**Patient safety and interprofessional education: a report of key issues from two interprofessional workshops**

**Abstract**

This paper presents the outcomes of two workshops which explored historical and recent issues on patient safety that directly relate to leaders in the interprofessional field. The paper considers the impact of flattened team-based structures where collaborative working constantly considers safe patient-centred high quality care. These issuesare mainly rooted in changes within a United Kingdom context but the historical case studies present situations which could enlighten and enliven discussions of patient safety in an international context. The paper was sparked by discussion of recurrent themes in healthcare that have undermined the abilities of medical practitioners to adequately manage hazard in clinical care settings throughout modern history. Examining the issues that confront healthcare practitioners and care workers in their dealings with patients and clients, such as the aged or the severely disabled, can reveal commonalities across global healthcare settings, in the past and present, that provide a useful tool in facilitating the goals of interprofessional education (IPE). The potential of IPE has links to both how professionals respond together to care situations and involve the general public in shared health understandings. The outcomes focus on how to ensure ministrations where optimal team-based collaborative care is recognised and constantly sought. We conclude that IPE has much to offer in this arena and more evidence of impact here is well worth pursuing.

**Introduction**

Every day vulnerable people seek help and support from health and social care practitioners. Throughout much of the twentieth century, the actions of doctors, nurses and the range of other professionals for the most part was unchallenged throughout Europe and especially in the United Kingdom (UK). Legislative and legal frameworks for dealing with patient complaints, and the paternal role of medicine have meant that much of the interventions and pursuits of doctors were uncontested in both administrative and legal arenas(Merry, McCall Smith, 2001;Anderson & Lennox, 2013; Mulcahy, 2003; Price, 2015). Nonetheless, the lack of transparency in culpability, concomitant with a repressed patient voice in complaining about substandard care, has led to an over-reliance on public and political ‘scandal’ to investigate and hold to account substandard clinical care settings. We reflect on the current position for interprofessional education (IPE) considering the lessons from history both over the last century and recently. We consider how IPE might be instrumental in facilitating the groundswell of change that some observers claim is needed to counter a rising tide of litigation and complaints of negligence and to ensure working cultures where candour prevails (Brazier & Miola, 2000; Francis, 2013; Reeves, Ross & Harris, 2014). Such penetrative institutional reform has already occurred in the aviation industry reaping long-term measurable improvements in safety (Bennett, 2015). A lack of progress in dealing with hazards in medical settings suggests that legislation may not be the most effective tool for changes in day-to-day working practices. Historically, there has been frequent legislative action as a reaction to high-profile scandals in patient neglect, but with a mixed bag of results internationally. Our workshops therefore sought to tie together developments in patient safety and IPE within a missing historical context.

**Background**

In the early 1990s thehealthcare industry was brought to account with the publication of international pivotal reports. In the United States of America the number of adverse events, as a result of hospital admissions was in the region of 3.7%, culminating in a report by the Institute of Medicine in 1999 (Brennan et al., 1991; Institute of Medicine, 2000). At Berkeley and the University of Michigan researchers began to study how other high reliability organisations such as aviation and the military mitigated for error reduction (Weick, Sutcliffe & Obstfeld, 1999). In Australia studies have estimated adverse events in 8% of hospital admissions relating to costs of $4.7 billion annually in 1997, with concerns for the trustworthiness of data with recent costs from errors at $2.2 billion where half the errorswere seen to be preventable (Vincent, 1997; Smallwood, 2006).At this time, in the UK,seminal reports and analysis of adverse events in hospitalsestimated an overall rate of adverse events from hospital admissions to be 11.7% of which half were assessed to be preventable (Vincent, Neale &Woloshynowych, 2001). A national report reflected on the need to address patient safety issues (Department of Health, 2000).Reason warned about human error in health care urging consideration for the ‘system approach’, in particular the consideration of the conditions under which practitioners work (Reason, 1990). He argued that only when we have unpacked what goes wrong within open cultures of sharing error can we assess how the system contributes to mistakes, outlining the ‘Swiss cheese model’ which requires barriers and defenses to stop accidents (Reason, 2000).He pointed out the alternative outcome of blaming individuals for mistakes which acknowledges human fallibility, such as inattention and other psychological factors (Reason, 1999).Synonymously a UK national inquiry involving a paediatric cardiac surgeon identified the unnecessary death of babies undergoing cardiac surgery at the Bristol Royal Infirmary, revealing a hierarchical system led by a dominant surgeon (Department of Health, 2001). The UK General Medical Council was brought to account and the presiding Chief Medical Officer wrote about how doctors needed to regain the respect and trust of the general public in the twenty-first century (Irvine, 2001).As a result of this recent history, traditional paternalism of medicine has been rejected (McKinstry, 1992;Charles, Gafni & Whelan, 1997).We continue to seesociety offering a platform for the development of the patient safety movement linked by the human rights emphasis on personal liberties and the growth of consumerism. There has been the essential inclusion of patients and their families in the healthcare dialogue which has necessitated greater transparency, coupled with a growing recognition that health and social care professionals working in modern systems can on occasion, fail in their duty of care. Woven within this time period is the rise of IPE especially for pre-registration education (Barr,2000).

 There is little consensus on the definition of patient safety. The World Health Organisation (WHO) definition acknowledges that standards will necessarily reflect local contexts. Hence, although resource limitations may impact the range of services offered, they are not an excuse for poor practices. Most definitions focus on the avoidance of harm. On the one hand, the Royal College of Physicians and Surgeons of Canada considers the achievement of the optimal outcomes for each patient, “the reduction and mitigation of unsafe acts within the healthcare system, as well as through the use of best practices shown to lead to optimal patient outcomes” (Davies, Hebert & Hoffman, 2003, p12).The Institute of Medicine (IOM) in the United States of America (USA)in their pivotal report to *Err is Human* stated ‘safety’ was ‘freedom from accidental injury’ (Institute of Medicine 1999, p4) further defined as“the prevention of harm to patients” (Aspden, Corrigan & Wolcott, Erikson 2004, p5). Clearly there remains a large interpretive margin, in which IPE must demarcate its distinctive perspective which would include collective endeavor with patient dialogue.

For the interprofessional movement which advocates for interprofessional learning (IPL) there has been a growing interest in team formation and effectiveness for optimal outcomes for patients and service users (Bleakley, 2006; Weaver, Dy & Rosen, 2014). In 2006, a themed editionof the *Journal of Interprofessional Care* featured a suite of papers aligning IPE with collaborative practice and patient safety (Schmitt, 2006). Again in 2008, patient safety came to the fore in several papers; in particular Dewitt and colleagues considered poor communication and personal conflicts in team working which resulted in medical error (Dewitt, Baldwin Steven & Daugherty, 2008). Today a plethora of papers continue to focus on team-training and the importance of interprofessional communication, many spearheaded by directives from the WHO, patient safety curriculum guide, which states the case for collaborative education (WHO, 2011; Brock et al., 2013). In this respect, history can provide some guidance of the efficiency of team working and the ways that effective team working has been encouraged or discouraged in the shaping of past healthcare systems (Jones, Greene, Duffin& Warner, 2016).

**Workshop 1: looking back, going forward**

*Method*

Our first workshop was a one-day event to bring together various professions from health sectors and a range of academics in order to investigate the potential uses of history in medical education. Accreditation was provided from the Royal College of Physicians in the UK and targeted healthcare professionals and academics. Following a morning in which historical context of patient safety was shared, delegates attended a 120 minute workshop to consider the possibilities for IPE in today’s modern health and social care delivery. The aims were to consider historical and modern views of patient safety using the lens of IPE. Participants were primed with the following historical context:

1. *The historical context of medicine*: The spirit of beneficent endeavour was outlined as this has underpinned and (eventually) served as a uniting motif for the medical profession in recent history.

The participants engaged with the long history of struggle in medicine, beginning with the controversies enshrined in ‘The Oath’ which has become a modern emblem of patient safety (Eva, 2014). Although doubts remain as to the author, it has long-been attributed to Hippocrates or one of his students, evolving into the Hippocratic Oath (Miles, 2005): internationally, a lynchpin for medical education and a byword for ethical medical practice. The Oath’s reference to keeping patients from ‘harm’ is also apparent in Hippocrate’s*Epidemics*, which has since developed into the principle of ‘*primum non nocere’ ‘to do good or to do no harm’*– an aphorism that most medical students today retain as a guiding light in their subsequent careers. However doctors concerns for patient safety in the past were not necessarily influenced by the Oath and medical ethics contrasted with today’s understandings (Baker & McCullough, 2008).

1. *Historical cases compared.* HistoricalUK cases are some of the most powerful but, arguably, underestimated themes and commonalities in an overlooked pre-history of patient safety and can be compared with recent history(Table 1).

*Case 1:*In 1894 a public scandal in nursing, reported by Victorian media, shocked the world of poor law medicine (Price, 2015).In echoes of the recent Mid-Staffordshire Foundation Trust scandal, a professional nurse, Hinton, had revealed the full extent of the neglect and abuse of aged patients in the Newton Abbot Poor Law Infirmary. Hinton graphically described the negligence and the abuse that she had witnessed being committed by untrained nurses and ward attendants (Table 1). The *BMJ*undertook 50 investigations of infirmaries and hospitals and instigated a watershed in how nurses were trained (White, 1978; Maggs, 1983). There are echoes in the whistleblowing nurse for the Mid-Staffordshire National Health Trust (NHS) Trust, who raised complaints over the treatment of patients at the hospital and the stance of an anesthetist at the Bristol Royal Infirmary who spoke out about the unnecessary deaths of babies undergoing cardiac surgery. In this case, local experiences led to the General Medical Council being accused of complicity and complacency (Smith, 1998).

*Case 2:*In Nineteenth-century Britain medical practice received public criticism – both against and in support of its endeavours. After the Vaccination Acts, which made smallpox vaccination compulsory, Britain’s medical profession laboured against a Victorian public driven by distrust against them (Durbach, 2000). Despite the success of smallpox vaccination, public mistrust and mass rallies eventually led to repealing the Acts and the inclusion of a conscientious objector clause. Recent times have brought echoes of this in the measles, mumps and rubella (MMR) vaccine controversy (Deer, 2011).Victorian society and the poor law can provide many such examples of the critical relationship between cooperation, trust and safety (Table 1).

*Case 3:*The USA is well documented as a country with a strong litigation culture, especially in the field of medicine. Yet, most people are unaware of its long history. As Table 1 discusses, litigation grew out of changes in culture, which created the social and legal framework to make a rise in litigation possible. As a reference point, we have witnessed complicated and disjointed systems of social and medical care against a strong legal framework, which tends to isolate and blame individuals when things go wrong. Examples can be found in the UK in Laming’s (2009) reflections on child abuse cases in the UK and the call for greater cooperation and team working to protect children. These cases have seen the loss of registration and career damage for doctors, nurses and social workers.

1. *The outline and aims of IPE*: Participants were familiarized with the most widely accepted definition of IPE as outlined in 2002 by the UK Centre for the Advancement of Interprofessional Education (CAIPE).

Link to table 1

IPE occurs “when two or more professions learn with, from and about each other to improve collaboration and the quality of care” (CAIPE, 2006, p2). The definition implies active learning that seeks to engage and exchange understandings between different health and social care professionals and the wider engagement of those who work together for the health and wellbeing of the public such as policing and law. CAIPE’S principles, recently updates, for effective IPE were shared (Barr, Gray, Helme, Low & Reeves, 2016).

*Discussion and outcomes*

Attendees were familiar with the widely recognised set place of medicine as the long-standing leader of health care (Boyce, Borthwick, Moran &Nancarrow, 2011). There was strong agreement that the standards of care have been appraised, maintained and judged almost exclusively by lay and medical authorities. This has fed into some core aspects of modern medical practice that have interacted with and encouraged the slow growth of patient safety; mainly ‘trust’ in the medical profession.Seen through the lens of history,there was strong agreement that patients have been consistently excluded from the administering and managing of their care. At various times throughout history this has undermined the ability of medicine to provide care to obstructive or distrusting patients. Despite the passing of a century, these cases expose the importance of trust in successful and safe medical care.

The second area which arose was the common stance of systems within which we work, particularly *hazardous systems*.In James Reasons’ terms, poor law doctors and nurses worked within a pathologically hazardous system, rife with systemically-based latent faults (Reason, 1990). In strikingly similar medical reportage to that of the Mid-Staffordshire Foundation Trust inquiry in 2013, the *BMJ* was able to distance doctors from culpability and expose the unsafe care provided in workhouse hospitals (Hart, 1895). Both publications were medical and united with public agitation against negligence, which in their time led to raised standards of care and greater public trust in the medical profession. The battle lines were drawn between medical professionals and their employers, not their patients. This tripartite was to go through radical change in the first half of the twentieth century. The establishment of the NHS in 1948 has underpinned a long period of public trust in the profession, but the MMR scandal and others demonstrate that it is by no means watertight. The low numbers of successful patient litigation cases are nether representative of what lies beneath nor the scale of the ‘iceberg’ of dissatisfaction described by the medical sociologist, Rudolf Klein (Klein, 1973).Furthermore, historically, complaints that are upheld tend to culminate in blame and individual culpability, not the stemming of systemic root faults.

Finally the reflections focused on ‘blame’. Historically, a lack of public scrutiny (and public education), a dearth of administrative encouragement for investigation and a reliance on individual blame have jointly reinforced the need for and cultural dependence upon litigation in the twentieth century (Merry, 2009). In turn, an NHS culture of ‘blame’ has evolved. Understanding the reasons for this is paramount in any future agenda for change – and this process of education must include patients. Patient safety has gained momentum throughout the twentieth century because of broad social changes in court-based action, theoretical approaches to safety and the establishment of rights for patients – and, more recently, developments in medical professionalism and education (Irvine, 2001). Patients and professionals benefit from understanding context and the need for positive change. The result could be that both are less inclined to support actions that endorse cultures of blame. If ‘lessons from history’ can point to a productive solution for any of today’s problems, the potential role of IPE in strengthening the bond between professionals, patients and allied healthcare professions should not be underestimated.

*In situ* with historical case studies, IPE proved popular, timely and effective in this workshop. Additionally, historical case studies seemed to provide ‘safe distance’ for professionals to intellectually engage with some non-clinical aspects of the creation and consumption of healthcare that they may otherwise overlook. There was near-consensus in participant feedback forms that comparisons between past and present were potent and useful. A recent article on history in medical education observed, “medical students can be a tough audience for the medical humanities. They approach the knowledge taught to them with one eye firmly on the bottom line: is this knowledge relevant for their future as practitioners…?” (Jones, Greene, Duffin & Warner, 2015; p 637).IPE, ‘history’ and patient safety, together, can relate the immediacy of otherwise distant themes. As such, there is the potential to enhance practitioner ‘soft’ skills and self-awareness, providing a suite of knowledge that strengthens practitioners through the turbulence of a medical career.

**Workshop 2: Looking back, going forward: The role of IPE**

At the European IPE Network (EIPEN) conference in September 2015, participants (practitioners and educators in the field of health and social care and respective professional education, across the range of health and social care professions) spent 90-120 minutes, considering how IPE should support the patent safety agenda; using the time period of the last twenty years, since pre-registration IPE has taken root within health and social care curriculum. The workshop aims were:

1. To share current experiences of modernised collaborative working in local health and social care

Perspectives of the structure and organisation of health and social care delivery within the UK over the last 30 years were shared, from the perspective of the organisation and with insights from the workshops leaders (Figure 1)and confirmed through a patient experience written as a Blog (Table 2). Participants then plotted their local health care experiences and understandings along a trajectory of potential collaborative practice (Figure 2).

INSERT FIGURES 1 AND 2 AND TABLE 2 ABOUT HERE

1. To consider the local context for resolving patient safety issues

Extracts from leading writers on today’s issues concerning patient safety were shared (Dekker, 2014; Pronovost &Vohr, 2010). This material had emerged from the aviation industry and systems approaches, now adopted within healthcare delivery, and it was noted that the aviation industry had taken nearly 40 years to address hierarchy from early beginnings, when some pilots were extremely resistant (Gordon, Mendenhall & O’Connor, 2013). The industry has attributed safety improvements to the introduction of Crew Resource Management training on team building which began in the early 1980’s. This training acknowledges the need to move away from blaming individuals to thinking about collectives and systems as a new approach to safety; “The new view does not claim that people are perfect. But it keeps you from judging and blaming people for not being perfect”(Dekker, 2014, p8). He goes onto lament that too often we fail to think through the quick fix attempts to manage patient safety within health care (Table 3).

INSERT TABLE 3 HERE

1. Thinking about the outcomes from discussion (i) and (ii) participants finally were asked to: To reflect on the content of an effective interprofessional patient-safety curriculum

As a prompt and reminder of historical lessons a series of recent UK stories concerning safer practice were shared with participants as outlined in Table 4 with the WHO

(2011) structure on patient safety curriculum as published in 2011 showing eleven areas for teaching and learning .Participants outlined what work they were doing to address and design a patient safety IPE curriculum and debated new thinking prompted by the shared materials.

INSERT TABLE 4 HERE

*Discussion and outcomes*

So how far have we moved forward? The debates considered the changes occurring within health and social care delivery concerning ‘the practitioner team’and the associated‘hierarches’which have been prevalent for decades(Newton, 2014; Pietroni, 1992). Experiences were shared from UK doctors who have been in practice in the NHS for over 35 years, as general practitioners or hospital consultants. Many shared careers working in the traditional system of the old NHS with an emphasis on hierarchy and knowledge with the doctor assuming superiority both to the patient and to other health and social care professionals and where there was an assumption that most illness was treatable reflecting ongoing professional power struggles (Baker, Egan-Lee, Martimianakis, Reeves, 2011). Others voiced more recent times, focussing on a spirit of a partnership of equals, the importance of recognising and addressing values and the importance of patient and doctor feedback. The old system was confirmed to be where patients were generally dealt with by one profession with little interaction between other relevant disciplinary and professional groups. However, the new NHS has an emerging different culture and structure with a greater focus on the patient, service user or carer. The care of chronic disease predominates and there is integration of primary, secondary, tertiary, intermediate and community care. Interprofessional teams without hierarchies work both within and between different care providers; patients are valued and complexities addressed. Naturally changing cultures relate to how professionals have been taught to perceive one another and form effective teams.

The culture and structure of the NHS was echoed by European colleagues. Workshop participants representing Sweden, Holland, Denmark, UK and the USA shared how local cultures are changing and they mapped their observations and experiences along the continuum and there was a clustering in the middle of the diagram (Figure 2). There was much agreement from participants that although pockets of change were apparent it should not be assumed that positive change is happening. The insights of the patient echoing the reports in the UK following the Stafford Inquiry concerning students and patient abilities to see what is happening was acknowledged (Berwick, 2013 ; Ladden, Bednash, Stevens, Gordon & Moore, 2006)

Our findings suggest that at any one time both the old and new cultures co-exist in western health and social care. This clash of cultures can result in anger from both within and between professional groups. In particular there is a danger that professionals make false assumptions about the stage of development of other professional groups, leading to a breakdown in communication and challenges for IPE (Baker et al., 2011). These culture clashes can affect the service user detrimentally and need to be recognised with subsequent problems addressed.

It is the experience of one of the authors (RG) that in the old environment medical students were often taught through fear and ridicule that perfection was the norm with anything less considered a failure. It can be argued that this process resulted in doctors who tended to be defensive, patronising and not able to admit to making mistakes. It may be that this attitude of doctors also encouraged patients to expect perfection. However, ‘to err’ is human and although nobody plans to make a mistake, they will occur. Within this silo mentality of education medical students were never afforded time to consider the relationships within and between team members both clinical and non-clinical (Hammick, 2000). There was strong agreement that the clash between the old with hierarchies and a blame culture and the new culture, offers an interface requiring interprofessional alliances (Newton, 2014). However, whilst the blame culture exists, the education process can be blocked. This is often seen when newly qualified practitioners trained to be collegiate, many having experienced IPE, feel thwarted by the old hierarchical constraints for change. Patients involved with medical error are mainly content if they are informed about or involved with the subsequent responses to poor clinical episodes and welcome educational interventions; seen as essential by the WHO (2013).

It is recognised that changing systems takes time and that continuous quality improvement can be used with work based IPL and practice to improve health care delivery (Barr &Gray, 2013; Berwick, 2013). Within the UK and globally, this movement progresses under the service improvement agenda (Headrick & Khaleel, 2008).

All participants discussed the views of Sydney Dekker who advocates a move away from the steps we normally follow (Dekker, 2014) (Table 3). Solutions do not lie in *reprimanding people.*There needs to be balance between acknowledging accountability and facilitating education in a blame free environment. The patient is the most important victim but it should be remembered that the second victim can be the health professional(s) involved. *Retraining*the people involved fails to get to the deeper organisational issues. For effective retraining to occur the focus needs to be on the organisation and not used as a form of punishment for the individual(s) perceived to be at the centre of the issues concerned. The need to keep *writing procedures* only diverts from the real source of the problem (Bosk, Dixon-Woods, Goeschel, Pronovost, 2009). There are often complex issues involved that are beyond a written plan and hence are not addressed (Pronovost et al., 2006). Finally adding *more technology*in response to safety issues again can divert from deeper problems. There is a risk that this will introduce more complexity with an increased chance of error.

**Synthesising the workshop outcomes**

While synthesizing the outcomes from these workshops, we acknowledge that it is subjective to reduce the theoretical complexities of hazard and safety to a number of notional ingredients. Nevertheless there are recurrent themes resonating in the management of patent safety throughout history and into the present day. The case studies, and drawing on our experiences from history and the first workshop, provided the springboard for some of the most defining, lively and formative discussions about the challenges facing IPE, in the second. Synthesising the outcomes from these two workshops leads to opportunities for IPE, for example, the care of vulnerable patient groups, has remained at the nexus of many crosscurrent themes that reoccur in cases of medical mishap and malpractice throughout history.

The notion and importance of ‘trust’ is familiar to interprofessional educationalists, and is at the core of IPE – yet, historically, this key component of medical practice has been frequently overlooked (Irvine, 2001; Hoffman &Harnish, 2007). A cursory view of table 1 reveals the extent to which trust has always interplayed dynamically with the practice of medicine and patient safety. The contents of any IPE curriculum are aimed at building trust both between the professions and through placing the patient in the center of the team. In this way interactive shared professional understandings brought alongside the patients perspective lead to second order reflective practice (Wakerhausen, 2009).As such there was strong agreement that IPE should form the teaching method for patient safety for undergraduate and life long-learning. We echoed the views of Newton (2014) that “… the interprofessional conflict that has dominated, particularly between medicine and nursing, must abate. Promoting a culture of respect and collaboration needs to begin at undergraduate level through the development of sensitive, interprofessional curricular activities that are mindful of the knowledge and expertise that each health profession has to contribute to care delivery” (p842).

As the challenges for advancing patient safety mainly have their roots in how professionals work together (Dixon-Woods, 2010), IPE must become a potential vehicle for change. Workshop participants agreed that for effective interprofessional working, tomorrows students need to: i) form open cultures for speaking up; ii) design team structures that value difference between professionals responsibilities but can ensure relevant leadership when required; iii) take care when designing aids to memory that do not become rigid rules and add another layer for complications and ; iv) at the very least help our students to learn how to say ‘stop this is unsafe’ and v) to recognise when they are in dysfunctional teams. To release this more curriculum time must be given to IPL for it is only when students come together to recognise differences that culture can change.

In summary, to reflect on the best way forward mindful of recent history and on-going public cases of concern the following areas were seen as essential within a patient-safety IPE curriculum. The workshop consensus sought a range of IPE to cover the following four intersecting themes; i) relationship building; ii) team training; iii) Human Factors and; iv) Improvement science (Figure 4). The WHO (2011) guidance on patient safety curriculum offers guidance. Attaining these outcomes should include:

* The need to involve patients/carers in the design and delivery. One example would be mediation reviews with patients and simply listening to their stories concerning how care could be improved
* Development of a learning theme on patient safety with IPL within the core design which tackles stereotyping and seeks for mutual professional respect and where students are assessed against agreed competencies
* Continuous involvement of interprofessional team-based reflection involving all team members in interactive ways with the purpose of improving both team working and the patient experience, such as Morbidity and Mortality meetings led in a collaborative manner
* Establishing local learning groups on all matters related to patient safety both in acute and community settings to continuously learn from the experiences of near misses and develop ways to address deeper organisational issues, such as serious untoward incident and patient meetings
* Recognition of the need for educators to be trained in human factors and patient safety theory and with awareness of the importance of learning from experience using reflection and feedback
* The rising added value of simulation particularly in observing and assessing team working
* Implementing learning from areas outside healthcare (e.g. aviation).

**Discussion**

While medically-oriented professional curriculum frequently carry elements of history, these tend to overlook the cultural and social constructions of patient safety, which are however inherent in the aims and objectives of IPE.Given the place from where our participants started, the Hippocratic Oath, the recent birth of patient safety (as a respected field of scholarship in its own right) seems long overdue. Moreover, history demonstrates that our ‘Brave New World’ of patient-centered medicine is culminating after centuries of dialogue and conflict over how to define, manage and maintain safe care.

Both of our workshops drew on a range of engaging historical themes and case studies in patient safety, but recognised that ‘history’ can be an unreliable panacea for future ills. Nonetheless past and present case studies strengthened IPE’s ability to convey some opaque elements of healthcare, such as the context of medical practice, the social construction of patient safety and the perseverance of hazardous cultures and systems. It seems certain that medicine’s ability to learn from, embrace and adapt with rapid change will be more important in a future of accelerated technical innovation than it has ever been before. Until the twentieth century, clinical medicine’s effect on the nation’s health was woefully limited, but, from penicillin to nanotechnology, medicine’s impact on our lives has skyrocketed. Yet, instead of a straightforward celebratory message, medicine’s success has unearthed deeply-rooted ethical, moral and legal dilemmas. As patients’ expectations of medicine have soared, a concomitant sense of disappointment has grown along the most fractious lines of medical science and practice. Patient safety is at the heart of those convolutions in medicine’s progress. Roy Porter (1999) ended his most accomplished work with the words “medicine’s finest hour is the dawn of its dilemmas,’ adding: ‘medicine will have to redefine its limits even as it extends its capacities” (p718). These are exciting but uncertain times for medicine. Renegotiating the terms of medicine’s relationship with society seems to be a necessary component in managing hazard. IPE provides a lynchpin and a method for medicine to work with historically isolated individuals and organisations.

The workshops were a useful forum to explore patient safety, both consciously and unconsciously elevating IPE as a vehicle for change. Many o fthepresent challenges emerging from the NHS are not specific to today but resonate with similar challenges that faced previous generations of UK healthcare professionals. It is both reassuring to learn the ways in which these problems were addressed and disconcerting to acknowledge that the same problems are still arising over a century later. However, learning about history gives us a deeper insight into the development of the issues, the complexities involved and the choices for possible ways forward. Moving into a blame culture has not been an exemplary period. Ending this trajectory will require interprofessional working and by this here we mean, forming teams where there is understanding, caring and respect for each other’s contributions and ministrations and where the whole team recognises weaknesses within the systems surrounding its work which could make it fallible.

There was almost unanimous agreement in our workshops that IPE has further to travel to demonstrate its ability to form one of the solutions to many of today’s patient safety problems. Yet, there was equal acknowledgment that it has a critical role in education and in shaping our approach to managing patient safety. Delegates recognised that students will see a range of challenges within today’s healthcare systems and, in order to spot where errors occur, future education needs will demand that they are helped to recognise the vulnerability of working within challenged, occasionally compromised, systems Ladden et al., 2006). They would also need to learn how to involve the whole team if quality improvement and systems change are to be realised.

Ultimately, the low number of patients or their representatives at both workshops exposed a key factor in the ability of IPE to challenge both professionals and public. It is essential that patient involvement is welded to the process used to address issues of patient safety. If patients are given the opportunity to be actively involved in all stages of education in an authentic and non-tokenisticway, this not only can be appreciated but can produce a powerful and effective response. This process is common to, and resonates with the philosophy of IPE which places the patient at the centre of all learning and enables different professions to be actively and positively involved in an interactive process, with the focus on improving the experience of the patient in a learning environment rather than a blame culture. Future workshops should make steps towards the creation of effective patient involvement in established IPE. As yet, we have a long way to go for agreeing theoretically informed approaches with demonstrable benefits of involving patients for advancing learning (Regan De Bere& Nunn, 2016).

**Declaration of interest**

The authors report no conflicts of interest. The authors alone are responsible for the writing and content of this paper.

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