Benefits of Inter Professional Education in Health Care - Ten years on

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Abstract
Inter Professional Education (IPE) was first conceived in 1973 from an expert group in Geneva by the World Health Organisation (WHO) (Barr, 2015). Following its implementation, there has been a rapid proliferation in the number of publications. IPE has generated research into its use, conferences specific to IPE, organisations dedicated to it and policy championing it. But has there really been any major shift in the professional silos? The authors published an article on the benefits of IPE (Illingworth and Chelvanayagam 2007). Both authors are academics who in marking and external examining often see their article quoted. The authors realised that 10 years had passed and many changes have been implemented and experienced in health and social care and therefore a review of the literature was required. Also it is 10 years since the publication of WHO's report outlining the role of IPE in the preparation of healthcare professionals (WHO 2010) and increasing UK Government policy which champions collaborative and integrated working.
The conclusions from the author's 2007 article acknowledged the development of IPE, however it highlighted the need for empirical evidence to demonstrate the effectiveness of IPE in service user and carer outcomes. This article will explore whether IPE had or was achieving the benefits discussed in their 2007 paper and what developments have occurred in the 10 years since it was originally published.

Key phrases and key words
- Interprofessional education (IPE) consists of two or more professions learning together to improve knowledge and skills regarding collaborative care to improve patient outcomes
- IPE is incorporated within pre-registration professional programmes (and some post registration programmes), particularly nursing
- The format of IPE is variable but most students report that the most effective format is practice based activities such as simulation
- Most of the literature focusses on the format of IPE and student evaluation
- There is insufficient robust evidence to support its effectiveness on patient and clinical outcomes

MESH words/database search terms
Clinical Decision Making
Delivery of Health Care
Education, Professional
Outcome Assessment (Health care)
Professional Practice

Introduction
Interprofessional education "occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care" (Centre for the Advancement of Interprofessional Education (CAIPE) 2002).

There is a plethora of literature relating to IPE, predominantly focusing on the embedding of IPE into professional undergraduate curriculums. There is a recognition that IPE should be incorporated at the earliest stage of "training" to be the most effective (Lapkin et al. 2012, Harden 2015). The undergraduate will then understand their own professional role whilst simultaneously appreciating the role of other health care professionals and the system in which they will be working (Lapkin et al, 2012) which can help to prevent negative stereotypes (Neocleous 2014, Lawliss et al. 2016). However, this varies with some universities incorporating IPE at the beginning and end of their programmes (Lapkin et al, 2012).

Traditionally, the different health professions are responsible for the education of their own students (Robertson & Badali, 2008). As a consequence, the educational programmes are determined by the professions themselves, often without asking for other professions and service user or carer input into establishing the competencies or standards (Carroll et al, 2014). It is often at the stage of curriculum development within individual universities where service users and carers are involved. Although health and social care professionals (as up to this point in the article IPE has only related to health professionals) share many core skills and values, traditionally the programmes remain separate and for the most part have little true inter-professional education. Barriers to IPE are often geographical; schools of nursing & midwifery, medicine, pharmacy and other allied health professionals are not always situated in the same university or may not be close enough together to offer inter-professional learning (Lapkin et al, 2013, Carroll et al. 2014). Other times it can be a question of professional or workplace culture or resources such as the need for larger classrooms and difficulties with timetabling (Neocleous 2014).

Context for IPE in UK

The increasing prevalence of chronic diseases, an ageing population, greater focus on mental health, together with advancements in health care technology and the growing complexity of health care delivery, plus many other factors have all contributed to the need for coordination and integration of health and social care through a multidisciplinary approach (NHS England, 2014). Five Year Forward View (2014) aimed to set out what is required of the NHS now and in the future taking into consideration that people now live longer and often have more complex health and social care needs along with the advancements in medicine and technology. It states that "this Forward View sets out how the health service needs to change, arguing for a more engaged relationship with patients, carers, and citizens so that we can promote wellbeing and prevent ill-heath" (NHS England, 2014 p.2).

Throughout the document there is discussion of a need for effective integrated service provision across health and social care within hospitals, community care and primary care and the development of stronger partnerships with the statutory and voluntary sector with a view to develop specific care models. Again this reiterates the need to understand the different roles of professionals working in health and social care and develop partnerships.

Rationale for IPE

For many years there has been a call for greater and improved inter-professional working. Much has been called for and championed, for example; numerous academic publications, research into IPE, the establishment of organisations such as the Centre for Inter-Professional Education (CAIPE) and the European Inter-Professional Network (EIPEN). Additionally, professions included in their standards the requirement for pre-registration programmes to ensure students have the opportunity to learn with and from, other health and care practitioners. Professionals are expected to work together in teams and across and between teams. Professionals do find it can be a problem when working in teams and as Kvarnström (2008) found, they often do not understand or respect others roles or knowledge, an early vision for IPE (Barr 2002).

The World Health Organisation (WHO) developed a Framework for Action on Interprofessional Education and Collaborative Practice (WHO 2010). This established that there was appropriate evidence that effective IPE enabled effective collaborative practice. The Framework described several areas where inter-professional collaboration was needed (WHO 2010 pp 14-15), including health action in crisis, health systems and services, HIV/AIDS, tuberculosis and malaria and family and community health.

For the medical profession the GMC (2009) stated that doctors should be able to "Formulate a plan for treatment – in partnership with the patients, their relatives or other carers, and other health professionals as appropriate" (p20) and "Learn effectively within a multiprofessional team: …." (pp27-28). For allied health professions the Health Professional Council (HPC) guidance on standards of education and training (HPC, 2008) stated that: "When there is interprofessional learning the professions-specific skills and knowledge of each professional group must be adequately addressed. Successful interprofessional learning can develop students' ability to communicate and work with other professionals, potentially improving the environment for service users and professionals." Medical students tend to be more negative about IPE (Lash et al. 2014). However as Harden (2015) states if doctors are to practice effectively within multi-disciplinary teams they need to have an understanding and respect of the roles of other professions.

The Department of Health (DH, 2002) has required Social Work students to undertake specific learning and assessment in partnership working and information sharing across professional disciplines and agencies for over 14 years. Moreover, Unit 17 of the National Occupational Standards for Social Work (2002) expected competence "within multi-disciplinary and multi-organisational teams, networks and systems." Social workers should "develop and maintain effective working relationships, agree goals and objectives and deal constructively with disagreements and conflicts". It is interesting to note that social work and care has not been included in any of the systematic reviews into IPE (Zwarenstein et al 2000; Zwarenstein et al 2009 and Reeves et al 2013). It is the authors' opinion that this is a serious omission.

In recent years both practice and policy has moved forward. The developments in Interprofessional learning (IPL) where two or more professionals learn from working together in practice is in effect not new, as most have been doing this for many years. For example nurses working on wards within hospitals worked closely with doctors but also came into contact with other professionals, for example occupational therapists and

radiographers. However, the learning was never formalised and was for the most part opportunistic. There are now many examples of more formal IPL in the UK and internationally in Australia, North America and parts of Europe.

From a policy perspective, government policy in the UK has for a number of years championed greater interprofessional working and in more recent years the whole concept of delivering better integrated care has been advocated in the UK through the five year forward review (NHS England 2014), which the WHO instigated discussing it at an earlier stage (WHO 2008). Integrated care is perhaps best described as a "…person's care may be provided by several different health and social care professionals, across different providers. As a result people can experience health and social care services that are fragmented, difficult to access and not based around their (or their carers') needs" (NHS England 2014).

Further there has been the development of interdisciplinarity, "…the involving or drawing on two or more branches of knowledge" (Oxford Dictionary Online 2017). This arrangement of multiple disciplines in the examination of a specific topic has developed within academia. The traditional pedagogic delivery model in health care has been early specialisation (uni-discipline), often following the biological or medical model. With interdisciplinarity there is the opportunity for interaction between disciplines and the development of a new knowledge. This new knowledge could well be the knowledge generated through the development of new practitioners as integrated care develops. As Kendell et al (2002 p60) suggested "… practitioners who are able to identify and respond to different user groups and who have the skill".

However, as the original article, which forms the basis of this paper, only covered the benefits of interprofessional education (IPE), this paper will not attempt to address these more recent developments.

Format of IPE

The delivery of IPE has changed over the intervening years and in line with technological advances. Previously it mainly consisted of merging pre or post registration students from different professions such as nursing, midwifery, paramedic sciences in a classroom to study core topics such as anatomy and physiology or research methods. It was believed that studying together they would learn about each other's professional roles and how they would work together collaboratively in practice (Neocleous, 2014). However, the implementation of this process, resources involved and the varying interpretations of how IPE should be taught have impacted on its ineffectiveness (Lapkin et al, 2012, Harden, 2015).

Simulation is another format being utilised. This involves enacting a situation from practice within a safe environment. For example working within an inter-professional student team and responding to emergency care situations with simulated patients. This develops communication and team working skills as well as enabling clinical competence and patient safety (Robertson and Bandali 2008, Bridges et al, 2011). Arvin et al (2016) explored simulation, utilising problem-based scenarios. Their study showed attitudes of students had positively changed. The incorporation of problem based learning enhances the learning experience as it helps students to gain new skills and knowledge by working together (Anderson et al, 2010). The authors argued, therefore, that this approach to IPE has some

limited benefits to a group of healthcare professionals, who often work closely but rarely have the opportunity to train together.
Community based IPE initiatives involve working within teams with other health care professionals on a specific project within a community care setting. The student may also take on the role of an "apprentice" working closely with a healthcare practitioner (Rodger et al, 2010). An example of this is the study by Lawliss et al (2016). They studied 12 students from nursing, occupational therapy and "aged care professionals" who worked on a nutrition project with people living with dementia in the community and evaluated their attitudes pre and post intervention of interprofessional working. A positive shift in student attitudes towards interprofessional working was reported. However it is important to effectively plan the resources and supervision required to devise, implement and support this format which although appears more effective, is also very labour intensive. (Murray – Davies et al, 2012, Lawlis et al, 2016) Lapkin (2013) systematic review concluded attitudes and perceptions towards inter-professional educative collaboration and clinical decision-making by students could be boosted through IPE. However, the evidence for using it to teach communication skills and clinical skills is inconclusive and requires further investigation.

Another format which is evolving is the use of e-learning. This may be an online package which students have to complete or may form part of a package of learning. Lapkin et al (2014) undertook a quasi- experimental study and found e-learning has also been included as a method of delivery for IPE in situations where other methods are not possible. This research found web-based interprofessional learning modules were an effective method of "developing the behavioural intentions and attitudes inherent in safe medication practices".

Most importantly educators require "drive and passion" to make IPE effective with a fully supportive faculty (Neocleous 2014, Harden 2015, Lawlis et al 2016). For students IPE needs to feel relevant and it is evaluated more positively when it is linked directly to practice for example in a clinical simulation situation or working within a community interprofessional team (Lawlis et al 2016, Murray-Davis et al, 2011). Additionally universities and clinical placements areas need to work cohesively supporting and encouraging the importance of IPE (Murray-Davis et, al 2011).
Organisations have emerged. Most notably in the UK is CAIPE. The main aim of CAIPE is "…to promote and develop inter-professional education (IPE) with and through its individual, corporate and student members, in collaboration with like-minded organisations in the UK and overseas, for the benefit of patients and clients".

Outcomes for service users

Given all this development and activity, there is value in reflecting on any benefits of IPE. In Illingworth and Chelvanayagam (2007) the authors examined some of the literature relating to benefits of IPE in health care. Benefits were explored for service users (and carers), higher education institutions, service providers and students. In the paper it was noted that barriers to IPE were being broken down but that there remained "…some doubt as to whether IPE has a direct positive impact on the health gain of service users and carers" (Illingworth and Chelvanayagam, 2007 p. 121). The article concluded that research was

needed to demonstrate service user and carers benefit from IPE and if there was not any benefit, the reason for pursuing would need to be questioned.

On searching for the benefits of IPE for service users for this update, there remains a dearth of literature. A Cochrane review published in 2013 reviewed the effects of IPE on practice and healthcare outcomes (Reeves et al, 2013). It provides on update on a review conducted in 2008 and incorporates these studies within it which totals 15 studies; however it was unable to conclusively state that IPE brought about improvements. This was mainly due to the lack of studies and the different ways they were conducted with different interventions and outcome measures. Four of the studies reported negative effects. No qualitative studies were included which may have shown different data. But clearly this major review, now in its third version, shows a disappointing development in any evidence base for IPE improving practice and stresses the need for research to demonstrate how IPE improves health care processes and patient outcomes.

Anderson et al. (2010) had developed an IPE module which consisted of student groups of 3-4 medical students and social work students working with people with disabilities in home, hospital and community settings. They evaluated both the student's responses and completed 10 interviews with services users/carers and 6 responses to postal questionnaires who reported that they had enjoyed working with the students and felt involved in the process and in the education of the students. Interestingly 3 respondents wanted more information about how the students had benefitted from seeing them. The authors acknowledged that due to the limited sample size this had affected the generalisability of their data from this mixed methods study.

Terry et al (2015) utilised a World Café Approach as part of an IPE initiative involving social work and mental health students and service users and carers. All groups were involved in developing the day event in which all groups engage in a dialogue to address critical questions and to build and develop relationships. Focus groups were held with each group to elicit feedback. The authors claimed their approach could "serve as a template…" for other educational providers. Additionally, they claim their findings could enhance learning on IPL and user involvement. Certainly, evidence exists which shows service user (and carer) involvement enhances student understanding of mental illness (Skilton 2011). So in that claim there is evidence to support the World Café approach has developed as a credible tool in both research and educational delivery.

Terry et al (2015) state the use of service users/carers in IPE has rarely been explored. They claim that given IPE encourages a "…productive learning relationship that promotes opportunities between different…" professionals, will be enhanced with service user/carer involvement. However, they do conclude this approach is underdeveloped and therefore evidence to support their conclusion is scarce.

In an exploratory review of IPE in pre-qualifying course evaluations, Thistlethwaite et al (2015) discussed the adapted Kirkpatrick model of outcome based evaluations. The adaptation included 'Benefits to patients/clients' as described by Barr et al (2005). Thistlethwaite notes evaluations of IPE focus on students learning and what they learn, but notably not health outcomes.

Jackson et al. (2016) completed a systematic review of IPE in the care of people with dementia. It aimed to evaluate the impact of IPE education on health and social care practitioners and the care of service users and their carers. Jackson et al (2016) found no studies that assessed health outcomes. This supports the report by the Cochrane review (discussed above) there were a dearth of studies which were relevant (only 6) of which the evidence was weak due to sampling methods (convenience samples) and sample sizes combined with poor research design and therefore led to inconclusive results.

Castaneda et al (2017) utilised a service learning approach in which first year undergraduate healthcare professionals work collaboratively to focus on "a common goal" for a person living in the community. Students work in inter-professional teams of four with a volunteer family and will visit 4 times a year working on a project that is based on the "patient's" needs and will improve health. Health and quality of life questionnaires are completed. Semi-structured interviews were conducted with the "patient" after 3 years on this programme. The questions focussed on the impact of the program on themselves and their health. 19 completed interviews were analysed. All patients reported a positive impact in particular related to social support but also saw their role as a mentor in developing the student's skills as healthcare practitioners. While this small qualitative study found positive reporting by patients, there is no conclusive evidence that actual health outcome improved because of IPE.

Conclusion

Despite the emergence of different formats of teaching IPE and although this 10-year review article has limitations in its lack of depth and scope, it has, nevertheless, reaffirmed there is little conclusive evidence to show the benefits of IPE specifically relating to health outcome. Reeves et al (2013) were only able to identify 9 new studies for a 5-year period. Four of these articles reported 4 mixed outcomes (positive and neutral)" and 4 reporting "no impact on either professional practice or patient care". Clearly most papers report their IPE activities are positively evaluated. But there is a recurring theme that evaluations of IPE focus on its effectiveness in relation to student leaning and what they learn. This is not without merit but the dearth of research which clearly demonstrates any certainty around benefits, especially after a further 10 years, is perhaps an indicator of the problems in developing an evaluation model for it. Although the CAIPE (2002) definition of IPE is generally accepted, it does leave it vague. "Two or more professions…" mean that any research will be difficult to evaluate like with like. It also excludes service users and carers which, as Terry et al (2016) argue should be included. Further it is disappointing that social work and care have not been included in any of the Cochrane Reviews, given the requirement for IPE in social work education and the governmental move towards more collaborative and integrated health and social care provision. Excluding a large professional group in IPE evaluation is somewhat of an oxymoron.

Articles generally claim student/participants and where included service users, found that IPE help clarify roles or effect attitudes positively. There is no conclusive evidence however, to clearly show any improvement in health or social care outcomes. Those working and researching in IPE should refocus their attention from often self-acclaiming and descriptive accounts and instead develop a clear evidence base for IPEs impact on health and social care outcomes, because 10 years on from our original article the benefits remain vague.

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