previous research (European Nutrition for Health Alliance 2006a), patients in their responses indicated that the actual environment in which the mealtimes take place, could improve their dining experience. In particular, three topics were identified; the provision of a separate dining area, the ambiance of the mealtime setting and the possibility of dining with others in a group. The ratings from the main survey for patients' preferences for their dining location indicated that their strongest preference was to eat in a separate dining room provided on the ward, followed by eating by their bedside; they indicated that the location they would least like to eat in was their beds. However, for the smaller repeated measures survey, the patient ratings for their dining preferences were different; their strongest preference was to eat alone by their bedside. They displayed more uncertainty about eating in a separate dining room provided on the ward. This difference may be attributed to the fact that several of the patients at this stage had been unwell, with some suffering from Norovirus and may not have been well enough or confident to eat away from their bedside.

Several patients made the assumption that with the lack of funding and resources in the NHS that they would not be able to have any option except to eat beside their beds.

The Theory of Planned Behaviour (Ajzen 2006) states that perceived behavioural control is a fundamental part of attitude formation and ultimately behavioural pattern.

Such lack of control clearly indicated by the patients is likely to have influenced their attitude formation with regard to the location of their foodservice provision. If perhaps they believed that changes of an environmental nature could not be made to enhance their experience because of various different constraints, it is possible that they may have placed less significance on them. There was a strong appreciation however, that the ability to have a choice of where they could eat their meals might positively influence their dining experience and ultimately their food intake. These findings support the recommendations for providing a pleasant environment conducive to eating, offering flexibility and choice to meet the needs of the patients (Council of Europe 2003; BAPEN 2007b; Brush and Calkins 2008).

Engendering hospitality into the hospital environment

Clearly, hospitality is important in any environment where food is served. Patients stated that mealtimes afforded a structure to their day, relieved boredom and provided a highlight to their day; a philosophy supported by the National Patient Safety Agency (2008). This viewpoint was contradicted by some staff, who in agreement with previous findings (Holmes 1999; National Patient Safety Agency 2008) considered that the mealtimes were just something that had to be accomplished and that they were not necessarily a pleasurable time.

Despite recommendations over the last decade to adopt a more patient centred focus and to humanise patient care (European Nutrition for Health Alliance 2006b, Todres *et al.* 2009), with the exception of the foodservice provided by the dedicated, trained foodservice staff, patients are still not being considered individually and holistically as recommended by Berry and Bendapudi (2007). It is stated that one of the main objects of providing hospitality in such a setting is to improve the morale of patients where they can then be more contented and relaxed to achieve a speedier recovery (Kipps and Middleton 1990). There is clearly a need to take the levels of hospitality provided beyond the basic need to provide and distribute food to using the genuine motives of hospitality suggested by Ritzer (2007) that involve providing hospitality through helping, entertaining, protecting and serving guests. In agreement with McCree (2004) hospital staff must focus attention on creating the 'guest/ host' relationship; the importance of a hospitality provision to this degree is paramount, particularly within a hospital setting. Such improvement in the service of food on the wards can be achieved if the staff deployed have been trained in providing hospitality at this level but at present no programme of hospitality training is being adopted.

Enhancing the mealtime experience

All aspects of Gustafsson's (2004) Five Aspects Meal Model; room, meeting, product, atmosphere and aspects of the foodservice management system have been highlighted by the patients and staff during their interviews and in the observations when exploring the issues that would provide an improvement to patients' dining experience.

In recognition of Gustafsson's (2004) recommendation for maximum satisfaction in meal situations to be achieved, all five need to be interacting to some degree. During this study, it was considered that not one of the aspects is effectively working with the priority just focusing on the meal (product) and the management control system in place and in these two instances optimum performance was not being achieved. There was little or no evidence of consideration being given to the room, atmosphere and the meeting, by the policy makers and managers at this hospital. Patients, however, determined that issues relating to all of these aspects could play an important role in bringing about improvements to their foodservice experience.

Some patients considered the aspects of atmosphere and meeting important; in particular being part of an environment where social interaction was enabled and encouraged; being in a relaxed atmosphere and being in comfortable surroundings. Issues regarding the room or location for meals were also considered to influence their experience. However, overwhelmingly for all these situations, patients perceived little or no behavioural control for the provision of such milieu on a hospital ward.

6.2.5 Group dining and socialising

Sociological variables have been stated to have more impact on eating than any other with the

interaction at meals providing the platform for sociability and socialisation (Sobal and Nelson 2003; Herman *et al.* 2003). This concept of social interaction was identified as one of the strongest themes from the data set, despite the fact that there were no specific questions asked relating to the need to socialise. Patients' and staff representations conveyed that socialising with other patients was one of the most important issues that had a positive effect on their psychological well being and recovery process; an issue that has received support in previous studies (European Nutrition for Health Alliance 2006a; Wright *et al.* 2006). In particular, socialising at mealtimes was considered by the patients to be a central component of creating a positive ambience of a meal service environment.

Segaran (2006) suggested that patients have an overwhelming desire to return to normality. In accord with Pearson *et al.* (2003), in order to achieve a feeling of normality by creating a home like environment in an institutional setting the eating, drinking and mealtime provision was used to provide the platform for this to be achieved. A desire for normality was described by the patients on numerous occasions and they too made suggestions for it to take place by manipulating the mealtime experience and environment.

Some patients perceived that being taken to a different location for their mealtimes would transform the experience from feeling that you were eating in the enforced surroundings of 'your bedroom' to having the choice to eat in a setting that provides a more dignified, normal, social and homelike environment. Whilst recognising however that for some patients who are on their own, this may not be representative of their home situation, as previously established by Davies and Snaith (1980) and Edleman *et al.* (1986), the social aspect of this dining experience could prove to be beneficial both physiologically and psychologically for some of the patients that might be lonely

Researchers and healthcare professionals are increasingly reviewing a more holistic approach to the hospital environment in assisting patient health (Douglas and Douglas 2004; Edvardsson and Rasmussen 2005; Williams 2008, Todres *et al.* 2009). During this study, using action research, change did take place with regard to the patients' eating environment. This provision of an enhancement to the dining environment was primarily driven by the patients' suggestions which were supported by previous research findings (Bitner 1990; Pine and Gilmore 1999; de Stroebele and de Castro 2004; The European Nutrition for Health Alliance 2006b). Patients were not pressurised and were given a degree of behavioural control in their choice for the location of their dining experience. This choice also provided a balance for the patients' needs for privacy with their need for social contact as recommended by Winkel and Holahan (1986), and they could either maintain their personal space and privacy; during their mealtime at their bedsides or could join other patients to eat together in a group; an issue supported in previous studies (Cassidy 1997; Williams *et al.* 2008; Baillie 2009). The only patients that did not take the opportunity to eat with the group were those who were not well enough to do so and one patient who didn't want to socialise.

In line with patients' suggestions, certain aspects of the foodservice setting were manipulated to provide a more therapeutic dining environment. Using tablecloths, laying up the table with cutlery, crockery and beakers, created an overall impression beyond that provided to patients on their trays beside their beds. A space was provided to allow a 'communitasque experience' conceptualised by Lugosi (2008) to evolve in a more natural way during patients' mealtimes.

Enhanced emotional well being

The patients were laughing, smiling and chatting with each other throughout the foodservices;

those that were more mobile were helping those that were less able, helping them to integrate into the group. This display of behaviour suggests that the patients were exhibiting the three basic emotional responses of pleasure, arousal and dominance (Mehabrian and Russell 1974, 1974a) which were influenced by the physical and social stimuli provided by this enhanced dining environment. According to the staff, the patients contributed to the atmosphere and felt part of a 'community' by engaging during their mealtimes. It could be conceived that patients were experiencing feelings of sharing, belonging and togetherness in a more socially relaxed atmosphere than could be provided on the main ward (Lashley *et al.* 2004).

Increased motivation to eat

One very important outcome of the group dining experience which had not been previously identified during the earlier phases of this study was the positive effect that peer pressure apparently had on the patients' motivation to eat. Some patients were encouraging other patients to eat more and it was suggested that some patients may not have wanted to be seen by the other patients, wasting the food served to them. The other advantage was that the change in the foodservice procedure enabled the food to be served quicker and hotter so there was little or no deterioration in the quality of the food provision.

Improved mobility

It was also purported by the staff that this latent peer pressure may have had a positive impact on the patients' levels of mobility as patients would compare their mobility with others in the group and be spurred on to increase their mobilisation. In addition, the clinical and medical staff stressed the importance of patients mobilising as soon as possible after surgery. By taking the dining area away from the direct vicinity of the beds, provided a good opportunity for patients to mobilize and those that were able to do so, made their own way there, whilst those less able were supported by the support/clinical staff.

Reduced the isolation and loneliness experienced by patients

The staff recognised that some patients become very isolated and lonely whilst in hospital, particularly those in side rooms. It was acknowledged that by bringing the patients together provided them with the opportunity to socialise and gave them a sense of normality and provided to some extent an escape from the ward environment; a finding previously acknowledged by Edvardsson *et al.* (2005).

Preparing patients prior to mealtimes

By restructuring their responsibilities, the clinical staff focused on preparing the patients for their mealtimes about half an hour before service. This enabled both the patients and the staff to experience an uninterrupted mealtime. The staff recognised that patients enjoyed preparing themselves for joining others around a proper table for each mealtime; it gave them a positive focus and something to look forward to throughout the day. Furthermore, it was also considered an excellent opportunity to commence the rehabilitation process of getting the patients into a more normal routine for every day life.

Provision of a more hygienic dining environment

Patients and support/ clinical staff believed that eating away from the vicinity of the beds (where all levels of personal care were undertaken), in a separate dining area could provide a far more hygienic dining environment and reduce the risk of cross from Norovirus.

Opportunities provided for the support/clinical staff

Being able to provide the whole foodservice in one location afforded several advantages for the support/ clinical staff too by presenting opportunities for:

Closer patient observation.

One of the weaknesses highlighted in this research and established in previous findings (Audit Commission 2001; BAPEN 2007b; Age Concern 2008) is the recognition of an ineffectual delivery process for meeting patients' individual nutritional needs. Clinical staff confirmed that they experience numerous distractions during the foodservice provision that prevent them from observing or monitoring patients' food intakes. It was acknowledged that by providing this group dining environment gave the staff the opportunity to observe and engage with all of the patients in one place which also provided them with an opportunity to exert some influence over the patients' intakes where required and to provide patients with additional servings.

Increased patient and staff interaction in a positive environment.

Webster and Bryan (2009) suggested that where staff display a caring and concerned attitude, patients felt important and cared for. Staff enjoyed having the opportunity to spend more time getting to know the patients and felt that this enhanced the process of communication and made their jobs more enjoyable. It was suggested that the experience uplifted the patients' moods and had several positive impacts, in particular it was noted that with happier patients, they became more stimulated, compliant and easier to nurse.

More efficient, prompt and effective food service

Staff concurred that the provision of meals to the patients in one room, by staff dedicated solely to providing the foodservice resulted in a more efficient, effective, and pleasurable service and experience for both patients and staff involved. It allowed each course to be served separately and at the appropriate temperature. Although the service was more prompt as it was better organised, the meals were not rushed. Overwhelmingly staff perceived that the group dining provision was far easier to manage and organise than the current provision and it considerably reduced the amount of "legwork" undertaken. There were mixed feelings with regard to the feasibility of creating this meal experience on a regular basis, with some clinical staff believing that it would be difficult to undertake when they were short staffed. Other members of staff believed that by conducting the foodservice in one location would be more beneficial to them and would help to alleviate some of the problems experienced when they are short staffed; it was their view that the group mealtime routine required a greater focus and was more efficiently organised and structured than the current provision.

When staff were asked to disregard any restrictions or constraints in funding, procedures and routines (i.e. any factors that would reduce their perceived behavioural control) and then to consider where they thought the optimum patient foodservice should be provided from both their and the patients' points of view, they unanimously stated that patients should have the choice for mealtimes to be undertaken in a group setting away from their beds.

Nevertheless, participation in the group dining environment may be tempered by the patients' stages of recovery and dependent on their medical condition, the pain that they may be experiencing and reduced mobility issues. The need for their own privacy and personal space must also be appreciated and respected. For those patients unable to partake and experiencing mealtimes at their bedsides, provision should be made for the remaining staff not involved in the foodservice provision to provide them the appropriate physical and emotional support to enhance their experience and prevent them feeling 'left out'.

6.3 SUMMARY

Findings from this study have provided further evidence highlighting that many of the problems and issues recognised over the last decade are still persistently continuing despite numerous initiatives and attempts to provide solutions. This research has presented a structured hierarchy of factors influencing Orthopaedic patients' foodservice experience and food intake which

establishes the order of importance that patients place on the complex issues that converge to form their overall dining experience.

A valid scale was developed to enable the patients to assess individual factors influencing their dining experience and their overall foodservice experience in its entirety; this deliberately focused on providing a measure that was based purely on patients' assessments with no other input from any other stakeholders.

This study considered ways in which a dining environment in an Acute Care Hospital might be adapted to better meet the nutritional needs of its patients using the concept of patient-centred care by offering and respecting patient choices. It reflected on the patients' current foodservice encounter, made some environmental adjustments for patients, and reviewed the core knowledge and skills required for staff to provide a mealtime experience that helps to contribute to a patients' recovery holistically, and that considers a patients' physical, mental and social condition in their treatment.

The outcomes from the group dining foodservice experience were all encouraging. Figure 6.1 indicates numerous positive outcomes for the patients in addition to efficacious outcomes for the staff serving the meals.

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The staff involved in providing this enhanced setting all considered that group dining was better for the patient's psychological and physiological outcomes; better for the efficiency of service and in some cases enhanced the morale of staff.

It is also propounded that if the key significant factors (Figure 6.0) are not working effectively to meet the most fundamental nutritional needs of the patients, it is likely that the importance of the role that the environmental and sociological variables can have on influencing patients' enjoyment of meals may not be fully recognised and appreciated.

Patients' representations about their foodservice experience were sometimes reflective of their low expectations for the hospital food provision and were frequently considerate of the perceived constraints of the requirements of mass catering, the restrictive NHS budgets and funding and the appreciation of the pressures on staff. Their primary concern was their medical treatment which exceeded their concern for the importance of foodservice.

Whatever enhancements are made to the mealtime environment to improve the dining experience of patients, ultimately, if there is insufficient food provided to meet their recommended nutritional requirements patients will continue to become more malnourished during their hospital stay. It is evident that the current delivery methods undertaken and the ineffective menu ordering provision were unable to respond to individual patient's needs. There is no consistent good practice evident, and no apparent strategy in place to ensure that the foodservice provides optimum nutritional care for all patients throughout the hospital.

These issues can be addressed with the provision of training and the effective management of foodservice that focuses on both the psychological and physiological needs of the patients by all staff that are involved. All members of ward staff concerned with the provision of meals; from the collection of patient orders to the delivery of their meals must take ownership and be accountable for the optimum nutritional care for each individual patient.

This research established that the hospital environment can be considered therapeutic when it contributes to the emotional comfort of a patient by facilitating perceptions of personal control. It is proposed that the provision of group dining, in a separate dining area away from the patients' beds, with staff dedicated to the provision of an uninterrupted mealtime could provide numerous positive solutions to a large number of problems and issues that have been highlighted throughout this study, in addition to promoting 'humanizing care' by placing patients holistically at the heart of their care provision.

CHAPTER SEVEN

Evaluation of Conceptual, Methodological and Analytic pROCESSES & a CRITICAL rEFLECTION OF THE RESEARCHERS JOURNEY

7.0 INTRODUCTION

Throughout this research project, Dellinger and Leech's (2007) Validation Framework was reviewed and considered to afford support, direction and legitimation. To ensure coherence and continuity, the method of evaluation of this research in terms of its theoretical, methodological and analytical approaches at this final stage is based on this. This chapter describes the evaluation process and concludes with a reflection of the researcher's journey through the research practice undertaken.

7.1 FOUNDATIONAL ELEMENT

A critical review of the theoretical and empirical literature which focused on issues considered to form part of a patients' foodservice experience in a hospital eating environment was undertaken to locate the context of the study and to highlight what was within the scope of the research and what was not. It considered the claims that were made in the literature whilst critically reviewing the research methods undertaken to consider whether such claims were justified. Early concepts of construct validity in the form of the variables that influenced patients' foodservice experience were apparent. Additionally, it indicated ways in which a patients' foodservice experience could be enhanced. The findings of this review provided the guidance for the design, measurement processes and analytic methods. The resultant schematic diagram, designed to meet the research objectives and ultimately the aim of the research facilitated an in depth understanding enabling the development of theory.

To develop an appreciation of patients' experience, it was important to recognise their attitudes and expectations towards their food service provision, and to understanding how these attitudes were formed. Accordingly, the Theory of Planned Behaviour (Ajzen 2006) and the Expectancy Theory (Vroom 1995) were used to underpin the academic development in this respect. Using this theoretical approach and the findings of the literature review, the schematic diagram for the sequential exploratory mixed methods research process was formulated. In accordance with this, each phase undertaken was informed by findings from the previous phases. The provision of such a structured framework (Figure 4.2) was invaluable to ensure an innate complex research environment and context could be studied in the most effective and uncomplicated way to provide an accurate discernment of the subject matter.

7.2 EVALUATION OF THE METHODOLOGICAL AND ANALYTICAL APPROACH

This study has endeavoured to provide a transparent audit trail by producing a detailed presentation of design, data collection and analysis. The methods employed were tailored to ensure their appropriateness for meeting the research question and to present a workable solution to examine and explore structures and processes, and relationships between variables. The development and utilisation of the Hospital Dining Experience (HDE) measurement scale, the interview schedule, the Profile of Mood States (POMS) questionnaire and the measurement of food intake were all undertaken to enhance the reliability and validity of the study and to compensate for any inherent biases that might have been incurred during the initial qualitative exploratory phase.

In accord with Dellinger and Leech (2007), evaluation of this study has been conducted on the separate elements of the quantitative, qualitative and finally on the mixed methods approach; each phase of the study is evaluated using concepts about validity and trustworthiness.

1. Qualitative data approach: Elements of construct validation

Phases 1 and 4

Observations, semi-structured patient interviews, exploratory interviews with stakeholders and thematic analysis were considered most appropriate providing a descriptive rather than interpretative approach to direct and complement the quantitative phases.

The evaluation of the qualitative phases has considered several factors when establishing the effectiveness of the research undertaken. Greenwood and Levin's (2005) definition of validity in qualitative research is particularly pertinent to this study:

Validity...[is] measured by the willingness of local stakeholders to act on the results.... thereby risking their welfare on the 'validity' of their ideas and the degree to which the outcomes meet their expectations. Thus, cogenerated contextual knowledge is deemed valid if it actually generates warrants for action. The core validity claim centres on the workability of the actual change activity engaged in, and the test is whether or not the actual solution to a problem arrived at solves the problem (p.54).

In addition, consideration has been given to the concept of validity that focuses on ways in which to establish credibility, authenticity, criticality and integrity, congruence and sensitivity (Whittemore *et al.* 2001; Dellinger and Leech 2007).

Credibility and Authenticity

Research was conducted in accordance with good practice, following strict ethical requirements, using the collaboration of the patients and stakeholders in the environment to provide direction, suggestions and data. Unable to submit the findings of this study to the patients, it relied on crosschecking through observations, the discussions with staff, the action research process, discussions with research supervisors and the application of different phases of research techniques to triangulate the findings from all phases to achieve objectivity and prevent bias. Every attempt was made to disallow any personal values or theoretical inclinations in the conduct, analysis and interpretation of the research process. Patients' and stakeholders' representations were recorded on a digital voice recorder and were subsequently transcribed verbatim and checked for accuracy.

The study involved prolonged engagement within the research environment, allowing persistent observation over a 2 year period resulting in the saturation of data. Comprehensive field notes were made of the observations and of stakeholder and patient representations to ensure a full appreciation and understanding of the environment that the patients were experiencing for their foodservice provision on two Orthopaedic wards.

Thirty semi structured interviews were conducted with patients at their bedside during the recovery stage of their hospitalisation. Exploratory interviews were conducted with stakeholders directly involved with the provision of nutritional care for the patients; these were undertaken either on the hospital wards or in the ward day room. An accurate reflection of these accounts was presented as detailed description in the results chapter. With the data collection completed

entirely with normal participants of the contextual environment in their natural setting, the interpretations of the data presented are a credible representation of reality.

Criticality and Integrity

Prior to the commencement of the data collection at the hospital site, the anticipated research process and design was presented, discussed and agreed with the Head of Research for the sites NHS Foundation Trust and the Dorset Research Ethics Committee.

The interpretations made throughout the different phases, and ultimately provided in the discussion chapter have been undertaken by critically reviewing the research process and the analysis of data in a transparent, systematic, and logical manner and has been grounded within the data. It has made considerations for alternative hypotheses; has endeavoured to identify any ambiguities and has considered negative instances. By using the collaboration of the patients and stakeholders and mixing the methodological approaches, threats of biases were minimized.

Throughout each stage, the conduct of the research has adhered to ethical guidelines and principles with all participants providing informed consent. The structure of the research design process and how the techniques were applied considered this fully and recognised the patients' and stakeholders' vulnerability; their need for confidentiality; the intrusion that the research process entailed in their recovery time at the hospital and in the case of the stakeholders acknowledged the impact of the research process on their duties and responsibilities. Maintaining such integrity was a continued and ongoing concern throughout the whole research process; using a pragmatic stance enabled responsiveness to all the circumstances of the research and its participants.

Congruence

Methodological congruence is evident throughout the complete study. Identifying the research problem of patients' experiencing malnutrition during their hospitalisation by reviewing previous research and studies, provided an opportunity to locate the current study as an opportunity to further develop and expand the current knowledge. The methodological design enabled a greater appreciation of the key issues influencing patient experience and provided the data to develop a methodological instrument to measure such experiences. This design process, required to meet the aim and objectives of the study was based on a series of empirical studies undertaken in phases; the findings developed through analysis and interpretation at each stage provided the direction for the subsequent phases.

In terms of the analysis of data, the study focused on providing a descriptive approach to the data at a manifest level rather than an interpretative approach at a latent level. The interviews and observations provided a rich description of experiences that highlighted construct validity for the subsequent phases. Each component of the research was linked to another and strategies were combined throughout to provide consistency over the whole research project.

Sensitivity

Mindful of the hospital environment and those participating and interacting within it, at every stage of the empirical work conducted, the research has been implemented in ways that were sensitive and respectful of the nature of human, cultural and social contexts. Ethical consideration and requirements have been a critical factor for the design and conduct of this study.

The results expounded, demonstrate a rich description of a large variety of patients and stakeholders' social representations and perspectives. It is anticipated that through the process of presenting a report of the findings to the food service management and the nutritional steering

group of the case study location that this research will serve the purpose of the community in which it was carried out.

2. Quantitative data approach: Elements of construct validity

Phases 2 and 3

Phase 2 involved the development and completion of attitude questionnaires which were distributed to patients prior to and after their hospital foodservice experience. A total of 559 HDE questionnaires were completed by patients either on the wards or attending Orthopaedic outpatient clinics. These were administered by one researcher to maintain consistency and the ethical requirements stipulated by the Dorset Research Ethics Committee were strictly adhered to.

Phase 3 involved the administering of an existing reliable and validated Profile of Mood States scale, the administration of the HDE questionnaire and the measurement of food intakes using a repeated measure design for a group of respondents both prior to and after their foodservice experience.

Design – related elements

For the purpose of this study, the ideas of internal and external validity, the validity of statistical inferences and measurement related validity have all been considered for the evaluation of the overall research .

Internal validity

The research design process involved using several methods of data collection to identify any confounding variables and related issues to control for threats to design related validity that might supply alternative explanations for the studied outcomes. It was critical that the same recruitment criteria were adopted to provide a purposive sample in each method of data collection; the same contextual environment was used throughout the research process. The staff deployed in the contextual environment were used throughout the phases of research. The food intake phase of the study was conducted by one researcher with the help of ward staff who were briefed on the requirements of the intake measurements; a standardised document was used to record the details in an accurate and uniform way and the same balances were used throughout the measurement of intakes.

External Validity

As a case study, transferability of findings may be limited; however, the methodological design was developed in a way that could be replicated in similar contextual environments. A review of secondary research indicates that it may be feasible that similar findings could be established in different locations providing such environments.

Measurement – related elements

Reliability

With regard to the stability of the data, it was acknowledged that following the stipulations of the DREC, it was not possible to establish the re-test reliability of the HDE questionnaire. However, with regard to the internal consistency of the scale, this was confirmed to be consistent as determined by the Cronbach measure of 0.85.

The POMS questionnaire provided a reliable tool that has been validated in many research projects and clinical trials (Cochrane Library 2007).

The food intake measurement employed a method that has received international recognition for

providing an accurate measure of individual food intake that could be easily replicated in different contextual environments.

Internal Structure of the Hospital Dining Experience scale

- Criterion- related validity.

An indicator of the predictive validity was established during the use of this scale in Phase 3 for the repeated measures design conducted. The patients' expectations were validated by correlating these findings with those of their actual experience.

- Construct validity.

Theoretical relationships with regard to variables forming part of a patients overall hospital dining experience were identified from the literature and the findings of Phase 1, which established an acceptable level of construct. These variables were then used to develop the HDE questionnaire which was administered in Phase 2.

- Content Validity.

The indicators that were used to form the definition of patients' overall hospital dining experience were developed directly from the patients' conceptualisations and integrated with findings of the literature. Binary Logistic Regression analysis and Factor Analysis supported the significance of such indicators in terms of their influence on the patients' overall dining experience.

- Factorial Validity.

Exploratory factor analysis in the form of Principal Component Analysis effectively established the underlying conceptual structure of the scale by identifying how the items in the scale grouped together in a consistent and coherent way.

- Discriminant validity.

The Mann Whitney U test conducted on data collected in Phase 2, confirmed the ability of the HDE questionnaire to discriminate between people and produce variance. However, in Phase 3 using a much smaller sample and a repeated design measure, the Wilcoxon Signed Rank test conducted whilst achieved some sensitivity may not have detected the differences between sub groups that perhaps may have been achieved by a parametric test.

7.2.3 Mixed methods approach: elements of construct validity

By using the strengths of qualitative and quantitative approaches and combining them to minimise weaknesses, this study has, by providing workable practical solutions aspired to present further knowledge to develop a theoretical understanding of patients' experience at their mealtimes, which may afford workable improvements for their nutritional care and overall well being. It is important therefore that the inferences of this research and in particular the meta inferences (Tasshakori and Teddlie 2009) are evaluated. A continuous legitimisation of the research components has occurred at each stage of the sequential exploratory mixed methods process (Onwuegbuzie and Burke Johnson 2006).

Integration of Phases 1, 2, 3 and 4

Design Suitability

Employing this sequential exploratory mixed methods process enabled the patients' experience to be appreciated through their social representations. The representations of the stakeholders and the observations undertaken together with the patients' viewpoints allowed a more complete picture to be appreciated where any confounding variables were also identified. This data provided the construct validity required for the development of a questionnaire to measure such experiences. The data analysis undertaken indicated how these different variables related and

interacted with each other in the formation of the patients' attitudes to their foodservice experience. The patients' representations also provided the focus for the provision of the enhancement to their foodservice experience conducted in phase 4. A visual representation of the data linkages and integration between phases is shown in Figure 7.0

Figure 7.0 Data linkages and integration for exploratory, sequential mixed methods design.

[pic]

Design Adequacy/ fidelity

Each empirical study conducted was entirely respectful of the requirements of the management, the staff and the patients at the hospital. The way in which all of the design components were implemented followed the best practices to maximise the potential for capturing meanings, effects and relationships. At no time were the experience of the patients, stakeholders, or research processes and procedures compromised.

Within design consistency

The different elements of the design followed a logical, practical and sequential process. There was a consistent use of interviews and observations to explicate thick descriptions of patients' and stakeholders' viewpoints which were all subjected to a consistent method of Thematic Analysis. Once developed, the HDE questionnaire was implemented for Phase 2 and Phase 3 with the statistical analysis conducted in a similar manner applying the same methods of testing. The same recruitment criteria were applied to all the patients participating throughout this study.

Analytic adequacy

The data analysis techniques were conducted as data became available which provided developing layers of knowledge of the contextual environment the patients were experiencing. Thematic analysis provided the descriptive data required to develop a measurement scale to capture their attitudes to such experiences. This data underwent different statistical analytical testing to establish how different variables interacted with each other and how these variables and their relationships reflected the patients' representations.

Legitimation

Sample integration Legitimation

To maximise the quality of meta inferences, the sampling strategy employed ensured that the respondents recruited for the 30 exploratory interviews represented a smaller subset of the respondents that were recruited for the much larger representative population used for the questionnaires. A purposive sample of respondents was consistently used by applying the same recruitment criteria throughout the full range of conditions that evolved from answering the research question.

Inside-Outside Legitimation

The emic representations of the patients and stakeholders were presented alongside the etic perspectives of the observer in the form of the detailed description documented in the results chapter.

Weakness minimization Legitimation

The weaknesses from one approach were consciously considered and compensated for by applying the second approach. Any researcher bias that may have inadvertently influenced the outcome of the exploratory interviews were compensated for by the lack of researcher bias with the administration of the HDE questionnaire to a much larger population. The lack of description provided by the analysis of the data from the questionnaires was offset by the thick descriptions provided from the thematic analysis of the interviews and observations.

Conversion Legitimation

The Phase 1 qualitative data were quantized to some extent and the food intake data in Phase 3 were quantized by reviewing and considering the field notes taken during the observations at these specific mealtimes. The quantitative mood data were quantized by the review of relevant patient comments documented at the time of administration of the mood scales.

Paradigmatic mixing Legitimation

Both pure qualitative and pure quantitative approaches were consciously and deliberately adopted to provide a layered data set that incorporated patients' and stakeholders' perspectives in different ways. By combining and blending these techniques into a usable theory building process allowed both sets of inferences to be combined into a coherent whole.

Commensurability Legitimation

By viewing the data and interpretations through both a qualitative lens and a quantitative lens based on the cognitive process of gestalt switching.

Multiple validities

The research has fully utilised all relevant research strategies and has considered and addressed multiple relevant validities for the quantitative, qualitative and mixed methods components. Allowing strong meta inferences to be developed during the integration process has considered the extent to which the sum of the whole is greater than the sum of parts.

Interpretive rigour

Interpretive consistency

The inferences presented in this study are considered to be well connected and consistent with the evidence and findings in terms of the type, intensity and scope.

Theoretical consistency

When reviewing the existing theories and empirical findings from other researchers the inferences provided in this study display a high degree of consistency.

Integrative efficacy

The inferences made at each phase of the study are effectively integrated into a theoretically consistent meta inference.

7.3 SUMMARY

Both types of data were generated for descriptive and exploratory purposes; the case-orientated analysis provided a comparative examination where underlying similarities and systematic associations were made with regard to the main outcome variable. It ultimately established the variables to be used for the scale production. Using this data, the variable orientated analysis was able to establish how the variables as concepts were related in a larger population.

The strengths of blending the methods engaged the ability of the qualitative phases of the study to be sensitive to the context, process and lived experience, with the methods being easily modified as the study progressed ultimately ensuring that the specific cases were embedded in their context. The quantitative phases of the study, allowed standardised and objective comparisons to be made and ultimately has provided an overall description of the phenomena in a systematic comparable way whilst providing empirical methods that are easily replicable. Triangulation has been provided where the findings of the qualitative phases were checked against the findings of the quantitative phase which has enhanced the validity of the overall findings and has increased the scope, depth and power of the research (Punch 2005). Additionally it has brought together both emic and etic perspectives to provide an integration and interpretation to the study as a whole.

7.4 CRITICAL REFLECTION OF THE RESEARCHER'S JOURNEY

Research within this hospital environment has been an ongoing, evolving learning process. With the rapidly changing contextual environment I would describe as 'shifting sand', it has required a

continual, relentless process of reflection on a daily basis, indeed at times an hourly basis to ensure that the optimum theory developing potential could be achieved and undertaken in an environment that evolved unremittingly. The requisite to be quick thinking, highly motivated, resolute and indomitable were paramount for this project to reach its conclusion. I endeavoured to conduct the field work at every appropriate opportunity and adapted the methodology on an ongoing basis to match the continually changing hospital environment, without compromising its validity, ontological and epistemological foundations and framework.

On reflection, I commenced this project with a certain naivety, not expecting that the control of how the data to be collected would be removed from me by the demands that the 'winter pressures' and incidence of Norovirus placed on the hospital research location. Additionally, the pace at which the data were collected was also indirectly dictated by the decisions taken by the management of the hospital and hospital wards. The informed consent procedure stipulated by Dorset Research Ethics Committee and the requirements of the clinical leaders and hospital managers has constrained and prolonged the data collection process from that originally planned. However, I believe that experiencing these allowed me to obtain a far more accurate picture of what patients' and staff experience when circumstances beyond their control, place them and their resources under pressure to perform the process of meeting patients' nutritional needs.

My role as researcher was to assume a neutral perspective where no viewpoint could shape the interaction with the respondents and the results recorded. The advantage was that until this study commenced I had minimal experience of the hospital environment, little contact with clinical staff and had no contact with hospitalised patients. My own construction of my identity at inception of this project was novice researcher, former Building Society Manager, former employee in the hospitality sector and a graduate in Hospitality Business Development. The positioning of these vocational roles entered in to my identity as my knowledge in this field provided me with; the interviewing and observational skills; an understanding of the hospitality issues; an appreciation of man management issues, budget constraints and implications. These past experiences imparted an ability to relate to and communicate effectively with people of all ages from different socioeconomic backgrounds. This aptitude was critical, particularly during interviews with patients and indeed exploratory interviews with the stakeholders at all levels.

As an interloper, my knowledge was not embedded in the organisational culture of the hospital which allowed me to observe and note behaviours and representations of patients and stakeholders with an impartial stance. Providing a non threatening 'outsider' role to both groups; those receiving care and those providing the care, I believe provided the propitious platform for respondents to be open and honest with their representations.

Grasping and commanding the real issues of this research relied on my ability to build honest, trusting relationships with all the people I encountered. The use of action research provided that opportunity and with the full commitment, support, genuine interest and input of the staff involved, all the phases and particularly the final phase of the research were completed. Having spent periods of time over two years, with the staff on the two wards, allowed me to develop and establish very strong rapport and a good professional working relationship with them.

The process of data collection at the hospital was one of the most challenging experiences that I have encountered in my working life which elicited extremes of feelings. There were times of great happiness and joy when things went well and I had the opportunity of meeting some

courageous and inspiring people and there were times of anxiety and frustration when many days were spent 'swimming against the tide' to achieve something that ultimately provided no value to the research.

Despite the difficulties, this topic of research and the desire to provide further research that may have some influence in achieving improved outcomes for both patients and stakeholders alike continues to inspire, enthuse and interest me. Whilst challenged by the contextual location and environment of the study, it did afford me with further data that can be used to extend theory with further analysis and discussions, to provide the content for journal articles. In the future I would like to have the opportunity to adopt a role in undertaking some of the research documented in the recommendations for further research.

For the last three years, I have undertaken and experienced a steep learning curve in many respects. The whole process undertaken for this study has imparted a better understanding about how theory and knowledge is scientifically developed. It has provided me with a better understanding of statistics and analytical software programmes; in particular SPSS and NVIVO. The use of thematic analysis has shown me how to draw together many experiences of many people and understand how their representations may share common themes whilst appreciating the importance of themes that fall outside this common ground.

This experience has equipped me with the skills and the desire to be a critical thinker. In the past there would have been topics of interest that I would have accepted on face value; now I look for issues that might be underlying discussions and representations. I have a more enquiring mind; I question statements imparting knowledge and look to establish how it has been founded and justified; I no longer accept what is written without delving further for supportive and substantive evidence.

In terms of the developments of personal attributes, I have learned to be more patient and tolerant; I have a greater appreciation of people being very individual and having individual perceptions of experiences and I have become very organised and disciplined about my work responsibilities. Ultimately, I have become a very focused and determined person who will see commitments and responsibilities through to the end result, positively and effectively confronting and negotiating difficulties and challenges that I encounter.

CHAPTER EIGHT

CONCLUSIONS AND RECOMMENDATIONS

8.0 INTRODUCTION

This chapter completes the research by generating and presenting overall conclusions. Specific recommendations are made for the policy makers and managers of this case study environment and recommendations for further study are described. It considers the contribution to knowledge that has been made as a result of the research undertaken, whilst highlighting the strengths and limitations encountered.

8.1 CONCLUSIONS

Firstly, it is clear that despite decades of research and numerous attempts to reduce the incidence of malnutrition experienced during hospitalisation, nutritional care still has a low

priority. The barriers to providing appropriate nutritional care are evident to patients of all ages, experiencing different medical conditions and at different stages of recovery.

Secondly, this study has highlighted the important role the eating environment can have on the foodservice experience, nutritional intake and overall psychological and physiological wellbeing of patients. Notably, the group dining experience provided many positive outcomes. Some of the current problems encountered in the provision of nutritional care could be prevented if the factors influencing the environment in which the meal service is provided could be more congruent with a holistic healing process.

Thirdly, an important issue identified in this research, to be addressed, is not necessarily the quality of the food prepared by the kitchen staff but the manner and location in which it is served. The research presented, supports previous findings of the literature that the attitudes of the ward staff influence the level of hospitable behaviour they afford to their patients. There is a clear indication that the patients' overall foodservice experience is enhanced when they are served by staff who are dedicated to providing a well managed and structured mealtime provision which is focused on the individual patients' holistic needs.

Fourthly, providing a dining environment that incorporates elements of protected mealtimes in terms of the removal of distractions and interruptions, together with providing a space away from the direct vicinity of the patients' 'bedrooms' and the consequential opportunities for patients to be able to socialise and share mealtimes together could be a source of several positive outcomes for the patients.

Fifthly, the findings from this research fully endorse McCree's (2007) recommendation of hospitals having dining rooms and ward hostesses employed in all appropriate wards to work alongside the nursing staff. The deployment of ward hostesses in this Acute Care Hospital was inconsistent; it was reliant on the funding from the ward budget and the clinical leaders, when given the choice, used this budget to employ Health Care Assistants in preference to ward hostesses. Those hostesses that were employed generally worked lunchtime with very few employed for the meal service in the early evening.

Finally, the theoretical model presented establishes the hierarchy of factors that influence Orthopaedic patients' foodservice experience. It is purported that as performance of each stage is progressed and achieved, by reaching the end stage, the full potential for the optimal enhancement to patients' overall foodservice experience, their improved overall well being and increased food intake can be met.

8.2 RECOMMENDATIONS

Accordingly the following recommendations are made to policy makers and managers of a hospital environment:

- A hospital should adopt a protocol to set consistent standards throughout all of the wards to ensure that all patients have the opportunity of experiencing uninterrupted meal times.
- A hospital should employ ward hostesses that also include the evening mealtime session on all wards. In the absence of the deployment of a greater number of ward hostesses, it is suggested that the training for the support/clinical staff includes food hygiene and nutrition, together with the provision of training and experience in foodservice procedures, customer service and hospitality skills.
- All staff involved in foodservice provision for patients must be fully trained in the complete ordering procedures to ensure that at all times patients have the opportunity,

wherever possible, to place their individual orders and to ensure that there is adequate food at every meal occasion to fulfil their recommended levels of intake for nutrients.

- A group dining environment should be provided at the quieter, more hospitable, evening foodservice session. If there are no additional rooms or spaces available and no provision of large tables, existing patient food tables should be placed together to create a large dining area in the centre of existing bays. Patients from other bays on the ward should be given the opportunity and encouraged to participate. If group dining is not undertaken, the way in which food is served must be reviewed particularly to ensure that each course is served separately and at the appropriate temperature.
- Food should be served immediately after it has been delivered to the ward.
- All stakeholders involved in the provision of nutritional care for patients should adopt a more patient centred, holistic approach to patient care.

8.3 RECOMMENDATIONS FOR FURTHER STUDY

Whilst this study has extended previous research in several areas it acknowledges that further research is essential to advance the knowledge of the influence that the dining environment has on patients' foodservice experience. This can be directed by the following recommendations:

- It would be beneficial to conduct food intake and observational studies using similar techniques and methods during the summer months to establish if there are any other latent variables that are evident or to establish the impact of the existing ones identified in this case study.
- The application of the HDE questionnaire on different wards within a hospital or indeed in different hospitals may yield different statistical results depending on what is happening in the different eating environments. For future use, it can be used for cross sectional research in each ward that provides meal services to patients, to help to progress the understanding of the influence on patients' experience and indeed their food intakes.
- This study has provided baseline data for patients experiencing hospitalisation for elective orthopaedic surgery in terms of their mood states. This figure can provide a control for future interventional studies using similar homogenous group of patients.

Extending research in this manner will continue to provide a greater understanding of hospital malnutrition and patients' experiences and will help to develop workable solutions to reverse this tenacious predicament.

8.4 CONTRIBUTION TO KNOWLEDGE

The embryonic construction of theory for this research may not be entirely exceptional as it consists of common sense assumptions of hospital care settings. This study has however intentionally and systematically provided a conceptual basis for reflecting on and evaluating the hospital eating environment. These axioms which have not been previously located in research 'theory' have become grounded in data and have become research based understandings that have provided a basis for broad principles to be used in practice. Hospital malnutrition is an international problem; the use of internationally recognised methods for data collection provides a framework for similar studies to be replicated in hospitals worldwide which may further advance the current research in this area.

The research process undertaken, has endeavoured to create rigorous and robust mixed methods, sequential, exploratory research study which can be applied in other hospital environments to further develop and extend the knowledge required to provide patients with a

positive mealtime experience.

A questionnaire has been developed which can be used in other hospital environments to measure the patients' mealtime experience.

When endeavouring to tackle the problem of hospital malnutrition, most research and initiatives have focused on food quality, service and clinical care. Whilst there is evidence to indicate research using sociological and environmental variables has been conducted in laboratories and restaurants, there appears to be limited research conducted on hospital wards with patients. This research has provided a platform focusing on the effect of environmental and sociological variables evident at hospital mealtimes which can be further developed and investigated. It has confirmed that by using environmental and sociological variables to create a hospitable environment in a hospital can have positive outcomes for patients' mealtime experience. The outcomes produced from this study enhance and develop understanding of how such sociological and environmental stimuli influence patients and stakeholders foodservice experiences and have extended the knowledge in terms of the hospital foodservice provision.

A contribution to hospitality research has been made as this study has afforded the opportunity to advance the knowledge of enhancing the provision of hospitality generally experienced in the private and commercial sector of the hospitality industry to the domain of the public sector provision by applying hospitality initiatives currently applied in the commercial sector and expanding their use into an institutional environment using an organisation wide philosophy. By comparing and learning about service encounters in hospitals, the knowledge provided can be used to create a fresh frame of reference in hospitality research.

Previous studies have generally focused on measuring the food intakes of hospitalised patients experiencing enhanced mealtime settings and whilst this was undertaken to furnish the understanding of patients' experiences, this research has considered the viewpoints of the stakeholders directly involved with delivering an enhanced mealtime experience; a critical issue that should be reflected upon when considering how to provide a mealtime experience that will enhance the nutritional provision to hospitalised patients. The findings from this study therefore provide a contribution to knowledge for those managing and delivering the foodservice provision in hospitals in the following ways:

- It has highlighted the current pertinent issues
- It has illustrated ways in which many of the existing barriers preventing good nutritional care can be overcome by changing the patients' mealtime experience.
- It has reinforced the need to provide 'holistic' patient led care and suggested ways in which this can be achieved.
- It has documented the positive outcomes of using dedicated foodservice staff to provide effective nutritional care for patients

This research evidences some positive, encouraging, outcomes with regard to the introduction of a group dining environment in a separate dining area, which could be considered when designing new hospitals or making changes to existing hospital accommodation. The knowledge gained from this empirical study provides a theoretical model and imparts new evidence that might be considered when reviewing the time, financial, and resource costs incurred in healthcare provision worldwide whilst adding to the debate of food as treatment.

8.5 STRENGTHS AND LIMITATIONS

A strength of this study was that by using an exploratory sequential process, the foci and the way in which the phases were conducted was primarily driven by responses of patients who had first hand experience of hospital foodservice provision.

A further strength of the study was that the interviews undertaken provided an opportunity for patients to openly discuss their experiences. These not only focused on bad experiences but also explored the patients' positive experiences. Patients' representations of their suggestions to bring about improvements were considered when creating the enhanced dining environment.

A limitation was that the respondents used were all elective surgery patients who were generally well; it is appreciated that those patients who were less well may have more problems accessing food and a greater chance of becoming malnourished.

A further limitation is that the study was conducted in two Orthopaedic wards of one Acute Care Hospital using a bulk, trolley system of delivery. Being a case study, the ability to provide external validity is impinged. Although the recommendations made will be specific to the case being studied, those environments experiencing similar issues might well reflect on the topics discussed and may consider the appropriateness and value of the findings in the context of other research environments. Indeed, the validation of the Hospital Dining Experience (HDE) questionnaire undertaken will enable cross sectional research to be conducted not only in different wards of the same hospital but also in different hospitals in the future.

A third limitation relates to the HDE questionnaire; patients' experience of foodservice is difficult to measure and quantify as it is based on individual's feelings and is influenced by many variables. The HDE questionnaire was able to explain 54% of the variance which indicates that other latent variables are also having an influence. With the respondents being patients it is likely that variables such as feeling unwell after their treatment, the pain they might be experiencing, the contraction of infections such as Norovirus and their lack of control and choice over their foodservice experience may be impacting on their attitude ratings. The tool, has at this stage of research, only been tested on Orthopaedic patients' experiencing elective surgery for new hips and knees. To develop criterion validity further, the scale requires testing on other patient groups.

Notwithstanding the limitations, the findings emanating from this study furnish a deeper theoretical understanding of patients' hospital dining experience and provide a schema for future academic study.

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The NHS Foundation Trust		Spring Week 4 Tuesday Tea Menu			
Name <u>Cole</u>		Diet Codes			
Ward <u>9</u> Bay No. <u>1</u>		S = Soft	H = Healthy Eating		
Portion Size <input checked="" type="checkbox"/> Small <input type="checkbox"/> Large		L = Low Fat	= Chefs Specials		
		V = Vegetarian	P = High Protein		
		G = Gluten Free			
<i>Please make your selection using blue or black ink only. Mark box on left side of menu</i>		<i>Please make your selection using blue or black ink only. Mark box on left side of menu</i>			
<i>Mark one choice from this selection</i> STARTER		<i>Mark two choices from this selection</i> VEGETABLES			
1 <input checked="" type="checkbox"/>	Assorted Fruit Juice	G,H,L,V	18 <input type="checkbox"/>	Mashed Potatoes	G,H,L,S,V
2 <input type="checkbox"/>	Cream of Oxtail Soup	H,L	19 <input type="checkbox"/>	Parsley Potatoes	V
3 <input type="checkbox"/>	Soft Bread Roll <small>(Does not count as a starter selection)</small>	H,S,V	21 <input type="checkbox"/>	Cauliflower Florets	G,H,L,S,V
<i>Mark one choice from this selection</i> MAIN COURSES		<i>Mark one choice from this selection</i> DESSERT			
5 <input type="checkbox"/>	Fish Portuguese <small>(White fish cooked in a tomato sauce with mushrooms)</small>	G,H,P,S	25 <input type="checkbox"/>	Apple Crumble & Custard	P,V
6 <input type="checkbox"/>	Vegetable Risotto <small>(Diced vegetables & rice cooked in a stock until light and fluffy)</small>	G,H,L,P,V	26 <input type="checkbox"/>	Pineapple in Natural Juice	G,H,L,V
7 <input type="checkbox"/>	Turkey & Potato Pie <small>(Sautéed mince turkey and onions topped with potatoes and baked in the oven)</small>	G,P	27 <input type="checkbox"/>	Cheese & Biscuits	P,V
8 <input type="checkbox"/>	Mixed Bean Salad <small>(Mixed beans in a light dressing with a fresh seasonal salad)</small>	G,H,L,P,V	28 <input type="checkbox"/>	Fresh Banana	G,H,L,S,V
9 <input type="checkbox"/>	Tuna Mayo Sandwich <small>(Served on white bread)</small>	P,S	29 <input checked="" type="checkbox"/>	Fresh Satsuma	G,H,L,V
10 <input checked="" type="checkbox"/>	Cheese & Onion Sandwich <small>(Served on wholemeal bread)</small>	P,V	30 <input type="checkbox"/>	Jelly & Ice Cream	G,P,S
11 <input type="checkbox"/>	Chicken & Lettuce Sandwich <small>(Served on white bread)</small>	P	31 <input type="checkbox"/>	Thick & Creamy Yoghurt	P,S,V
12 <input type="checkbox"/>			32 <input type="checkbox"/>		
13 <input type="checkbox"/>			33 <input type="checkbox"/>		
14 <input type="checkbox"/>					
15 <input type="checkbox"/>					
16 <input type="checkbox"/>					

PATIENT INTERVIEW SCHEDULE

Explanation of study

Purpose of Interview

Informed Consent Procedure

Recording and note taking

Anonymity

Openness and honesty

No right or wrong answers

Terminate interview at any point

Open Questions

1. Before you came into hospital, can you recall what your expectations of the hospital dining environment and hospital mealtime experience were?
2. Can you tell me about the hospital mealtimes you have experienced whilst you have been here?
3. Which parts of the experience do you feel particularly happy about?
4. Can you tell me which parts of the experience you were most unhappy about?
5. What would improve the experience for you?
6. What other experiences of hospital mealtimes have you had?
7. What was different about them?
8. What do you feel are the main factors for making mealtimes enjoyable in hospital?

Directed Questions

1. Can you tell me what could influence the amount of food you eat during these mealtimes?
2. How important is the presentation to you, for the enjoyment of your meals?
3. How important is the ambience and setting, for the enjoyment of your meals?
4. How would you feel about eating away from your bedside, in a group, with other patients?
5. How would this influence your mood/ food intakes?
6. What are your thoughts about the use of soft background music during your meals?
7. How would this influence your mood/ food intakes?
8. What type of music would you choose?

Thank you for your time and valuable information.

Do you have any suggestions about the conduct of these interviews?

Appendix 3 Hospital Dining Experience Questionnaire (Pre Admission)

Bournemouth University are evaluating patients' dining experience provided on the hospital wards of *****. It would be greatly appreciated if you would complete this questionnaire. Please feel free to make any comments or observations in the boxes provided.

1. Male ? Female ? 2. Age.....

3. When did you last eat meals provided on a hospital ward in the UK?

0-5 months ? 6-12 months ? 1-2 years ? Over 2 years ? Not at all ?

The following statements relate to your expectations of the hospital dining experience.

	<i>(Please tick in the appropriate box)</i>						
	Strongly agree	Agree	Slightly Agree	Uncertain	Slightly Disagree	Disagree	Strongly disagree
4. I will enjoy eating my meals alone by my bedside on the hospital ward							
5. Distractions during my meals will not spoil my enjoyment of the meals							
6. The temperature on the ward will spoil my enjoyment of the meals							
7. I will be served with the appropriate meals that I have ordered							
8. The noise level on the ward will not spoil my enjoyment of the meals							
9. I will be given plenty of time to enjoy my meals							
10. The meal service provided will be inefficient							
11. The meals will be served in a friendly and pleasant manner.							
12. The smells and odours on the ward will not spoil my enjoyment of the meals							
13. The meals provided will be served at the appropriate time							
14. The portion size of my meals will be just right							
15. There will be a poor variety of food to choose from							
16. The meals will be tasty							
17. The meals will be well presented and will look really appetising							
18. The staff serving my meals will be unhelpful and unsupportive							
	Strongly agree	Agree	Slightly agree	Uncertain	Slightly disagree	Disagree	Strongly disagree

19. My meals will be served at the right temperature									ee
20. The hospital meals provided will not be nutritious and well balanced									
21. The overall experience of my dining encounters in hospital will be good.									

My expectations of the hospital dining experience have been influenced by:

(Please tick in the appropriate box)

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
22. First hand experience					
23. The experience of friends and family					
24. Media Coverage- newspapers/magazines/TV and Radio news					
25. Films/ TV programmes					
26. Other (please explain in comments box below)					

[pic]

Please indicate your preference for your dining experience whilst in hospital

(Please tick in the appropriate box)

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
27. Eat my meals whilst in bed					
28. Eat alone by my bedside					
29. Eat in a group with others					
30. Eat on the hospital ward					
31. Eat in a separate dining room provided on the ward					
32. Eat in the hospital restaurant (at no additional cost)					
33. Have soft background music being played whilst I am eating					
34. Have my meals served using quality tableware					

Many Thanks for your time; your support is appreciated.

Appendix 4 Hospital Dining Experience Questionnaire (Post Admission)

Bournemouth University are evaluating patients' dining experience provided on the hospital wards of *****. It would be greatly appreciated if you would complete this questionnaire. Please feel free to make any comments or observations in the boxes provided.

1. Male ? Female ? 2. Age.....

3. When did you last eat food provided on a hospital ward in the UK?

0-5 months ? 6-12 months ? 1-2 years ? Over 2 years ? Not at all ?

The following statements relate your hospital dining experience.

	<i>(Please tick in the appropriate box)</i>						
	Strongly agree	Agree	Slightly agree	Uncertain	Slightly disagree	Disagree	Strongly disagree
4. I enjoyed eating my meals alone by my bedside on the hospital ward							
5. Distractions during my meals spoiled my enjoyment of the meals							
6. The temperature on the ward spoiled my enjoyment of the meals							
7. I was served with the appropriate meals that I had ordered							
8. The noise level on the ward spoiled my enjoyment of the meals							
9. I was given plenty of time to enjoy my meals							
10. The meal service provided was inefficient							
11. The meals were served in a friendly and pleasant manner.							
12. The smells and odours on the ward spoiled my enjoyment of the meals							
13. The meals provided were served at the appropriate time							
14 The portion size of my meals was just right							
15. There was a poor variety of food to choose from							
16. The meals were tasty							
17. The meals were presented well and looked really appetising							
18. The staff serving my meals were unhelpful and unsupportive							
	Strongly agree	Agree	Slightly agree	Uncertain	Slightly disagree	Disagree	Strongly disagree

19. My meals were served at the right temperature								
20. The hospital meals provided were not nutritious and well balanced								
21. The overall experience of my dining encounters in hospital were good.								

Overall how much did you enjoy the following aspects of your dining experience?

	<i>(Please tick in the appropriate box)</i>						
	Strongly Agree	Agree	Slightly Agree	Uncertain	Slightly Disagree	Disagree	Strongly Disagree
22. I was satisfied with the quality of the food							
23. The ambience of the dining environment was enjoyable							
24. The attitude of the staff made my meals more enjoyable							
25. The food service and delivery made my meals more enjoyable							
26. The way my meals were presented made my meals more enjoyable							

Please indicate your preference for your dining experience whilst in hospital

(Please tick in the appropriate box)

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
27. Eat my meals whilst in bed					
28. Eat alone by my bedside					
29. Eat in a group with others					
30. Eat in a separate dining room provided on the ward					
31. Eat on the hospital ward					
32. Eat in the hospital restaurant (at no additional cost)					
33. Have soft background music being played whilst I am eating					
34. Have my meals served using quality tableware					

Many Thanks for your time; your support is appreciated.

DATA BUSINESS FORMS 563021 POM180

POMS™ Standard Form

BY DOUGLAS M. McNAIR, Ph.D., MAURICE LORR, Ph.D., JW P. HEUCHERT, Ph.D., & LEO F. DROPPLEMAN, Ph.D.

Client ID: _____ **Age:** _____ **Gender:** Male Female
(Circle one)

Birth Date: / / **Today's Date:** / /
Month Day Year Month Day Year

To the Administrator:

Place a checkmark ✓ in one box to specify the time period of interest.

To the Respondent:

Below is a list of words that describe feelings that people have. Please read each word carefully. Then circle the number that best describes

how you have been feeling during the PAST WEEK, INCLUDING TODAY.

how you feel RIGHT NOW.

other: _____

If no box is marked, please follow the instructions for the first box.

POMS™

		Not at all	A little	Moderately	Quite a bit	Extremely
1. Friendly	0	1	2	3	4	
2. Tense	0	1	2	3	4	
3. Angry	0	1	2	3	4	
4. Worn out	0	1	2	3	4	
5. Unhappy	0	1	2	3	4	
6. Clear-headed	0	1	2	3	4	
7. Lively	0	1	2	3	4	
8. Confused	0	1	2	3	4	
9. Sorry for things done	0	1	2	3	4	
10. Shaky	0	1	2	3	4	
11. Listless	0	1	2	3	4	
12. Peeved	0	1	2	3	4	
13. Considerate	0	1	2	3	4	
14. Sad	0	1	2	3	4	
15. Active	0	1	2	3	4	
16. On edge	0	1	2	3	4	
17. Grouchy	0	1	2	3	4	
18. Blue	0	1	2	3	4	
19. Energetic	0	1	2	3	4	
20. Panicky	0	1	2	3	4	
21. Hopeless	0	1	2	3	4	
22. Relaxed	0	1	2	3	4	
23. Unworthy	0	1	2	3	4	
24. Spiteful	0	1	2	3	4	
25. Sympathetic	0	1	2	3	4	
26. Uneasy	0	1	2	3	4	
27. Restless	0	1	2	3	4	
28. Unable to concentrate	0	1	2	3	4	
29. Fatigued	0	1	2	3	4	
30. Helpful	0	1	2	3	4	

*Please flip over.
Items continue on the back page...*

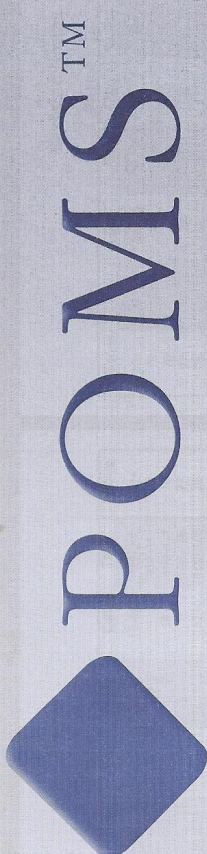
MHS

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Printed in Canada.

POMS™ Standard Form

BY DOUGLAS M. McNAIR, Ph.D., MAURICE LORR, Ph.D., JW P. HEUCHERT, Ph.D., & LEO F. DROPPLEMAN, Ph.D.



		Not at all	A little	Moderately	Quite a bit	Extremely
31. Annoyed	0	1	2	3	4	
32. Discouraged	0	1	2	3	4	
33. Resentful	0	1	2	3	4	
34. Nervous	0	1	2	3	4	
35. Lonely	0	1	2	3	4	
36. Miserable	0	1	2	3	4	
37. Muddled	0	1	2	3	4	
38. Cheerful	0	1	2	3	4	
39. Bitter	0	1	2	3	4	
40. Exhausted	0	1	2	3	4	
41. Anxious	0	1	2	3	4	
42. Ready to fight	0	1	2	3	4	
43. Good natured	0	1	2	3	4	
44. Gloomy	0	1	2	3	4	
45. Desperate	0	1	2	3	4	
46. Sluggish	0	1	2	3	4	
47. Rebellious	0	1	2	3	4	
48. Helpless	0	1	2	3	4	
49. Weary	0	1	2	3	4	
50. Bewildered	0	1	2	3	4	
51. Alert	0	1	2	3	4	
52. Deceived	0	1	2	3	4	
53. Furious	0	1	2	3	4	
54. Efficient	0	1	2	3	4	
55. Trusting	0	1	2	3	4	
56. Full of pep	0	1	2	3	4	
57. Bad-tempered	0	1	2	3	4	
58. Worthless	0	1	2	3	4	
59. Forgetful	0	1	2	3	4	
60. Carefree	0	1	2	3	4	
61. Terrified	0	1	2	3	4	
62. Guilty	0	1	2	3	4	
63. Vigorous	0	1	2	3	4	
64. Uncertain about things	0	1	2	3	4	
65. Bushed	0	1	2	3	4	

*Please ensure you have answered every item.
Thank you for completing this questionnaire.*

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Appendix 6

Prospective methods for assessing dietary intakes

Measurement technique	Method	Strengths	Limitations
Precise Weighing Record	Raw ingredients, the cooked meal plus all individual portions are weighed by subject before consumption and all plate waste, weighed at the end of the meal.	Accurate dietary assessment method to use. Easier to validate group results rather than individual data. Intake is quantified. No requirement for recall.	High investigators cost. High respondent burden. Extensive respondent training and motivation required. Eating behaviour can be affected. Intake can be under reported. Bias introduced if disclose what is studied.
Weighed Record	Foods weighed immediately by subject before consumption and all plate waste, weighed at the end of the meal.	Standard recipes may or may not be used. Accurate dietary assessment method Easier to validate group results rather than individual data. Intake is quantified. No requirement for recall.	High investigators cost. High respondent burden. Extensive respondent training and motivation required. Eating behaviour can be affected. Intake can be under reported. Bias can be introduced if disclose what is studied
Observed weighed Record	Weighed food record methods with fieldworker measurement. Sometimes combined with a recall to cover between meal foods	High response rate. Accurate dietary assessment method Low respondent burden.	Possible source of error in recall component for between meal foods as subjects may under report consumption. Availability and organisation of skilled fieldworkers. High investigators cost. Bias can be introduced if disclose what is studied
Estimated record	Subjects keep records in portion sizes of all foods eaten daily. Household record methods are employed.	Good for cross sectional data. Good for a 24 hour record from a large number of subjects. Simpler, less demanding for subjects. Provides a rapid and low cost assessment. Higher cooperation	Requires well designed pre-coded record form with listings of all commonly eaten foods, instructions and an interview with subjects. It could be restrictive as it requires subjects to describe foods eaten in defined units that they are not used to. Loss of accuracy.

Adapted from Cameron and Van Staveren (1988); Thompson and Subar (2008)

Appendix 7 Retrospective methods for assessing dietary intakes

Assessment	Method	Strengths	Limitations
Dietary History Method	Interviewer assesses subject's usual food intake and meal pattern over varying periods of time, e.g. last month, last 6 months or last year. Respondent explains pattern of eating and recalls the food eaten during the preceding 24 hours. The interviewer completes a checklist of foods usually consumed. Respondent completes a 3 day estimated record.	Gives information over a long period of time. Usual individual intake asked. Information on total diet obtained. Investigator cost low. Does not affect eating behaviour.	Source of systematic error if respondent over estimates the amount of food consumed. Validity depends on subject's ability to give correct information on frequencies and estimates portion size correctly. Highly subjective - information based entirely on an individual's memory and report. High investigator burden. Not quantifiably precise.
24 Hour Recall	Individual states actual food intake during the immediate past 24/48 hours. Amounts estimated.	Minimal time/ minimal burden on individuals. Field costs low, respondent rates - high. Intake quantified. Appropriate for most populations thus less response bias. Does not affect eating behaviour.	Relies on memory and adequately describing diet - large intra individual or day to day variation found in groups. Often excludes Fri/Sat/Sun therefore the group average may not be accurate of the group food consumption. High investigator costs. Intake often under reported.
Food frequency Method	Estimates how frequently certain foods are eaten by individuals during a specified period of time - per day, per	Simple, quick method. Usual individual intake asked. Information on total diet	Source of systematic error if respondent over estimates food consumed Source of random error which may affect the

week or month using a questionnaire or an interview. To estimate nutrient intake, food frequency scores for individual items are multiplied by the nutritional content of the local standard portion or estimated portion size. Qualitative although may include quantitative assessment of usual portions.	obtained. Low cost. Does not affect eating behaviour.	precision of the estimated mean intake. Not quantifiably precise. Difficult cognitive task for respondent.
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Adapted from Cameron and Van Staveren 1988; Thompson and Subar 2008

Appendix 8 Frequencies for Pre Admission Hospital Dining Experience Questionnaire - Patient ratings (Phase 2)

	Mean	Median	SD
Q5. Distractions during meals will not spoil my enjoyment of the meals	.87	2	1.68
Q6. The temperature on the ward will spoil my enjoyment of the meals	-.66	-1	1.69
Q7. I will be served with the appropriate meals that I had ordered	1.8	2	1.16
Q8. The noise level on the ward will not spoil my enjoyment of the meals	.83	2	1.68
Q9. I will be given plenty of time to enjoy my meals	1.82	2	.99
Q10. The meal service provided was inefficient	.52	1	1.61
Q11. The meals were served in a friendly and pleasant manner.	1.73	2	1.07
Q12. The smells and odours on the ward spoilt my enjoyment of the meals	-.08	0	1.84
Q13. The meals provided were served at the appropriate time	1.44	2	1.16
Q14. The portion size of my meals was just right	1.33	2	1.28
Q15 There was a poor variety of food to choose from	.46	0	1.67
Q16. The meals were tasty	.86	1	1.54
Q17. The meals were presented well and looked really appetising	.69	1	1.57
Q18. The staff serving my meals were unhelpful and unsupportive	1.2	2	1.53
Q19. My meals were served at the right temperature	1.21	2	1.41
Q20. The hospital meals provided will not be nutritious and well balanced	.83	2	1.62
Q21. The overall experience of my dining encounter	1.26	2	1.34

|in hospital will be good. | | | |

-3 =strongly disagree; -2=disagree; -1=slightly disagree; 0 = uncertain; 1= slightly agree; 2=agree; 3= strongly agree

Appendix 9 Frequencies for Post Admission Hospital Dining Experience Questionnaire - Patient ratings (Phase 2)

	Mean	Median	SD
Q5. Distractions did not spoil my enjoyment of the meals	.92	2	1.70
Q6. The temperature on the ward spoilt my enjoyment of the meals	.21	2	1.90
Q7. I was served with the appropriate meals that I had ordered	1.72	2	1.30
Q8. The noise level on the ward did not spoil my enjoyment of the meals	1.17	2	1.58
Q9. I was given plenty of time to enjoy my meals	1.9	2	1.04
Q10. The meal service provided was inefficient	.93	2	1.74
Q11. The meals were served in a friendly and pleasant manner.	1.9	2	1.08
Q12. The smells and odours on the ward spoilt my enjoyment of the meals	.58	2	1.87
Q13. The meals provided were served at the appropriate time	1.65	2	1.10
Q14. The portion size of my meals was just right	1.53	2	1.24
Q15. There was a poor variety of food to choose from	.84	2	1.72
Q16. The meals were tasty	1.01	2	1.61
Q17. The meals were presented well and looked really appetising	.92	1	1.59
Q18. The staff serving my meals were unhelpful and unsupportive	1.53	2	1.58
Q19. My meals were served at the right temperature	1.28	2	1.58
Q20. The hospital meals provided were not nutritious and well balanced	1.06	2	1.59
Q21. The overall experience of my dining encounter in hospital was good.	1.44	2	1.40

-3 =strongly disagree; -2=disagree; -1=slightly disagree; 0 = uncertain; 1= slightly agree; 2=agree; 3= strongly agree

Appendix 10a Frequencies for Patients' dining preferences (Phase 2)

	Mean	Median	SD
27. Eat my meals whilst in bed	-.41	-1	1.16
28. Eat alone by my bedside	.75	1	.86
29. Eat in a group with others	-.06	0	1.19
30. Eat in a separate dining room provided on the ward	.80	1	.74
31. Eat on the hospital ward	-.04	0	1.24
32. Eat in the hospital restaurant (at no additional cost)	-.03	0	1.19

-2= strongly disagree; -1= disagree; 0 = uncertain; 1= agree; 2= strongly agree

Appendix 10b Frequencies for Patients' dining preferences (Phase 3)

	Mean	Median	SD
27. Eat my meals whilst in bed	-.10	0	1.14
28. Eat alone by my bedside	.64	1	.95
29. Eat in a group with others	.05	0	1.23
30. Eat in a separate dining room provided on the ward	.15	0	1.09
31. Eat on the hospital ward	.67	1	.66
32. Eat in the hospital restaurant (at no additional cost)	-.10	0	1.02

-2= strongly disagree; -1= disagree; 0 = uncertain; 1= agree; 2= strongly agree

Appendix 11 Frequencies for Pre Admission Hospital Dining Experience Questionnaire - Patient ratings (Phase 3 – Repeated Measures)

	Mean	Median	SD
Q5. Distractions during meals will not spoil my enjoyment of the meals	.67	2	1.9
Q6. The temperature on the ward will spoil my enjoyment of the meals	.11	0	1.57
Q7. I will be served with the appropriate meals that I had ordered	1.81	2	.79
Q8. The noise level on the ward will not spoil my enjoyment of the meals	1.22	2	1.34
Q9. I will be given plenty of time to enjoy my meals	1.78	2	.89
Q10. The meal service provided was inefficient	1.11	2	1.42
Q11. The meals were served in a friendly and pleasant manner.	2.22	2	.42
Q12. The smells and odours on the ward spoilt my enjoyment of the meals	.74	2	1.63
Q13. The meals provided were served at the appropriate time	1.7	2	.67
Q14. The portion size of my meals was just right	1.33	2	1.07
Q15 There was a poor variety of food to choose from	.33	0	1.24
Q16. The meals were tasty	.93	1	1.07
Q17. The meals were presented well and looked really appetising	.7	1	1.17
Q18. The staff serving my meals were unhelpful and unsupportive	1.89	2	1.16
Q19. My meals were served at the right temperature	.93	1	1.21
Q20. The hospital meals provided will not be nutritious and well balanced	.67	1	1.59
Q21. The overall experience of my dining encounter in hospital was good	1.37	2	1

-3 =strongly disagree; -2=disagree; -1=slightly disagree; 0 = uncertain; 1= slightly agree; 2=agree; 3= strongly agree

Appendix 12 Frequencies for Post Admission Hospital Dining Experience Questionnaire - Patient ratings (Phase 3- Repeated measures)

	Mean	Median	SD
Q5. Distractions did not spoil my enjoyment of the meals	.56	1	1.87
Q6. The temperature on the ward spoilt my enjoyment of the meals	.37	1	1.96
Q7. I was served with the appropriate meals that	1.63	2	1.39

I had ordered			
Q8. The noise level on the ward did not spoil my enjoyment of the meals	1.3	2	1.32
Q9. I was given plenty of time to enjoy my meals	1.73	2	1.19
Q10. The meal service provided was inefficient	.88	2	1.99
Q11. The meals were served in a friendly and pleasant manner.	2.5	3	.58
Q12. The smells and odours on the ward spoilt my enjoyment of the meals	.78	2	2.1
Q13. The meals provided were served at the appropriate time	1.85	2	.93
Q14. The portion size of my meals was just right	1.5	2	1.3
Q15. There was a poor variety of food to choose from	1.15	2	1.68
Q16. The meals were tasty	.63	1	1.84
Q17. The meals were presented well and looked really appetising	.93	1	1.54
Q18. The staff serving my meals were unhelpful and unsupportive	2.22	3	1.58
Q19. My meals were served at the right temperature	1.41	2	1.15
Q20. The hospital meals provided were not nutritious and well balanced	1.19	2	1.49
Q21. The overall experience of my dining encounter in hospital was good	1.22	2	1.63

-3 =strongly disagree; -2=disagree; -1=slightly disagree; 0 = uncertain; 1= slightly agree; 2=agree; 3= strongly agree

GLOSSARY

Age Concern

Age Concern and Help the Aged have now joined forces to become Age UK. It is a charity that conducts research and policy work, with a focus on disadvantaged older people. The only UK charity to focus research funds on later life, it provides information and advice, campaigns, products, training and research in order to improve later life for everyone. An important campaign it is highly involved with is one that focuses on Malnutrition in Hospitals.

Association of Community Health Councils for England and Wales (ACHCEW)

Established in 1977, the Association of Community Health Councils for England and Wales provides: (a) A forum for the exchange of views and for the discussion of matters of common concern to member Councils, and when appropriate to express views on National Health Service matters to Ministers, Government Departments or other bodies, and to publicise such views; (b) Information and advisory services reasonably required by Community Health Councils to assist

them in the performance of their functions; (c) Promotes the role, work and activities of Community Health Councils to Ministers, Government Departments and other bodies and to the public at large and (d) Performs such other functions as may be necessary or desirable in the interest of Community Health Councils.

Audit Commission

The Audit Commission for Local Authorities in England and Wales was established as a public corporation in 1983 and in 1990 became responsible for the external audit of the National Health Service. It is an independent watchdog, driving economy, efficiency and effectiveness in local public services to deliver better outcomes for everyone. Their key areas of focus are: to be the primary auditor of local public services; to carry out performance assessments for councils, fire and rescue services, and housing organisations; and to conduct and provide independent research, authoritative analysis to give insights into complex social problems and best practice in tackling them and to help public bodies detect fraud and error.

The Secretary of State for Communities and Local Government, has announced plans to disband the Audit Commission. The intention is to have new arrangements in place for auditing England's local public bodies by 2012/13.

British Association for Parenteral and Enteral Nutrition (BAPEN)

The British Association for Parenteral and Enteral Nutrition is a multi-professional association and registered charity. Established in 1992, BAPEN is committed to improving nutritional care and treatment in hospital, care and the community ensuring that those that are suffering from malnutrition or other nutritional problems are appropriately recognised and managed.

British Dietetic Association (BDA)

A professional organisation for dietitians which has been in existence for over 70 years, having a membership of over 6500. It aims to promote training and education and advance the science and practice of dietetics and associated subjects.

Commission for Patient and Public Involvement in Health (CPPIH)

The Commission for Patient and Public Involvement in Health, established in 2003, was an independent, non-departmental public body sponsored by the Department of Health to set up and support Patients' Forums. It was abolished on the 31st March 2008 when Patients' Forums were replaced by Local Involvement.

Commission for Social Care Inspection (CSCI)

The Commission for Social Care Inspection became operational in 2004. The remit of the CSCI involved the regulation, review and inspection of all social care services in adult and children's services in the public, private and voluntary sectors. It (along with the Healthcare Commission and the Mental Health Act Commission) was replaced by the Care Quality Commission in April 2009.

Council of Europe

The Council of Europe founded in 1949 by 10 countries now has a membership of 47 countries across the European continent. It seeks to develop throughout Europe common and democratic principles based on the European Convention on Human Rights and other reference texts on the protection of individuals.

Council of Europe Alliance

The Council of Europe Alliance were a group of stakeholders that were brought together by the Council of Europe to provide a resolution for food and nutritional care in Hospitals. The alliance included the following non governmental stakeholders:

- British Dietetic Association
- Hospital Caterers Association
- Royal College of Nursing
- Royal College of Physicians
- Royal College of Speech
- & Language Therapy
- National Association of Care Catering
- British Medical Association
- British Association for Parenteral and Enteral Nutrition
- Intercollegiate Group on Nutrition Education
- Nutrition Society

In addition, the governmental stakeholders involved were:

- National Patient Safety Agency
- Department of Health
- Scottish Executive - QIS
- Welsh Assembly Government
- Department of Health and Public Service -Northern Ireland
- BMA

European Nutrition for Health Alliance (ENHA)

The European Nutrition Health Alliance was formed by a group of stakeholders across the health arena to raise awareness of the importance and the urgency of the issue of malnutrition and to build an agenda for action at the European level.

The Alliance is chaired by Professor Jean-Pierre Baeyens, President of the clinical section of the International Association of Gerontology and of the European Union Geriatric Medicine Society). Co-Chairs are Professor Olle Ljungqvist, Chair of the European Society for Clinical Nutrition and Metabolism and Professor Claude Pichard, Head of Clinical Nutrition at Geneva University Hospital.

The Alliance is dedicated to implementing change across Europe. In order to achieve this, ENHA strives to serve as a bridge across professional and sectoral divides and to unite and support physicians and other health care professionals, hospitals, healthcare managers, health insurers, industry, advocacy institutions, and policy-makers in the fight against malnutrition.

Hospital Catering Association

The Association is a national organisation founded in 1948 with 17 branches in England, Scotland and Northern Ireland. The aims and objectives of the Association are the promotion and improvement of the standards of catering in hospitals and healthcare establishments in Great Britain, Northern Ireland and elsewhere; the education and training of persons in health care catering services, and the provision and improvement of the professional interests and status of those engaged in health care catering services.

Kings Fund

Originally known as the Prince of Wales Hospital Fund for London in 1902, the King's Fund is a registered charity which was granted a Royal Charter by **HM** the Queen in 2008. The King's Fund which seeks to understand how the health system in England can be improved works with individuals and organisations to shape policy, transform services and bring about behaviour change. Independent, expert research and analysis essential components of their policy work, informed by engagement and discussion with key players across the health system to provide a growing and measurable impact on both policy-makers and frontline services.

National Audit Office

The role of the National Audit Office is to; audit the accounts of all government departments and agencies as well as a wide range of other public bodies and to report to Parliament on the economy, efficiency and effectiveness with which these bodies have used public money.

National Institute of Clinical Excellence (NICE)

The National Institute for Health and Clinical Excellence was set up on 1 April 1999 to ensure everyone has equal access to medical treatments and high quality care from the NHS - regardless of where they live in England and Wales. It provides guidance, sets quality standards and manages a national database to improve people's health and prevent and treat ill health.

NICE makes recommendations to the NHS on; new and existing medicines, treatments and procedures and treating and caring for people with specific diseases and conditions. It also makes recommendations to the NHS, local authorities and other organisations in the public, private, voluntary and community sectors on how to improve people's health and prevent illness and disease.

They are recognised as being a world leader in setting standards for high quality healthcare and are the most prolific producer of clinical guidelines in the world. All their recommendations are devised by independent committees and the Citizens Council is the UK's first advisory body made up entirely of members of the public.

National Patient Safety Agency (NPSA)

The National Patient Safety Agency is a special health authority of the National Health Service in England. It was created to monitor patient safety incidents, including medication and prescribing error reporting, in the NHS. They contribute to improved, safe patient care by informing, supporting and influencing organisations and people working in the health sector through three divisions:

- National Reporting and Learning Service which aims to reduce risks to patients receiving NHS care and improve safety.
- National Clinical Assessment Service which supports the resolution of concerns about the performance of individual clinical practitioners to help ensure their practice is safe and valued.
- National Research Ethics Service which protects the rights, safety, dignity and well-being of research participants that are part of clinical trials and other research within the NHS.

NHS Clinical Governance Support Team (CGST)

The NHS Clinical Governance Support Team, part of the NHS Modernisation Agency, was established in September 1999 to support the development and implementation of clinical governance across the NHS. With effect from 2008, its work was no longer conducted at a national level and was continued at a local level by the Strategic Health Authorities

Policy Research Institute on Aging and Ethnicity (PRIAE)

Founded in 1998, PRIAE is an international self-governing charitable institute working in the area of ageing and ethnicity in the UK and across Europe. It specialises in helping black and minority ethnic elders. It has an important role in policy, research, information and practice on: employment and income; health, social care and housing; pensions and quality of life and works with elders and age organisations, policy makers, research bodies, healthcare providers and the voluntary sector to produce ground-breaking work.

Royal College of Nursing (RCN)

The Royal College of Nursing was founded in 1916 as a union membership organisation whose members currently consist of over 395,000 nurses, student nurses and healthcare assistants.

The organisation represents nurses and nursing locally, nationally and internationally. It influences and lobby's governments to promote excellence in practice and shape health policies that improves the quality of patient care, and builds on the importance of nurses, health care assistants and nursing students to health outcomes. The union supports and protects: the value of nurses and nursing staff in all their diversity; their terms and conditions of employment in all sectors and the interests of nurses professionally. To build professional expertise and leadership, it also develops and educates nurses both professionally and academically.

Royal College of Physicians (RCP)

The Royal College of Physicians is an independent membership organisation that was founded in 1518. Its purpose is to develop physicians and to raise the standards of patient care by: supporting their fellow physicians throughout the different stages of their career; setting and monitoring standards of medical training to ensure that patients are treated by fully trained and capable doctors; providing evidence-based clinical guidelines and audits to support their fellows and members in improving and scrutinising clinical care and providing education programs that equip physicians with the knowledge and skills they need for high performance.

The organisation also takes a wider role in public health by campaigning for change, advising government and Parliament, and taking part in national debates on medical, clinical and public health issues.

World Health Organisation (WHO)

The World Health Organisation, established in 1948, is an agency of the United Nations whose role is to be a directing and coordinating authority on international public health. Its key objective is the attainment by all people of the highest possible level of health and it is tasked with combating disease, especially key infectious diseases and to promote the general health of the world's population.

WHO fulfils its objectives through its core functions: providing leadership on matters critical to health and engaging in partnerships where joint action is needed; shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge; setting norms and standards and promoting and monitoring their implementation. It articulates ethical and evidence-based policy options; provides technical support, catalysing change, and building sustainable institutional capacity; and monitors the health situation and assesses health trends.

Impact of buyer's modified information and affective state on his purchase probability

Sensory qualities of space surrounding

purchase object

Buyer's perception of the sensory qualities of space

Effect of perceived sensory qualities on modifying buyer's information and affective state

BEHAVIOURAL BELIEFS

The person's beliefs that the behaviour leads to certain outcomes and his evaluations of these outcomes.

Attitude towards the behaviour.

Relative importance of attitudinal considerations

NORMATIVE BELIEFS

The person's beliefs that specific individuals or groups think he should or should not perform the behaviour and his motivation to comply with the specific referents.

Subjective norm. Relative importance of normative considerations

Behaviour

Intention

CONTROL BELIEFS

The person's beliefs about the presence of factors that may facilitate or impede performance of the behaviour.

Perceived Behavioural Control

Consumption norms

Affect toward eating companions

Duration of the meal

Consumption Volume

Size of group

3. Product

2. Meeting

1. Room

4. Atmosphere

5. Management Control System

Humanic

Involves the performance, behaviour and appearance of the employees including body language, tone of voice, and level of enthusiasm

Mechanic

Non human elements in the service environment that involve the ambience and other design and technical elements including equipment, facility layout, lighting and colour. Particularly important as the intangibility of the offering leads customers to rely on tangibles to evaluate the experience.

Restaurant Experience

Functional

Involves the technical quality of the food and service – particularly relating to whether the service is performed competently.

The time of day a meal is consumed

The lowest consumption occurs in the morning and the highest consumption occurs in the evening

To emphasise to all staff, patients and visitors the importance of mealtimes as part of care treatment for patients.

To focus ward activities onto the service of the food, providing patients with support at mealtimes.

To recognise and support the social aspects of eating, that is welcoming, clean and tidy.

Hybrid

Plated
Service

Service

Bulk

35%

28%

37%

Staff Involved

Nursing staff

Nursing staff / Ward hostess

Portering Staff

Nursing staff/ Ward hostess

Nursing staff/ Ward hostess

Patients, food intake recorded

Plates cleared away

Assistance given to patients

Meals handed to patients

Meals checked against orders

Meals transported to wards

Meals produced

Meal ordered

Menu received

Nutritional Needs assessed

Patient admitted

Staff Involved

Dietician
(Assessment & prescription of diets)

Catering
Staff

Housekeeping staff

To provide mealtimes free from avoidable and unnecessary interruptions.

Colour

Can be a food internal stimulus or a food external stimulus

Temperature

The temperature of the food and the ambient temperature of the food environment

Accessibility of food

The physical availability or the accessibility to the food or drink locations in the immediate eating environment

EATING BEHAVIOUR

To create a quiet and relaxed atmosphere in which patients are afforded time to enjoy meals; limiting unwanted traffic through the wards during mealtimes.

To limit ward based activities, both clinical (i.e. drug rounds) and non clinical (i.e. cleaning tasks) to those that are relevant to mealtimes or 'essential' to undertake.

Protected Mealtimes

ORGANISATION

Inefficient ordering systems (1, 2)

Little monitoring of patients' weight and food intakes (1, 4)

Lack of a nutrition plan for those identified at risk (7)

No established protocols setting standards and policies (2)

DISTRACTIONS & ENVIRONMENT

Mealtimes disturbed - ward rounds, routine tests and investigations (1, 2, 4)

Patients unable to eat without interruptions (4)

Busy and noisy wards (5)

Alien environment of a hospital ward - the surroundings and routines differ from patients normal experiences (2, 4, 8)

SERVICE

Food trays - out of reach of the patients (4)

No consultation with patients for their requirements (4)
Lack of knowledge, interest and defined responsibility with clinical staff (2, 6, 7)
The preparation/ transportation/ serving methods reduce the preservation/ nutrient content and palatability (1, 2)
Poor communication between nursing, catering and dietetic staff on the wards (2)
Inappropriate food given (2, 3, 4)

BARRIERS TO GOOD NUTRITION IN HOSPITAL

Dominance-submissiveness

A feeling state of an individual in a situation that is based on the extent to which he/she feels unrestricted or free to act in a variety of ways. This feeling can be hampered by settings which limit the forms of behaviour and enhanced by settings which facilitate a greater variety of behaviours. Formal social situations for example, constrain behaviour more than informal ones; it can be assessed using the semantic differential or behaviourally it is measured in terms of postural relaxation.

Arousal

A feeling state that varies along a single dimension ranging from sleep to frantic excitement and this can be assessed by semantic differential measures; facial activity, speech rate and speech volume can also be used to define a measure of arousal in social situations.

Pleasure-displeasure

A feeling state that can be assessed with either semantic differential measures or with behavioural indicators such as smiles and laughter or facial expressions.

2007-2010

2006

2005

2004

Literature Review, Ethics Requirements and Research question

2003

2001

2000

The person's beliefs that the behaviour leads to certain outcomes and his evaluations of these outcomes.

The person's beliefs that specific individuals or groups think he should or should not perform the behaviour and his motivation to comply with the specific referents

Attitude towards the behaviour (1)

Relative importance of Attitudinal and Normative considerations

Subjective norm
(2)

Intention

Behaviour

Not discussed
(n=5)

Are there any other features, characteristics or things you would like to see or have done to improve the eating environment?

Comments

Comments

Comments

Foodservice

Inefficient ordering system

Accessible food

Uninterrupted
Lack of consultation/choice

Staff

Unsupportive
Assistance to eat
Lack of responsibility
Helpful/
Accommodating

Patients

Expectations
Anxiety
Attitudes
Medical condition
Treatment
Tests/procedures
Medication

Food

Inappropriate food
Unappealing
Quality
Unpalatable
Presentation
Variety
Temperature

Eating Environment

Atmosphere
Physical environment
Space & Privacy
Sound/ Light
Conducive to eating

Distractions/ Too noisy
Ambience/Smells
Unfamiliar
Location
Ambient temperature

Patients' Foodservice experiences

Socialising

At mealtimes
In groups
Community experience

SUPPORT

No assistance at mealtimes (1, 3, 4)
No encouragement to eat and drink (4)
Meals are left untouched (4)
Vulnerable patients not identified (2, 4)

MEDICATION

Effect of drugs on appetite (9)

FOOD

Unappealing meals (2, 3, 4)

Sources: 1. Audit Commission 2001. 2. BAPEN 2007b. 3. CPPIH 2006. 4. Age Concern 2008. 5. Davidson & Scholefield 2005. 6. Kopleman and Lennard 2002. 7. Lindorff-Larsen et al. 2007. 8. Holmes 1999. 9. O'Regan 2009

Figure 2.0 Barriers to good nutrition in hospitals

Selection of research methodology

Mixed methods

Data Analysis

Data Reduction

Interpretation

Phase 2 (Quantitative)

Pilot - Hospital Dining Experience (HDE) questionnaires (n=70)

Pre meal HDE questionnaires (n= 292) Post meal HDE questionnaires (n= 267)

Data Analysis

Data Reduction

Phase 3 (Quantitative)

Patient Profiles (n=24) - Pre / Post HDE questionnaires, POMS*, Food Intakes

Data Analysis

Data Reduction

Interpretation

Interpretation

Phase 4 (Qualitative)

Pilot Group Dining and Stakeholder interviews (n=6)

Data Analysis

Data Reduction

Interpretation

Data Display

Data Transformation

Data Correlation

Data Consolidation

Data Comparison

Data Integration

conclusions, final report

Objective 7

Single Data type

Multiple Data type

Phase 1 (Qualitative)

Observations at Acute care hospital

Interviews Patients (n=30) and Stakeholders (n=18)

Allowed quantitative predictions and identified relationships between variables.

The research results were relatively independent of the researcher.

Provision for situations where confounding variables were eliminated.

Provided credibility for key stakeholders within the NHS context

ADVANTAGES IN USING QUANTITATIVE RESEARCH

Enabled a study of a large number of people.

Responsive to local conditions and stakeholders' needs.

Data in the words and categories of participants is beneficial

Responsive to changes occurring during the study

Data can be collected within naturalistic settings

Research identifies contextual / setting factors related to the phenomenon

Describes phenomena as it is embedded within its local context.

.

Provides an insight of personal experiences of the phenomenon.

ADVANTAGES IN USING QUALITATIVE RESEARCH

Data are based on the participants' own categories of meaning.

Ability to study a small number of cases in depth

Ideal for defining the complex phenomena of a mealtime

.

Adapted from Dellinger and Leech (2007)

Secondary Criteria:

Explicitness

Vividness

Criticality

Primary Criteria:

Credibility Authenticity Criticality Integrity Congruence

Sensitivity

Traditional QUAL
Elements of Construct
Validation

Other Terms Used:

Transferability Descriptive Validity
Consistency Interpretive Validity
Referential adequacy Theoretical Validity
Triangulation Evaluative Validity
Crystallization Generalizability
Structural Relationships Audit ability
Explanation Credibility Confirmability

Different Types of Techniques for design
considerations, data generating, analysis, and
presentation:

Giving voice, Peer debriefing, Triangulation,
Reflexive journaling, Persistent observation,
Dependability audit, Articulating decisions, Member
checking

Mixed Methods

Elements of Construct

Validation

Design Quality

Design Suitability

Design Adequacy/Fidelity

Within Design Consistency

Analytic Adequacy

Legitimation

Sample Integration Legitimation

Weakness Minimization Legitimation

Sequential Legitimation

Conversion Legitimation

Inside-Outside Legitimation

Paradigmatic Mixing Legitimation

Commensurability Legitimation

Multiple Validities Legitimation

Political Legitimation

Interpretive Rigor

Interpretive Consistency

Theoretical Consistency

Interpretive Agreement

Interpretive Distinctiveness

Integrative efficacy

Traditional QUAN

Elements of Construct

Validation

Design-Related Elements

Internal

External

Population

Ecological

Measurement-Related Elements

Reliability

Internal Structure

Criterion-related

Concurrent

Predictive

Content

Face

Inference-Related Elements

Statistical Inference Validity

Over 18 years of age

Patients had eaten food on the ward over a minimum period of 48 hours

No notable physical, cognitive or emotional conditions which may influence food consumption

Appetite unaffected by medical condition / medication.

Patients whose first language was English

Anticipated minimum stay of
5 days

Patients without eating disorders

Imported transcripts from data set into NVIVO 8. Full transcripts were read many times to allow the researcher to become fully immersed in and highly familiar with the texts to identify concepts and themes in interviews and observations.

The data from each individual transcript was coded one by one as free nodes until all data from interview transcripts and all observation transcripts had been coded.

The first wave of coding involved generating as many themes as possible. To avoid researcher bias, the researcher ensured that all data were extracted coded and represented paying no attention to any theoretical or hypothesised interest.

177 themes were coded as free nodes. These free nodes were then collapsed down several times, identifying which themes were connected or overlapping. This enabled the data to become more manageable.

Connected themes were grouped together under and kept within the umbrella of coded tree nodes. At this stage the data were coded in accordance with the research questions asked and were focused on those particular themes. Those data not connected were also held within coded tree nodes.

Identified concepts and themes in the literature. Free nodes within tree nodes were continually reviewed for connectivity / linkages within other tree nodes. Adjustments were made accordingly. Considered the construction and interpretation of a typology of related concepts. Created concepts through researcher's labelling. Created consistent and refined definitions.

Validation check - Themes were identified at manifest level. Compatibility of coding was checked between theory, previous research and raw data. Coded appropriately, sticking close to raw data. A total of 9 tree nodes were identified which were specifically related to theory and previous research.

Considered the explicit terms that were asked in the questions. Considered concepts, themes, events and markers explicitly raised by the interviewees. Identified concepts and themes indirectly revealed such as tension between what people say and the emotion they express. Reviewed concepts and themes that emerged from comparing interviews with each other and interviews with observations.

Determine the measurement framework

Define the empirical Indicators

Design the questionnaire

Confirm the sample Size

Administer the pilot

Administer the Questionnaire

Pre Asses n=300

Post Assess
n=300

Orthopaedic clinics

Orthopaedic wards

Post
Assessment
Patients

Peer Evaluation

Pre Assessment
Patients

General public

Identify the construct

Printed format

No of
questions

Semantics

Instructions

Response set

Concept analysis

Review the literature

Conceptualise/ Operationalise

Patients to be used for completion

Time to complete

Item pool

Scoring system

Socialising
(n=30)

Not enjoying socialising
(n=2)

Enjoying socialising
(n=24)

Not indicated
(n=3)

Indifferent
(n=1)

Unimportant
(n=1)

Indifferent
(n=3)

Important
(n=15)

No Option
(n=6)

AMBIENCE & SETTING
(n=30)

SEPARATE DINING AREA
(n=30)

Not enjoy separate dining area
(n=5)

Enjoy separate dining area
(n=18)

Not indicated
(n=3)

Indifferent
(n=4)

GROUP DINING
(n=30)

Not enjoy eating together
(n=3)

Enjoy eating together
(n=23)

Not indicated
(n=0)

Indifferent

(n=4)

EXPECTATIONS

(n=30)

POOR EXPECTATIONS

(n=8)

GOOD EXPECTATIONS

(n=13)

NO EXPECTATIONS

(n=9)

First hand

Experience

(n=1)

No

Experience

(n=6)

Experience of others

(n=2)

NO

EXPECTATIONS

(n=9)

GOOD

EXPECTATIONS

(n=13)

First hand

Experience

(n=9)

Experience of others

(n=4)

POOR

EXPECTATIONS

(n=8)

First hand
Experience

(n=6)

Experience of others

(n=2)

Staff

Friendly, supportive

Under pressure

Attitude

Quantity of food

Portion sizes

2 hot meals

Ward Service

Delivery

Timeliness, Regularity,

Presentation

Menu

Completion

Variety

Orders

Eating

Environment

Ambience

Distractions

Location

Ambient temperature

Quality of food

Taste

Temperature

Nutritious

Plain

Easy to eat

Socialising
Other patients
Rapport
Mealtimes
On ward

[pic][?]Y[\quóú[?]
h#5h#5CJOJ[?]QJ[?]AJ[?]aJ h#5hC‡CJOJ[?]QJ[?]AJ[?]aJ Factors Influencing
Patients' Mealtime Experience

Ambience
and
Setting

Location
of
Meal

EATING
ENVIRONMENT

Dining Together

REDUCED INTAKES
(n=60)

Poor appetite
(n=8)

Generally unwell
(n=22)

Noro Virus
(n=10)

Interruptions/distractions (n=6)

Unhappy with food quality (n=11)

Poor choice
(n= 1)

Inappropriate meal
(n= 1)

Inadequate portions available (n= 1)

Increased Motivation to Eat

Peer support
Not wasteful
Peer pressure
Staff support
Dignified/ civilised dining
Inc intakes

Positive impact of socialising

Normality/Like home
Uplifting mood
Peer support
Increased intakes
Inc staff/ patient interaction
Structure to day
Reduce boredom

Enhanced Ward Service

Better organised
Hotter food
Hot puddings
Not rushed
Monitor intakes
More hygienic

Improved Mobility

Motivated
Purpose for mobilising
Peer pressure

Improved
Wellbeing

Happy patients
Laughing/Smiling
More stimulated/
Alert & compliant
Improved mental/ physical/
psychological status

Group Dining

Figure 6.0 Theoretical model: Hierarchy of factors influencing Orthopaedic patients' foodservice experience and food intake

SOCIALISING

(6.2.5)

GROUP DINING (6.2.5)

EATING ENVIRONMENT (6.2.4)

WARD SERVICE (6.2.3)

KITCHEN PRODUCTION (6.2.2)

PATIENTS (6.2.1)

Physiological Wellbeing

Medical condition, Medication/ Treatments &
Tests/ Procedures, Norovirus, Poor appetite
Food Intakes

Psychological Wellbeing

Expectations & Attitudes
Lack of perceived behavioural control
Anxieties, Mood state

Quality of food

Appropriate meals, appealing
palatable, temperature of food
taste, nutritious food

Quantity of food

Portion size
Variety

Foodservice staff

Supportive, friendly, helpful, patient centred, responsible,
positive attitude, under pressure.

Management of meal provision

Menu completion, patient involvement, Efficient ordering system

Delivery of meals

Temperature, presentation, timely, efficiency, tasty, unrushed accessibility, appropriate meals, portion size, uninterrupted

Ambience & Setting Atmosphere, noise, distractions, smells, room temperature, homely.

Location physical surroundings, space, privacy, away from bed.

Peer support/ pressure, motivation to eat, mobilisation, supportive staff, improved mental & physical status, homely, socialisation, structure, reduce boredom, efficient service, hot food, unrushed.

At mealtimes, community experiences,
rapport with patients, uplift mood.

Primary
Factors

Enhancement
Factors

GROUP DINING

Reduced Cross Contamination
(Norovirus)

Enhanced service & presentation

Quieter eating environment

Minimize distractions

Closer observations/ monitor intakes

Fulfils patients'
dining
preferences

Platform to engender hospitality

Platform for communitasque experiences/
socialisation
&

Peer pressure
Motivation to eat & mobilize

Ease of management & organisation

Enhanced food quality

Increased
Food intakes

Location for Protected mealtimes

Figure 6.1 Positive solutions for foodservice issues provided by Group Dining in an Acute Care Hospital

Supportive,
positive, dedicated, staff

Qualitative Phase 1

Observations
Interviews

Qualitative Phase 4

Group Dining
Interviews

Quantitative Phase 2

HDE questionnaire

Pre & Post Admission

Quantitative Phase 3
Repeated measure

POMS scale
HDE questionnaire
Food Intakes

Use of HDE questionnaire
to measure patients attitudes

Identification of Constructs

Identification of confounding variables.
Methods of conducting Group Dining Foodservice

Group Dining Enhancements

Dining Preferences

Table 4.5 Dietary assessment studies for hospitalised patients

(Audit Commission 2001)