

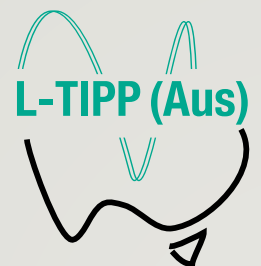
Interprofessional Health Education

A Literature Review

Overview of international and Australian developments
in interprofessional health education (IPE)

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Definitions

The field and study of interprofessional education, learning and practice is in its formative stages, with, as yet, no authoritative definitions accepted by all members of the health policy, education and practice communities. The development of these definitions has been aligned with the needs of particular practice, policy or education initiatives. Listed below are a number of frequently used definitions which reflect the diversity of understandings and generality of terms currently in use.

Interprofessional education (IPE): Occasions when two or more professions learn from, with and about each other to improve collaboration and the quality of care (Freeth, Hammick, Reeves, Koppel, & Barr, 2005. p15)

Interprofessional learning (IPL): Learning arising from interaction between members (or students) of two or more professions. This may be a product of interprofessional education or happen spontaneously in the workplace or in education settings (Freeth, Hammick, Reeves, Koppel, & Barr, 2005. p15)

Interprofessional Practice (IPP): Occurs when all members of the health service delivery team participate in the team's activities and rely on one another to accomplish common goals and improve health care delivery, thus improving patient's quality experience (Australasian Interprofessional Practice and Education Network) ¹

Interprofessional collaboration (IPC): The process of developing and maintaining effective interprofessional working relationships with learners, practitioners, patients/ clients/ families and communities to enable optimal health outcomes (Canadian Interprofessional Health Collaborative, 2010. p8)

Interprofessional collaborative practice (IPCP): All members of the health service delivery team participate in the team's activities and rely on one another to accomplish common goals and to improve healthcare delivery, thus improving the patient's quality experience (Stone, 2009. p4)

Interprofessionalism: The development of a cohesive practice between professionals from different disciplines. It is the process by which professionals reflect on and develop ways of practicing that provides an integrated and cohesive answer to the needs of the client/family/ population (D'Amour & Oandasan, 2005. p9)

¹ Online glossary available on the Australasian Interprofessional Practice and Education Network
<http://www.aiippen.net/what-is-ipe-ipl-ipp>

Overview

This literature review constitutes the final output from an Australian research and development initiative *Learning and Teaching for Interprofessional Practice, Australia* (L-TIPP Aus), co-led by the University of Technology Sydney and the University of Sydney, and funded by the Australian Learning and Teaching Council.²

The first documented IPL and IPE initiatives in the education of health professionals date back to the late 1960s. Since then there has been significant development as well as a fluctuation in the prevalence and importance of IPE in higher education. Always the domain of a highly committed minority of educators and health professionals, IPE has not to this point succeeded in the transformative overhaul of health professional education it advocated for from its early days. Yet at the present moment there appear to be stronger imperatives for such reform and change than ever before.

This review seeks to situate the contemporary Australian field of IPL/IPE within its history, nationally and internationally, in order to illuminate how it has taken the form and shape that it has, how it relates to international agendas in health and health professional education and shifts in the higher education sector, and to resource a research and development agenda for system-wide change.

The review addresses the following questions:

- » Where does the field of IPL/IPE now sit in relation to its 50-year history?
- » What have been the key intervening factors and drivers shaping health policy and practice, and how have these changed the nature of health professional work?
- » What is the contemporary rationale for the development of interprofessional modes of health practice and how have these changed over a generation?
- » How has higher education changed over the past three decades to offer different challenges and opportunities for innovation in health professional education and practice?

- » What are the continuing impediments to reform and how are these being addressed?

The literature review is structured in four parts. The first part maps the international literature in terms of the global policy drivers underpinning the IPE agenda including new concerns for quality and safety in health care, the rising prevalence of chronic and complex long term conditions, and global health workforce shortages. We also identify how the higher education sector is responding in terms of a range of IPE initiatives that have been developed and implemented globally during the past three decades.

The second part takes up the IPE development story from an Australian perspective. We identify policy and practice drivers that have influenced IPE development in Australia. We discuss the recent convergence between the federal and state governments that has promoted the development of IPP and IPE to centre stage in national health and higher education reform agendas. Finally, we identify a range of IPE initiatives that have been implemented in Australian universities during the past three decades.

The third part of this review focuses on locating IPE development within the broad context of higher education within Australia and internationally. Here we review a range of broader initiatives that have engaged with the importance of student learning, work-integrated learning, and graduate attributes. This section also provides a brief overview of the theory and practice of IPE.

In the final part of this review, we summarise the findings of the L-TIPP (Aus) study which reviewed the state of IPL and IPE in the Australian higher education sector (*Learning and Teaching for Interprofessional Practice Australia* (L-TIPP Aus), 2009). It provided insight into the contemporary discussion and debate about IPE in Australia, including recent developments, future directions, and recommendations for action.

² L-TIPP (Aus) publications can be accessed at <http://www.altc.edu.au/resource-learning-teaching-health-uts-2009> or at <http://www.aippen.net/australia#ltipp>

1 International perspectives on IPE

The World Health Organisation (WHO) formally recognised the importance of interprofessional learning in its report *Learning Together to Work Together for Health* (World Health Organisation, 1988). This report called for closer links between education and health systems to help ensure that health personnel had the capacity to respond to the needs of the health system. Although the report focused on primary health care, the principles discussed are applicable across the continuum of health care.

In this section we look at international developments since the 1988 WHO report and its relevance for today. We discuss the reality of IPE policy and its implementation within practice, while acknowledging that the extent of translation of any defined national policy into practice is largely unknown. Our L-TIPP (Aus) study showed, for example, that such translation is fragmented, and not ‘developed and communicated as part of a coherent and connected national agenda’ (Learning and Teaching for Interprofessional Practice Australia (L-TIPP Aus), 2009. p23). IPE interventions continue to lack sustainability in many countries and settings, nor are they rarely evaluated rigorously or informed by quality research. Too often the development and delivery of IPE activities within institutions and/or clinical settings are over-reliant on enthusiastic champions. Although there is an increasing number of interprofessional initiatives and a move towards team-based practice in many countries, the nature and outcomes of interprofessional collaboration remain uncertain and, as yet, poorly researched.

Policy drivers

Globally, the policy drivers for interprofessional education reflect the increasing pressures on the healthcare system.

Changing demographics

The increasing incidences of chronic illness and life-style diseases have placed and continue to exact even greater demands on already stretched health services. The growing incidence of lifestyle diseases and chronic illness is linked to an ageing

of the population and greater longevity resulting from modern advances in treatment interventions (Institute of Medicine, 2001; Wagner et al., 2001). These changes have necessitated a shift in focus from acute service delivery to a chronic care model that emphasises among other system changes, interactions between practice team and patient, and support for self management (Bodenheimer, Wagner & Brumbach, 2002).

New models of health care

To cope with the increasing complexity of health-care and the rapid advance in knowledge and technology within the health field, organisations are recognising the need for effective teamwork between the health professions (Institute of Medicine, 2001). There is greater awareness that one profession alone can no longer meet the needs and expectations of the patient, nor can professions continue to work in silos, being reliant on the complementary skills of their colleagues to provide optimal care. There is also growing patient and community expectation of greater partnership and inclusion in the healthcare process.

Quality and safety agenda

The Institute of Medicine’s landmark report *To Err is Human* (Institute of Medicine, 1999) highlighted the enormous impact of medical errors on patient lives, costs to the health system, the community, and to health professionals. This report concluded that:

the majority of errors do not result from individual recklessness or actions of a particular group... more commonly, errors are caused by faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them (Institute of Medicine, 1999. p2)

Similarly, a joint report from the US Council on Graduate Medical Education and the National Advisory Council on Nurse Education and Practice (COGME) noted that:

Patient safety cannot be accomplished without interdisciplinary practice approaches. Safety depends upon implementation of a unified interdisciplinary system that addresses realities of practice and patient care. Education and practice methods must stress interdisciplinary team approaches (Council on Graduate Medical Education and National Advisory Council on Nurse Education and Practice, 2000. p1)

Collectively, these reports illustrated that collaboration among healthcare professionals has the potential to improve the quality and safety of patient care. Thistlethwaite & Nisbet (2007) have discussed that although there is emerging evidence about the impact of interprofessional collaboration on quality of patient care, more work needs to be done to demonstrate improved short and long term health outcomes.

Global health workforce shortages

The World Health Organisation (2006) has estimated the current worldwide shortage of almost 4.3 million doctors, midwives, nurses and support workers is expected to worsen in future years. Additionally, an ageing health workforce has also compounded the challenges of service provision to developing countries, rural and remote areas, Indigenous communities, and in areas of special need, such as mental health, aged care and disability services. As discussed below, the link between health workforce shortages and IPE, particularly in terms of how interprofessional practice can facilitate efficient and effective use of the current global health workforce, is an ongoing issue of concern for the WHO.

Policy and national responses

In response to these challenges, health systems in general, and health services in particular, are increasingly emphasising the critical importance of improved and increased levels of interprofessional practice: that is, health

professionals working together, often in teams, to manage complex practice situations. Changing the way health professionals are educated is a critical step to achieving broader system change and ensuring that health practitioners have the necessary knowledge and training to work effectively within a complex and evolving health care system.

The role of the World Health Organisation (WHO)

The WHO report *Learning together to work together for health* of 1988 was strongly influenced by its earlier work, particularly in relation to medical education, where IPE was advocated as a means of improving staff satisfaction, encouraging a holistic response to patients needs, and increasing public appreciation of the healthcare team (World Health Organisation, 1973). Meads & Ashcroft (2005) suggested that the degree to which the WHO has influenced national policy and IPE development varies between countries and between developed and developing nations. They have not speculated about the reasons for this variation, but have indicated that it is the smaller European and Nordic countries and developing countries that appear to have been most influenced.

In an address at the 2008 All Together Better Health IV Interprofessional Learning conference in Sweden, Jean Yan (of the WHO) noted the need to be creative and flexible in how the future workforce is trained, calling for new models of healthcare community workers and career structures. The global health workforce shortage has been the impetus for the work of a more recent WHO study group on interprofessional education and collaborative practice (Yan, Gilbert, & Hoffman, 2007). In 2010, this study group, co-chaired by John Gilbert and Jean Yan, released the *WHO Framework for Action on Interprofessional Education and Collaborative Practice* report (World Health Organisation, 2010), which emphasises the role of interprofessional education in underpinning the development of a collaborative practice-ready health workforce, where health workers work together and rely on one another in delivering quality healthcare. The report summarised

the evidence regarding the positive impact of interprofessional education on collaborative practice, and the impact of collaborative practice in addressing local health needs and improving healthcare delivery and patient outcomes.

The *WHO Framework for Action* (2010) also identified an important number of mechanisms shaping and supporting how interprofessional education is developed and delivered. These include elements related to the training of personnel involved in developing and delivering curricula, institutional and environmental support mechanisms such as a working culture that is conducive to practicing collaboratively, and governance mechanisms which emphasise patient safety. This report noted that a high level of synergy between the health workforce planning sector and health education systems was critical, particularly for supporting the transition of learners from the classroom to the workplace and enhancing the sustainability of interprofessional education and collaborative practice initiatives generally. The report identified a set of actions that health workforce planners and educators could take to maximise the development and delivery of interprofessional education and collaborative practice outcomes within their local context (World Health Organisation, 2010).

The WHO study group was further subdivided into three teams, each with a specific focus: interprofessional education; interprofessional collaboration/collaborative practice; and system-level supportive structures. As well as the *WHO Framework for Action* (2010) itself, the work of the three teams has been published in the September edition of the *Journal of Interprofessional Care*, together with a commentary by Hugh Barr (2010), the president of the UK Centre for the Advancement of Interprofessional Education (CAIPE). The three papers are:

1. Where in the world is interprofessional education? A global environmental scan (Rodger & Hoffman, 2010)
2. Collaborative practice in a global health context: common themes from developed and developing countries (Mickan, Hoffman, & Nasmith, 2010)

3. Learning outcomes for interprofessional education: literature review and synthesis (Thistlethwaite & Moran, 2010)

Establishment of interprofessional networks

In recognition of the need for global communication and collaboration to progress interprofessional learning and practice, the International Association for Interprofessional Education and Collaborative Practice (InterEd) was established, with the objective of promoting and advancing scholarship and informing policy in interprofessional education and collaborative practice worldwide, in partnership with others, including patients, colleagues, communities and other organisations and networks. This organisation complements the work of other international networks which have been established in response to local policy drivers (Nisbet et al., 2007). These networks include the: American Interprofessional Health Collaborative (AIHC), UK Centre for the Advancement of Interprofessional Education (CAIPE), Canadian Interprofessional Health Collaborative (CIHC), European Interprofessional Education Network (EIPPEN), The Network: Towards Unity for Health (Network: TUFH) in particular their IPE sub-group; Nordic Interprofessional Network (NIPNET); Australasian Interprofessional Practice and Education Network (AIPPEN); and the Japanese Association for Interprofessional Education (JAIPE). Recently, following a high level global consultation of representatives across the health professions in Geneva in June 2009, the Health Professionals' Global Network (HPGN) was established under the auspices of the WHO. The majority of these networks exist on minimal public funding and are reliant on the enthusiasm and goodwill of individual members, and these issues need to be addressed for long term sustainability and effectiveness of these networks. In the next part of this report, we review specific national responses to the changing and evolving healthcare challenges of the 21st century.

Scandinavia

The focus on primary health care in the 1970s and the Declaration of Alma Ata (World Health Organisation, 1978) had a major impact on policy in Scandinavian countries, and provided the foundations for IPE in many ways. For example, Linköping University in Sweden, first implemented an interprofessional curriculum in 1986 (Areskog, 1988), when it launched its new Faculty of Health Sciences, two years before the WHO *Learning together to work together for health* report. Linköping University is widely acknowledged as one of the forerunners for embedding IPE within curricula. Following its lead, other universities within the region have responded with their own IPE initiatives. For example, the Karolinska Institute has implemented similar ward-based IPE training programs (Ponzer et al., 2004).

United States

A number of key documents that have emerged from the United States have clearly articulated an IPE response to health system reform. The Pew Health Professions Commission (O'Neil & The Pew Health Professions Commission, 1998) identified that significant reform in health professions education in both content and delivery was required to address contemporary healthcare challenges. The Commission called for educational institutions to re-assess their curricula and embrace a move towards competency-based education. One of the core competencies that was identified for all health professionals was the capacity to work 'interdependently in carrying out their roles and responsibilities, conveying mutual respect, trust, support and appreciation of each discipline's unique contributions to health care' (O'Neil & The Pew Health Professions Commission, 1998, p39). To reinforce their message, the Commission recommended that schools and faculties target 25% of their current educational programs to be delivered in interdisciplinary settings. The Pew Health Professions Commission has sent a strong message about the need for interprofessional education and practice among health professions students, and also the need for

increased community input and participation in developing such initiatives (Baldwin, 2007).

Likewise, a report commissioned by the US Institute of Medicine highlighted the anomaly between healthcare practice and education settings in that, although health professionals are expected to engage in collaborative practice in teams, they are not trained together or trained in team-based skills (Institute of Medicine, 2003).

As such, this report identified:

that all health professionals should be educated to deliver patient-centred care as part of an interdisciplinary team (Institute of Medicine, 2003, p3)

Canada

The University of British Columbia (UBC) was one of the early pioneers of interprofessional learning (Szasz, 1969). This university remains prominent in the area and offers a number of IPL related programs, although these are still mainly electives. Part of the successful incorporation of IPL can be attributed to the formation of the College of Health Disciplines, a central hub for interprofessional activity within the university. UBC also took a leadership role in initiating collaboration between government, health and education sectors within British Columbia. Similarly, the University of Alberta has a relatively long history of IPL, first offering an interdisciplinary course in 1992 (Philippon, Pimlott, King, Day, & Cox, 2005). Initially an elective, this course is now embedded within curricula as a mandatory and assessed component for all healthcare students. In addition, students also have the opportunity to take part in elective practice-based IPL initiatives in their senior years. These IPL initiatives are centrally supported by the InterProfessional Initiative, a unit created to further develop and research IPL within the University of Alberta. The establishment and maintenance of institutional units with a mandate to promote interprofessional initiatives appears to be a common theme within universities that have managed to successfully embed and sustain IPL within curricula.

Despite pockets of university-developed IPL being implemented throughout Canada,

it has only been in recent years that activity has dramatically increased. This can be directly related to Canadian policy and funding initiatives. For example, in 2003, the First Ministers Health Accord identified that changing the way health professionals are educated was a key requisite for an integrated and interdisciplinary approach to care (Health Canada, 2003). Health Canada committed to a program of interprofessional research and service delivery and allocated funding of over nineteen million Canadian dollars. The Canadian Interprofessional Health Collaborative (CIHC) was established to facilitate the coordination and dissemination of information from funded projects. CIHC views that:

interprofessional education and collaborative patient-centred practice are key to building effective health care teams and improving the experience and outcomes of patients (Canadian Interprofessional Health Collaborative, 2007, p2).

The collaborative was initially funded through Health Canada for a period of two years, and recently extended for a further year. An indicator of success of the CIHC and indeed other IPL policy directions within Canada will be the number of funded IPL projects that are sustained by universities once central funding is withdrawn.

United Kingdom

In the United Kingdom, through the National Health Service (NHS), there has been a clear policy direction to incorporate, what is termed 'common learning' into health and social care curricula. This has been largely influenced by the recommendations of the Bristol Inquiry which highlighted the lack of communication between members of health professional teams leading to compromised patient safety, in this case children undergoing heart surgery (Kennedy, 2001). The UK Department of Health publication *Working Together – Learning Together* emphasised that core skills, particularly communication skills, 'undertaken on a shared basis with other professions, should be included from the earliest stages in professional preparation in both theory and practice settings' (Department of Health, 2001, p25). Recent national policy documents have also linked health workforce

reform to changes in the way health care professionals are educated and trained. The 2010 UK Department of Health consultation paper explicitly linked workforce planning with the need to take a stronger multi-professional approach to education and training of health care professionals (Department of Health, 2010).

National initiatives have included the establishment and funding of four leading edge interprofessional education sites in England in 2003: North-East, Sheffield, Southampton (New Generation project) and King's College London (Coster et al., 2007). These were followed by the formation of the Creating an Interprofessional Workforce (CIPW) framework (Department of Health, 2007). This framework has been credited with providing direction and guidance to those involved in developing IPE programs and enhancing wider individual and organisational interest in IPE (Meads, 2007). Meads (2007) has also observed that policy making generally seems to be most productive at the local and regional level. This view is reinforced by the continuing development and funding of local IPL initiatives such as at the University of Southampton; the establishment of dedicated IPL academic positions at a number of universities, for example at East Anglia, Southampton and Warwick; and the expansion of CAIPE which has international standing as an authority in IPL. Barr (2005) provided a comprehensive summary of the interprofessional movement in the UK and policy implications for IPE development. A UK-wide higher education institutional survey is planned by CAIPE partnered with St George's University London and Warwick Medical School in 2011, to capture the interprofessional learning programs on offer in the UK.

Interprofessional and collaborative practice learning outcomes have also been included in a number of health professional curricula in the form of learning objectives or outcomes required for certification and professional qualification (Barr & Norrie, 2010). For example, the updated *Tomorrow's Doctors* report (General Medical Council, 2009) has outlined that medical graduates will need to demonstrate the capacity to:

- » learn effectively within a multiprofessional team

- » understand and respect the roles and expertise of health and social care professionals in the context of working and learning as a multi-professional team;
- » understand the contribution that effective interdisciplinary team working makes to the delivery of safe and high-quality care;
- » work with colleagues in ways that best serve the interests of patients, including passing on information and handing over care, demonstrating flexibility, adaptability and a problem solving approach;
- » build team capacity and positive working relationships and undertake various team roles including leadership and the ability to accept leadership by others

Similarly, the UK Nursing and Midwifery Council (Nursing & Midwifery Council., 2010) has articulated in its revised standards, that nursing programs will need to:

- » ensure that students have the opportunity to learn with, and from, other health and care professions (R 5.7), in practice and in academic settings where possible (G 5.7), and
- » find creative ways for inter-professional learning to take place throughout the programme so that students can develop the skills they need to work collaboratively with other health and social care professionals (A5.7a)

The guidelines for allied health professional education developed by the Health Professions Council (HPC) (2008) has also acknowledged that successful interprofessional learning can develop students' ability to communicate and work with other professionals, potentially improving the environment for service users and professionals. Interestingly, these guidelines also mention that interprofessional learning must not deter professional groups from learning professions-specific skills and knowledge, illustrating a hidden yet common concern that IPE may detract from a focus on profession-specific curricula and competencies. However, the educational outcomes resulting from such curricular changes have not yet been explored.

Asia Pacific Region

There appear to be isolated pockets of IPE/ IPL activity in the Asia Pacific region (excluding Australia) but little coordinated effort. Much of this activity is occurring within New Zealand and Japan. For example, the Universities of Auckland and Otago offer interprofessional learning opportunities for prospective medical students and undergraduate medical students, although these are not structured IPE programs in that the focus is on students learning alongside each other rather than 'about and from' each other (McKimm et al., 2010). McKimm and colleagues (2010) have identified that since 2008, the Faculty of Medical and Health Sciences at the University of Auckland has developed and implemented an IPL framework documenting interprofessional capabilities (knowledge, skills, attitudes and behaviours), with the intention of using this framework as a guide to developing and evaluating outcomes of interprofessional activities. The New Zealand National Centre for Interprofessional Education and Collaborative Practice (NCIECP) based at the Auckland University of Technology is the first of its kind in New Zealand, with a mandate to develop interprofessional educational programs, both within the class room and in the clinical environment.

Takahashi (2007) has noted the importance of interprofessional education in providing an appropriate framework for interprofessional health care practice required to meet the complex health-care and welfare requirements in Japan. The Japan Inter Professional Working and Education Network (JIPWEN) was established in 2008 to advocate for and support interprofessional education and practice in Japan. It provides a forum for bringing health care practitioners, educators, and researchers together, and a mechanism for promoting the dissemination of information regarding IPE and IPL activities in Japan to national and international audiences. An additional aim of JIPWEN is to participate in and inform the development of government policies regarding IPL, although due to the lack of literature available from this region, it is not clear to what extent these interprofessional policies have

been developed and/or implemented. This network is separate to the Japanese Association for Interprofessional Education (JAPE), but the two groups work in collaboration with each other. In terms of university responses, the Faculty of Health Sciences at Kobe University is at the forefront of the development and implementation of education for interprofessional work with a core mandate to develop collaborative competencies for interprofessional education.

Developing countries

A major issue in reviewing information from developing countries is that there are relatively few publications emerging from these areas, however this does not necessarily mean that activity is sparse. Two of the papers published by the WHO study group (Mickan et al., 2010; Rodger & Hoffman, 2010) reviewed IPCP activities in the developing world. Rodger & Hoffman's (2010) global scan received replies from 41 countries with only 3% from low and 4% from lower-middle economies. The authors have acknowledged that the poor response rate may have been because their survey was conducted online, in English, and relied upon self-reporting. Mickan and colleagues (2010) presented an analysis of ten case studies of interprofessional collaboration from developed and developing countries, which indicated that there are similarities between countries despite the diversity of their locations. For example, common barriers to interprofessional collaboration included team functioning issues, local and national policies, and lack of structured information systems and policies. The authors concluded that a significant practical challenge for collaborative practice relates to the location and ownership of patients' medical records, and this is obviously a major issue for developing countries in terms of geography, infrastructure and culture.

2 Australian perspective on IPE

In this section we focus on drivers for healthcare reform and policy responses within Australia. Many of the policy drivers are similar to those characterising the international scene and include the increased incidence of long-term health conditions within an ageing population and the patient safety agenda.

In addition, Australia has specific challenges associated with the poor health parameters of its Indigenous population. A number of health policy documents have been published within the last few years as Australia reforms its health workforce and plans for the future.

Policy drivers

Drivers for healthcare reform within Australia are similar to those identified in Section 1 of this report and faced by most countries around the world. The National Health Workforce Taskforce report (2009) has identified that population growth, the ageing of the population, the changing nature of the burden of disease, and greater focus on health prevention, combined with changing consumer and workforce expectations and behaviour, have placed increasing demands on the Australian healthcare workforce.

Australian health workforce shortages

Health workforce supply in Australia continues to face current and predicted shortages. For example, data from the Australian Government Department of Education, Employment and Workplace Relations (2010) on skill shortages in Australia, illustrated a state and territory wide shortage of health professionals, which is consistent with previous data. These labour shortages, particularly in medicine, dentistry, and nursing, are related to an ageing workforce, as well health professionals choosing to work shorter hours (National Health Workforce Taskforce, 2009). Compounding this is the uneven geographical distribution of the Australian workforce, with greater shortages in rural and remote areas, particularly in Indigenous communities (Productivity

Commission, 2005). *The Health Workforce in Australia and Factors for Current Shortages* report (2009) noted that despite actual and predicted increases, the health workforce supply will not be able to keep up with the increasing demand for health care services, with the situation further deteriorating in the future.

In order to meet current demand and future challenges, it is becoming increasingly necessary for governments and health care providers to look differently at the provision of health care in Australia. The National Health Workforce Strategic Framework (2004) has set out a number of guiding principles for national health workforce policy and planning, and strategies for implementing these principles at a national or regional level. Of particular relevance is Principle 5 of this framework which identifies that workforce skills and workforce adaptability may require reconceptualisation of the 'accepted limits of existing professional roles' and recognition that 'new knowledge and skills be acquired and maintained' (Australian Health Ministers' Conference, 2004. p17). A key strategic action suggested for achieving this principle is the development of 'workplace, professional and education and training practices that facilitate team approaches and multidisciplinary care' (Australian Health Ministers' Conference, 2004. p16).

Health demographics and inequalities

The average age of the Australian population is increasing. It has been estimated that by 2047, over one in four Australians will be over 65 (Commonwealth of Australia, 2007). This ageing population has, and will have, a dramatic impact on demands for health care, health workforce supply, and service provision. It has already

resulted in an increasing demand for services due to the associated predominance of chronic illness. Not surprisingly, the National Chronic Disease Strategy (2006) identifies that, given these life expectancy figures, chronic illness accounts for 80% of total health burden when measured in terms of disability adjusted years. It is anticipated that Australia will follow global trends predicted by WHO, in which, by the year 2020, chronic disease will account for three quarters of all deaths (National Health Priority Action Council (NHPAC), 2006). Chronic disease accounts for almost 70% of allocated health expenditure (Australian Institute of Health and Welfare, 2008). Despite this, health resources remain oriented to acute conditions (National Health Priority Action Council (NHPAC), 2006).

Disadvantaged sectors of the population which include older Australians, Aboriginal and Torres Strait Islander people, people with mental illness, physical and intellectual disabilities; and people who are socio-economically disadvantaged, also suffer disproportionately from chronic diseases, and experience higher levels of disability. For Aboriginal and Torres Strait Islander peoples, chronic illnesses currently account for 53% of deaths, compared with death rates for other Australians (Australian Health Ministers' Advisory Council, 2006). In addition, Indigenous people are generally less healthy than other Australians, die at much younger ages, have more disability and a lower quality of life (Australian Institute of Health and Welfare, 2006; Australian Institute of Health and Welfare, 2010).

Demand for new models of health care

Continuing advances in health care technology are also expected to have a dramatic influence on the demand for services, types of services provided, and the ways services are provided (Australian Health Ministers' Conference, 2004). This has implications for models of care and new workforce practices (Productivity Commission, 2005), and therefore has direct repercussions for the healthcare workforce in terms of the knowledge and skill base required to keep abreast of and integrate new technologies.

Empowered consumers

Consumers play a critical role in the achievement of effective partnerships with the health system. There is increasing emphasis on new ways of visualising the patient-professional relationship, where patients are recognised for their expertise, and health care practitioner and patient roles are negotiated within the patient-professional relationship. Baars (2010) has noted that patients expect to be given the choice to be involved in decision making about their care and to be kept informed of their progress by the healthcare team:

Empowered consumers will demand to know more about the treatments proposed for them, their effectiveness and the track record of the practitioners involved in their diagnosis, testing and treatment.... Consumers are also likely to seek out the most advanced, safest, lowest cost care options (Australian Health Ministers' Conference, 2004. p11)

There is growing recognition that the task of the health practitioner is to help patients manage their own health. In conjunction with this recognition has been the emergence of the concepts of informed shared decision making, patient partnership, and co-production (Dunston, Lee, Boud, Brodie, & Chiarella, 2009).

A focus on patient safety

Patient safety and quality of care are heavily influencing health reform agendas within Australia. Patient safety has also been identified in a number of recent State Department of Health reports as a key issue influencing health policy and practice (NSW Health, 2004; NSW Health, 2006; Western Australia Health Reform Implementation Task Force, 2006)

The National Health Workforce Strategic Framework (2004) has stated that the core business of the Australian healthcare workforce is providing:

effective, safe, quality care that improves the health and well being of the Australian community. More often than not this care involves a group of people working either in a team, or as seamlessly as possible (Australian Health Ministers' Conference, 2004. p6)

A comparison of recent national and international inquiries into patient deaths identified that:

some health care was far below standard; quality monitoring processes were deficient; individual care providers and patients raised the concerns; critics were often ignored or abused; patients and families were not informed members of the team; and teamwork was deficient (Hindle, Braithwaite, Travaglia, & Iedema, 2006, p6)

Although all of the above issues have implications for interprofessional learning and practice, of particular concern is the finding related to deficient teamwork. The authors concluded that many individuals involved in patient care were largely competent and dedicated but had ineffective working relationships. The inquiry reported various manifestations of poor team work including low levels of sharing of clinical documentation, and inadequate understanding of and respect for the contributions of other clinical professions.

In a complementary study performed by the same team of researchers, in which 'people at the coal face' were interviewed about their experiences and concerns with patient safety, the issue of teamwork was again raised. The researchers identified that:

patient safety problems occurred not so much as a result of individual error, but rather as a result of a combination of poor communication, ineffective teamwork, cultural barriers and inadequate or inappropriate resource management (Braithwaite, Travaglia, & Nugus, 2007, p3)

Policy responses

Within the Australian context, the need for new forms of educational thinking and practice aimed at addressing the above health issues and challenges through IPL have been increasingly articulated within the policy and practice literature. For example, the *National Patient Safety Education Framework* report (2005) identified that the development of IPE/IPL and IPP capabilities across all sections of the Australian health workforce was essential for enabling effective collaboration, effective team work, and increased levels of quality and safety:

in the past most training and education in health care has been delivered using the learning objectives of a particular profession, occupation or profession.

This segregated approach is not appropriate in today's health care system where complexity, technology and specialization are the norm ... Health care workers who are educated and trained to work together can reduce risks to patients, themselves and their colleagues (Australian Council for Safety and Quality in Health Care, 2005, p6)

Similarly, the *Australia's Health Workforce* report noted the 'lack of coordination between the education and health areas of government, leading to mismatches between education and training places and service delivery requirements' and longstanding practices tended to act as a barrier to the exploration of 'better ways of educating and training the future health workforce' (Productivity Commission, 2005, p xxiv). This report identified that a new national workforce structure was required to achieve a more sustainable and responsive health workforce that had the potential to overcome the current fragmented delivery of services and the professional and regulatory barriers to innovation.

One of its key recommendations was to call for a national and systematic dialogue on health education and training to:

facilitate consideration of education and training issues on an integrated rather than profession-by-profession basis. Amongst other things, this could provide greater scope to identify common education and training requirements across particular professions, and consequent opportunities to further develop inter/multi-disciplinary training approaches (Productivity Commission, 2005, p94)

National Health Reform Initiatives

Recent health reform agendas have emphasised a number of workforce developments to enhance the responsiveness and the flexibility of Australia's healthcare workforce. A major objective of the recommendations made in the Garling (2008) report on *Acute Care Services in New South Wales Public Hospitals* is the creation of an effective hospital workforce. The report recommended that health professional 'clinical education and training should be undertaken in a multi-disciplinary environment which emphasises inter disciplinary team based patient centred care' and that a central body such as an

Institute of Clinical Education and Training be established to design, deliver, assess and evaluate clinical training across the professions (Garling, 2008. p11). This report also sent a strong message about developing the capacity of the health workforce to 'work within a multidisciplinary environment as a member of, or as a contributor to an interdisciplinary team' (Garling, 2008. p19). Similarly, the recent National Health and Hospitals Reform Commission report recommended the development of a:

new framework for the education and training of our health professionals which moves towards a flexible, multi-disciplinary approach, and incorporates an agreed competency-based framework as part of a broad teaching and learning curriculum for all health professionals (National Health and Hospitals Reform Commission., 2009. p8)

National Health Workforce Taskforce

National health care reform is high on the agenda for the Council of Australian Governments (COAG). In 2007 the National Health Workforce Taskforce was established to progress health care reform with an aim of addressing priority issues identified in the National Workforce Strategic Framework and the accompanying National Health Workforce Taskforce action plan, including the development of:

workplace professional and education and training practices that facilitate team approaches and multidisciplinary care (Australian Health Ministers' Conference, 2004. p9)

Recognising the association between education and health reform, education and training was one of the key portfolios of the National Health Workforce Taskforce (Carver, 2008). Objectives for this portfolio focused on maximising capacity of health and education systems to meet the projected workforce demands, and ensuring that education and training was appropriate, responsive and relevant to the changing health system needs. Priority areas included clinical education and training (processes, models, settings); development of core competencies; and education and training pathways within health sectors. IPL was recognised as one of the strategies to progress these priority areas and support innovation and reform in the workplace.

Health Workforce Australia (HWA) was established in 2010 to take over the responsibilities of the National Health Workforce Taskforce, ensure that clinical education and training is appropriate, responsive and relevant to changing health system needs, and to maximise capacity of the system to provide sufficient trained graduates. The mandate of HWA was to develop policy and deliver programs in relation to workforce planning; clinical education; innovation and reform of the health workforce; and the recruitment and retention of international health professionals.

National Registration and Accreditation Scheme

In March 2008, in response to the Productivity Commission's recommendations, COAG signed an intergovernmental agreement for a national registration and accreditation scheme for health professionals (2008). Nine health professions are named on the agreement including medical practitioners, nurses and midwives' pharmacists; physiotherapists; psychologists; osteopaths; chiropractors; optometrists; and dentists, including dental hygienists, dental prosthetists and dental therapists. The COAG Communiqué identifies that, apart from reducing "red tape", this agreement aims to '... provide greater safeguards for the public and promote a more flexible, responsive and sustainable health workforce' (Council of Australian Governments., 2008. p5). This is a positive step forward for IPL and IPP in that this national scheme has the potential to facilitate greater collaboration, cooperation, and communication between the professions at a national level and the development of core competencies, including IPP competencies, as prioritised by the National Health Workforce Taskforce. In the appendix to this report, we have provided some examples of the inclusion of IPL standards in professional accreditation documents across the health professions in Australia.

The Australian Health Workforce Ministerial Council has also proposed the introduction of a single national registration and accreditation program for universities, prevocational and vocational training (Australian Health Workforce

Ministerial Council, 2010). This is an important change as the single registration authority and system for national specialist registration reinforces the message that greater coordination within the health system is needed to support interprofessional collaboration in practice. Throughout the reform agenda there is an explicit acceptance that workforce education and training are essential to the successful implementation of any changes.

Workforce redesign

The Productivity Commission report identified that the skills of many health care workers 'are not being used to full advantage' (Productivity Commission, 2005, p xvii). The introduction of nurse practitioners was given as an example of innovation to address some of the pressures facing the healthcare system. Yet, despite the existence of this role in other countries for many years, there is still resistance from some parts of the medical profession. It is unrealistic to presume that IPL can resolve all of the legal, financial, cultural, and competency issues entangled in this debate. However, from an IPL perspective, a greater understanding of roles and capabilities, leading to appreciation, respect, and trust may break down some resistance and barriers between the health professions.

Changed models of health care delivery – a chronic disease focus

In recognition of the growing burden of chronic disease on individuals, communities, organisations and governments, a national policy approach has been adopted to improve chronic disease prevention and care across Australia (National Health Priority Action Council (NHPAC), 2006). The National Chronic Disease Strategy report (2006) incorporated an *interprofessional* approach to care, not only between individual practitioners but also in promoting collaboration between the various health care sectors, as evident in Principle 5:

Health care practitioners operating in effective

primary health care networks are best placed to provide a team based approach (National Health Priority Action Council (NHPAC), 2006, p10)

Integrated care means that health services work collaboratively with each other, and with patients and their families and carers, to provide person centred optimal care (National Health Priority Action Council (NHPAC), 2006, p11)

The National Chronic Disease Strategy report (2006) also specified in one of its key direction statements, the development of core chronic disease prevention and care competencies within undergraduate and postgraduate health professional education. Included in this skill set are:

communication skills, which enable service providers to collaborate effectively at three levels: not only with patients and their families and carers, but also to be able to work closely with other service providers, and to join with communities to improve outcomes for people with chronic disease (National Health Priority Action Council (NHPAC), 2006, p36)

The report stops short of recommending how these skills should be developed. Interprofessional learning is viewed as a priority strategy to implementing the directions outlined in the National Chronic Disease Strategy and the Australian Better Health Initiative (Council of Australian Governments, 2006).

Indigenous health: an interprofessional learning approach

Given the disturbing health statistics for Aboriginal and Torres Strait Islander peoples, universities are increasingly incorporating Indigenous health curricula into their programs. For example, under the auspices of the Committee of Deans of Australian Medical Schools, an Indigenous health curriculum framework³ has been developed for implementation across Australia. Although developed for medical schools, this framework is easily adaptable to other health professions,

³ <http://www.limenetwork.net.au/content/curriculum-framework>

paving the way for interprofessional learning opportunities.

State and territory government uptake of IPL

There is growing interest, albeit slow progress on action, by the state and territory governments, on IPL and IPP solutions to health reform. Arguably, ACT (Australian Capital Territory) Health is leading the way, bringing together educators, clinicians and government sectors to establish strategic relationships to practically implement IPL at both pre qualification and within the workplace across the Territory (Chesters & Murphy, 2007). ACT Health's commitment to establishing an IPCP culture within the organisation, is reflected in their policy on interprofessional, learning, education, and practice which seeks to:

define interprofessional practice and assign accountabilities and responsibilities for the implementation of interprofessional practice across ACT Health to help embed interprofessional collaboration into daily service delivery (ACT Health, 2008. p1)

System-wide progress in IPL and IPP within ACT Health including in its tertiary education providers, professional education, regulatory and registration bodies, and healthcare teams, wards and units, has been the subject of a large scale collaborative action research project by Braithwaite and colleagues (2007). Early project findings have indicated that interprofessional initiatives are generally difficult to implement and sustain across a health system, and require flexible leadership, integration into the local organisation context, organisational receptivity, and ongoing refinement (Greenfield, Nugus, Travaglia, & Braithwaite, 2011).

In Western Australia, The Department of Health Western Australia has established an Interprofessional Learning Working Group through its Health Education and Training Taskforce. Similar to ACT Health, this group this group comprised stakeholders from the education and health sectors. The initiative arose in response to recommendations from the Reid report (Reid, Daube, Langoulant, Saffioti, & Cloghan, 2004) which called for more

emphasis on collaborative approaches to address workforce education and training issues across undergraduate and post graduate training. The Western Australian IPL Working Group will address recommendations that arose from the Reid report, as well as those that have emerged from a Clinical Senate meeting on IPL which brought together for the first time representatives from the health and education sectors (Department of Health Western Australia, 2006; Playford et al., 2008). Strategies for addressing these recommendations will include developing an IPL framework for implementation across Western Australia. New South Wales Health has also indicated its commitment to embedding an interprofessional philosophy in the state health system via its recent move to establish an Interprofessional Practice Unit as part of the NSW Clinical Education and Training Institute.

The above examples from ACT Health, Western Australia, and NSW highlight the need for collaboration across health and education sectors if IPL is to be progressed. However, to date, federal/ state funding and bureaucracy divides have often inhibited this process. There is also a call for sustained commitment from policy makers, senior decision makers and professional bodies to implement IPL and IPP as core system features (Stone, 2007).

Accreditation processes and standards

In response to the call for greater interprofessional collaboration within health care, it is reasonable to expect IPE/ IPL competencies to be included within the accreditation documents of health professional bodies. A scan of competency documents from a range of professions has indicated that interprofessional competencies are often incorporated implicitly, in the form of proxy outcomes such as teamwork and communication. The temptation for universities is to follow suit, although as discussed previously, these curricular changes have not been rigorously evaluated.

Taking a lead in mandating the inclusion of IPL within curricula, the Australian Medical Council (AMC), which accredits preregistration medical education programs, has stipulated within its standards document that a course

should provide 'a comprehensive coverage of...interprofessional education' (Australian Medical Council, 2007. p12). However, the extent to which IPL should be incorporated into medical curricula is not specified in these accreditation standards documents. Similarly, the Australian Curriculum Framework for Junior Doctors (revised 2009) has outlined a number of competencies related to working in teams, including the capacity to work with others and participate fully in healthcare teams. However, it is not clear to what extent these competencies are being incorporated into medical education and training, nationally and across local settings, nor a sense of how these competencies are being assessed. In the context of these policy responses, the next section outlines IPE/IPL initiatives in the Australian settings.

University responses – IPL/IPE/IPP activity in Australia

IPL within Australia is not a new concept; early reports of IPL programs date back to the early seventies. Published accounts of early Australian IPL activity are sparse. Piggott (1975) described a community-focused program developed and implemented through the Community Care Teaching Unit of Royal Prince Alfred Hospital, Sydney. This program was based within a community setting, allowing students the opportunity to become part of a student multidisciplinary team in planning the health care of community based patients. Davidson and Lucas (1995) also described two programs at the University of Adelaide, which included students from nine and ten different health professions. Here, the Working in Health Care program focused on concepts of primary health care and the potential contributions of the different professions to the health system, and was mandatory for second year students; and the Community Practice Workshop was an elective for final year students and focused on translating community health principles into practice. State funding for these programs continued up until the mid nineties, but disappointingly, these initiatives ceased once grant funding was withdrawn.

Over the past decade, in line with international trends and in response to the workforce reform drivers identified earlier, there has been increasing interest and progress within Australia in incorporating IPL within university health and social care programs. For example, the results of a 2006 survey indicated that an increasing number of Australian universities were offering campus-based IPE/IPL opportunities, particularly in the undergraduate context (Thistlethwaite & Nisbet, 2006). However, these activities tended to focus on broad-based content areas rather than specific IPL/IPP objectives, were not embedded into curricula, and were not formally evaluated.

Thistlethwaite (2007) has highlighted other areas of IPL activity across Australia, in her editorial in the *Journal of Interprofessional Care*. Similarly, ACT Health (2006) provided a snapshot of IPE/IPL activity across the nation. The focus of our review is not to systematically report on each IPE/IPL/IPP initiative implemented in the Australian higher educator setting, but rather to provide examples of some key initiatives and factors impacting their development and implementation.

The ACT Health (2006) report indicated an increased range of IPE/IPL activity, including clinical placement programs, particularly in the rural setting; the establishment of IPE/IPL clinical educator positions; IPP professional development; projects to address workforce recruitment and retention; and the utilisation of simulation skill centres for enhancing IPL/IPP. At the time that report was written many of these programs were in their early stages of planning or implementation, and had not been formally evaluated. Additionally, the report highlighted that, although there were pockets of IPE/IPL activity across Australia, there was very little co-ordination of and communication across these initiatives. The report also showed a substantially greater number of interprofessional programs in the rural setting compared with the urban setting, however it was acknowledged that this did not necessarily translate into a greater degree of actual collaboration in practice (ACT Health, 2006). Although the Rural Interprofessional Education project provided optimism for longevity (McNair, Brown, Stone, & Sims, 2001;

Stone, 2006), as so often is the case, when funding ended the project was not continued.

In terms of specific IPL initiatives within Australia, the Faculty of Health Sciences at Curtin University is on its way to embedding IPE within curricula. An IPE Reference Group has been convened to maintain oversight of the development and implementation of IPE programs across the faculty. Curtin University is also the leading partner in Australia's first student training ward. The purpose of this training ward established at Royal Perth Hospital is to enable final year students across the health professions including in medicine, nursing, occupational therapy, pharmacy, and physiotherapy to work together in a real-world setting. Partners in this initiative include four other Western Australian universities, Country Health Service, and Health Consumers Council, reinforcing the notion that collaboration across the health and education sectors is necessary for the implementation of large scale IPL projects. Brewer and Franklin's (2010) evaluation of this initiative has indicated that it was perceived positively by staff, students and clients. Early findings have also supported the value of this experience in positively impacting students' ability and comfort in working with other professional groups and in an interprofessional setting; knowledge of the roles and responsibilities of other professional groups; and understanding of the importance of patient-centred care (Brewer & Franklin, 2010).

Boyce and colleagues (2009) have reported on the University of Queensland Health Care Team Challenge, which was an initiative designed to provide authentic IPE teamwork experiences for final year health sciences students. Interprofessional student teams engaged in a preparation phase of problem solving based on various clinical scenarios, and competed against other teams at an annual event to demonstrate best practice in clinical care and interprofessional teamwork. Initial evaluation has showed that the initiative was positively perceived by students, although at the time of publication a more detailed analysis of findings was yet to be completed (Boyce et al 2009). However, this initiative was designed as a voluntary and extracurricular learning

activity indicating that it was not embedded into the curriculum, and the lack of funding and institutional support contributed to its lack of sustainability. Nisbet et al (2008) have described an IPL program implemented within the acute care hospital setting, where students were organised into interprofessional student teams in managing patients within a ward environment. Although positive learning outcomes were achieved, the expansion of this program was hampered by structural barriers such as curriculum and timetabling differences, lack of resources for program coordination and facilitation, and a lack of organisational commitment and support. More recently, Henderson and Alexander (2011) reported on a model for developing interprofessional education between medical and nursing students during undergraduate clinical placements, but evaluation of this initiative did not provide any conclusive results about the positive impact of IPE on student attitudes. However, based on their experiences, the authors identified that a key factor necessary for the successful implementation of interprofessional initiatives, is the engagement of the leadership across sectors including within the university, health service, and the local clinician community, and careful consideration of various logistical and practical barriers including the different models of learning, teaching, and supervision across the health professions.

Despite the various IPL activities documented in the literature, the integration of IPE/IPL within healthcare education curricula is not as yet occurring in a systematic fashion within Australia. Additionally, whilst a number of Australian higher education and health providers have initiated innovative IPE/IPP capability building projects, particularly in the area of rural health care practice, the scope, scale, knowledge underpinnings, and level of coherence and coordination of these initiatives falls far short of what will be required of both the health and education sectors to produce an Australian IPL/IPP-capable health workforce within the short to medium term future. We explore in greater detail the evidence for IPE/IPL/IPP and the issues associated with its evaluation in Part 3 of this report.

3 IPL/IPE in the context of change in Higher Education

The higher education context in which recent initiatives in IPE have taken place is one of widespread reform. This section explores the major changes in the education over the past thirty years or so, in Australia and internationally.

Changes in the higher education sector include the rapid growth of the sector, various waves of restructure, and the increasing focus on quality management. This has been a time of major funding shortages in higher education, and universities have needed to diversify funding sources and to more closely align higher education with the economy. Within the context of economic globalisation, national systems of higher education are being brought more closely into alignment with international standards and modes of provision, with an increasing focus on the international calibration of higher education systems for example through the Bologna process, OECD and through league tables and other competitive assessment measures (Marginson, 2007; Marginson, 2010).

Within this context, we see the beginnings of more formal IPE in the UK from 1978 to 1980 and also its appearance in Australia. The purpose for situating IPE within the broader framework of sector reform and the changing role and purpose of the university during this period is to address critical questions such as how IPE has been initiated but never sustained, mainstreamed and scaled up within health professional education over this period. We consider what has changed within higher education since the late 70s that might make it possible to embed and sustain IPE curriculum initiatives, and the current debates within which IPE reform and development agenda is located. This section focuses in particular on the Australian higher education sector but it refers in many places to sector-wide pressures for change, as the contexts of globalisation increasingly see the drivers for reform being global.

The policy context: reform in Australian higher education 1980-2011

Perhaps the most far-reaching of the policy-led changes in Australian higher education over the period of 1980 to 2011, have been the Dawkins reforms that collapsed the binary system of tertiary education (with its division into universities that were discipline-based and the vocationally oriented colleges and institutes of technology), and the establishment of a 'unified national system' that eventually produced thirty-eight public universities (Dawkins, 1988). One significant turning point was the arrival of a variety of health professions hitherto located in colleges of advanced education and institutes of technology into the newly configured universities. Notable among these were the nursing and various allied health professions, such as occupational therapy and speech pathology. This created a new environment for a wider conception of health professional education than that provided by the earlier binary system in which only medicine, dentistry, physiotherapy and pharmacy were typically located in universities.

In the first five years of this century, the then coalition federal government introduced a further suite of major policy reforms within the public higher education sector. These reforms ranged from initiatives in performance funding for teaching in universities to the tightening of the fee-paying agendas for undergraduate education. In 2004, the Australian Universities Quality Agency (AUQA) was established to undertake quality assessment of all aspects of university work, including teaching and learning, across the sector. At this time, the government turned a more emphatic gaze upon university teaching and learning, through the directly interventionist stance of the two ministers for

education, science and training (David Kemp and Brendan Nelson). *Higher Education at the Crossroads* (Nelson, 2002) refocused policy attention onto learning in order to address quality and flexibility of teaching and learning arrangements. Major initiatives in relation to the management of teaching and learning were announced within the *Our Universities: Backing Australia's Future Policy* (Nelson, 2003), including the establishment of performance-based funding for managing the quality of teaching in universities, and the establishment of the Carrick Institute for Learning and Teaching in Higher Education (renamed Australian Learning and Teaching Council) (Lee & Manathunga, 2010). The intention in *Backing Australia's Future* (Nelson, 2002) was to lay the foundation for a ten-year reform of the sector through an integrated policy framework based on four priorities: sustainability, quality, equity and diversity. This report linked financial arrangements with the progressive introduction of reforms in university teaching, workplace productivity, governance, student financing, research, cross-sectoral collaboration and quality. The areas of nursing and teacher education were singled out as national priority areas and specifically allocated funding in order to attract students to courses in those fields.

The most recent policy development in Australian higher education has been the Bradley Review of Higher Education (Birrell & Edwards, 2009; Bradley, Noonan, Nugent, & Scales, 2008). In particular, its aim of widening participation in higher education by focusing on a greater equity of access across different segments of the Australian population, has the potential to reshape the priorities in curriculum, teaching and learning, particularly across key professional fields such as nursing and teacher education. Neoliberal modes of governing and managing higher education, a unified system with a more strongly vocational profile, a new set of health professional fields in the university alongside the more traditional ones, a new focus on teaching as a vehicle for quality management, a renewed emphasis on widening participation, and a conceptual underpinning of learner-centred teaching have played significant roles in

reshaping the nature of higher education and the field of its remit. It is within this environment that IPE developments within Australian higher education need to be situated and understood.

The establishment of a research field in higher education teaching and learning

The rise of research in student learning

Over the period of time of these reforms, university teaching has been substantially reshaped, and a field of research and development has emerged that has focused attention emphatically on student learning. Key figures in this re-shaping in Australia are Ramsden (2003), Prosser and Trigwell (1999), and Biggs (1999), who drew on the research tradition of phenomenography to establish new vocabularies for understanding student learning. Most notably, the concepts of 'deep' and 'surface' learning approaches in higher education that influence implicit or explicit approaches to teaching were widely established within a new field of educational development (Lee, 2005). Ramsden (2003) for example, distinguished three theories of teaching: 'teaching as telling or transmission'; 'teaching as organising student activity'; and, the preferred 'deepest', approach 'teaching as making learning possible' (p 113), in order to establish the qualities of effective university teaching.

A similarly influential development has been the work of Biggs and colleagues on 'constructive' alignment, a term that is a hybrid of on the one hand, constructivist learning theory, and on the other, the field of instructional design (Biggs, 1999; Biggs & Tang, 2007). Constructivism comprises a family of theories that have in common the centrality of the learner's activities in creating meaning, and this together with the ideas discussed below have had important implications for teaching and learning and assessment. Instructional designers for their part have emphasised alignment between the objectives of a course or unit and the targets for assessing student performance. Connecting the notion of alignment to constructivism has allowed a learning orientation to guide decision-making

at all stages in instructional design: in deriving curriculum objectives in terms of performances that represent a suitably high cognitive level, in deciding teaching/learning activities judged to elicit relevant performances, and to summatively assess and report on this performance.

In summary, constructive alignment has enabled teachers to ‘systematically align the teaching/learning activities, and the assessment tasks to the intended learning outcomes, according to the *learning activities* required in the outcomes.’ (Biggs & Tang, 2007, p7 authors’ italics). Biggs (1999; 2007) made a further distinction between ‘declarative knowledge’ and ‘functioning knowledge’ with the latter providing a means of conceptualising education for professional practice, and leading to the development of educational pedagogies and practices such as problem-based learning, case-based learning, lifelong learning and work-based learning, which foster collaborative and team learning. More recently, an emphasis on what are called ‘threshold concepts’, has seen a more collaborative process of discipline scholars and educational developers working together to determine concepts critical for the development of understanding within disciplines and professional fields (Meyer & Land, 2003). These concepts have been integrated into the general vocabulary of those in the higher education sector seeking professional knowledge about instructional design, teaching, learning, and assessment.

Work-integrated learning and the rise of graduate attributes

Recently, there has been a realisation in the area of higher education research and development that the focus on student learning needed to be supplemented by a more systematic study of curriculum, curriculum design/re-design, and curriculum renewal (Barnett & Coate, 2005; Lee, 2005). A growing emphasis on aligning

curriculum to outcomes, as shaped by a range of changing pressures from governments, the economy, and accrediting bodies, has meant that the ideas of constructive alignment and threshold concepts have become more systematically linked to policy agendas in the last five years. This has led to a concern within curriculum design for defining the capabilities that graduates are required to have upon completing their courses and entering the workforce and taking up social responsibilities. Recent research and development in what have become known as ‘graduate attributes’ (Barrie, Hughes, & Smith, 2009) has built on a prior focus in the vocational sector on skills, competencies and capabilities. This, in turn, has contributed to the establishment of academic and professional standards, and to the development of curriculum frameworks for encapsulating particular sets of qualities and standards in terms of student learning outcomes. For example, the expansion of the Australian Qualification Framework and the national registration and accreditation processes in health and other sectors have statements about these academic and professional standards. The Australian Learning and Teaching Council website⁴ has a discussion of recent developments in this area.

IPE curriculum frameworks and models

Recent curriculum development in IPE has occurred within the context of the changes sketched above. Until recently, IPE curriculum initiatives have been piecemeal and have existed on the margins of mainstream curriculum in different professional fields. While there is now an array of IPL-related publications, and a rapidly increasing number of IPE initiatives underway within pre-qualification education programs, what is less common is a ‘whole of curriculum’ approach where IPL is part of the

⁴<http://www.aitc.edu.au/standards>

vision for the future, and is practically integrated and embedded within mainstream curricula as a mandatory, assessed component. In an attempt to rectify this, frameworks to support IPL within curricula are being developed. This section sketches some examples of such frameworks.

One such comprehensive framework is the UK report *Creating an Interprofessional Workforce: an Education and Training Framework for Health and Social Care* in England (Department of Health, 2007). A key finding identified during the development phase of the framework was the need to develop a collaborative culture to sustain IPE. Crucial steps in this process are identified in Table 1. This framework also identifies roles of each of the key stakeholders in influencing culture and hence the creation of an interprofessional workforce. Of the twelve recommendations in the framework, all relate to education providers working in partnership with other stakeholders. At a university level, five clear IPL curriculum models have been identified (Langton, 2009):

1. one or more modules inserted into new or existing curricula
2. within clinical practice as one element
3. a common curriculum across all professions (for all or part of a programme)
4. eLearning in parallel with other courses
5. work-based

Education providers may use a combination of one or more of these models. Langton (2009) provides examples of a range of curriculum models in the collection titled *Interprofessional Education. Making It Happen* (Bluteau & Jackson, 2009). An example of a common curriculum model is Southampton University’s New Generation model, whereby students take part in a series of 2 week dedicated IPL units, is now quite established within mainstream curriculum (O’Halloran, Hean, Humphris, & Macleod-Clark, 2006), and is one of four case studies evaluated by the Higher Education Academy in 2007 (Coster et al., 2007). In Canada, the model proposed by Curran and Sharpe (2007) adopted a curricular approach, which exposes students to interprofessional education at an early stage in their training with subsequent regular reinforcement. Here, IPE is integrated into the curriculum rather than being supplementary to the existing core. Early evaluation demonstrated satisfaction amongst students and faculty as well as significant effects on attitudes toward interprofessional teamwork and education. An alternative model, developed and introduced at the University of Sydney embedded and integrated IPL within existing profession specific core curricula to provide all students with an IPL experience (IPL Curriculum Framework Project Group., 2008) most commonly within the practice setting. This framework centred on three key components of interprofessional learning: team functioning and leadership within healthcare teams; understanding of professional roles and their interdependencies; and communication between health professionals.

Table 1: Crucial steps for Sustaining IPE (Department of Health, 2007)

Involve all stakeholders in collaborative partnerships
Commission IPE effectively
Centre IPE on patients/ service users and cares
Protect time to plan, deliver, facilitate and evaluate IPE
Agree criteria for success/ quality of IPE in partnership
Develop and sustain the role of IPE champions and coordinators
Make IPE mandatory within all education programs
Ensure parity of training and education across the workforce and across agencies
Disseminate evaluations of interprofessional initiatives
Embed interprofessional collaboration in service delivery

Theory and practice in IPE

Theoretical underpinnings for IPL

One of the criticisms directed at those advocating for IPL, and backed up by recent reviews of the IPL literature such as by Freeth and colleagues (Freeth et al., 2005), is that these discussions are rarely underpinned by theory. This has triggered an examination of what learning theories may be best suited to take the interprofessional learning and research agenda forward. In the UK a network⁵ of interested academics, educationalists and practitioners has been established to pursue this further. Craddock and colleagues (2006) provided an overview of educational theories, including early versions of adult learning theory (Knowles, 1980) and reflective practitioner theory (Schon, 1987), that underpin interprofessional education, but they argue, that these alone are insufficient to inform interprofessional practice. Hean et al (2009) have reviewed the behaviourist and constructivist frameworks utilised within the field of interprofessional education, and have distinguished between micro and macro levels of learning theories, with the former aimed at exploring learning at an individual level, and the latter aimed at understanding learning at the collective level from a situated learning or socio-cultural perspective. They have argued for the need to articulate and test theories that recognise the socio-cultural aspect of learning to help us differentiate between uniprofessional and interprofessional learning (Hean, Craddock, & O'Halloran, 2009).

Similarly, Sargeant (2009) noted that the theoretical perspectives of social psychology and complexity theory have been particularly useful in advancing thinking about IPE and IPP. Two theories from social psychology commonly linked with interprofessional learning are contact theory, which is based on the principle that bringing opposing parties together is not enough

for breaking down prejudices between different social groups (Allport, 1954), and social identity theory. The latter has helped in understanding the concept of social identity which is the sense of being part to a particular professional group, and associated feelings and values that are linked to this notion of group membership can impact how one professional group relates to and interacts with another (Tajfel, 1981). However, when the focus of IPL shifts from how the individual professional learns to learning in the context of the health team or health organisation, Sargeant (2009) has suggested that complexity theory may be a potentially more appropriate lens to explore the interaction among various components of the environment that influence learning and practice. Although there is a plethora of theories that may be applied to interprofessional learning (Hean et al., 2009), there is still a gap in the appropriate application and testing of these theoretical models in practice.

IPL Competencies

Underpinning the development of IPL curriculum frameworks is the need to clearly articulate the competencies associated with interprofessional practice. Competence can be defined as the ability to handle a complex professional situation by combining relevant knowledge, skills and attitudes (Miller, 1990). Interprofessional competence, according to this view, refers to students' ability to function effectively as a member of an interprofessional health care team. Despite decades of IPL activity, to date there is no internationally agreed upon set of interprofessional competencies. The Interprofessional Education subgroup of the WHO study group on interprofessional education and collaborative practice, explored this issue. In a paper generated by this subgroup, Thistlethwaite & Moran (2010) reported on the learning objectives, learning outcomes,

⁵ see <http://ihcs.bournemouth.ac.uk/etipe/index.html>

competencies or capabilities most frequently associated with IPE. The key words found within the literature most commonly associated with IPE learning outcomes were: teamwork, roles and responsibilities, communication, learning/reflection, the patient, and ethical/attitudes.

In Canada, at least five separate IPL competency frameworks have been developed over the past the last five years by individual provinces (e.g. Universities of British Columbia; Toronto; Halifax), in some cases as part of the projects funded through Health Canada. One task undertaken by the CIHC was to consolidate and reach consensus across the nation on a competency framework. An initial review of the literature identified a number of common terms used in these core competencies related to IPL including problem solving; decision making; respect; communication; shared knowledge and skills, and patient centred practice (Canadian Interprofessional Health Collaborative, 2007). From this initial review, the CIHC (2010) have developed a national interprofessional competency framework detailing core knowledge, skills, attitudes and behaviours required for collaborative practice, which are proposed to be applicable to all health professions and settings. Six competency domains which are thought to be developmentally incremental are identified, including two underpinning domains of interprofessional communication and patient/client/family/community-centred care which influence four other competency domains of role clarification, team functioning, collaborative leadership, and interprofessional conflict resolution. These competencies are similar to those listed in the WHO (2010) framework for action on interprofessional education and collaborative practice. The CIHC report presents a brief descriptive statement for each competency, and identifies a number of associated learning outcomes that the collaborating practitioner is required to achieve. The report also identifies that the complexity of the practice situation, the context of local practice, and the need for quality improvement are elements which need to be taken into account when applying the

framework (Canadian Interprofessional Health Collaborative, 2010). What is less clear from the CIHC report, however, is the differentiation between core competencies that could be related to “learning in common” (e.g. evidence-based practice; quality improvement practice; and information), and those that add value by being addressed using interprofessional approaches. To address the above point, Linköping University has developed a framework defining a common set of professional values, which underpin a common set of interprofessional competencies which include knowing roles and capabilities of other professionals, cooperation with other professionals, and awareness of skills and competence of other professions (Areskog, 2009; Fallsberg & Hammar, 2000; Wilhelmsson et al., 2009). This framework has also incorporated profession-specific competencies such as professional identity as a pre-requisite for building interprofessional competence.

Barr (1998) has used a somewhat similar nomenclature to distinguish between various levels of competencies. He has distinguished between common competencies as those which are held in common between all professions, complementary competencies as those which distinguish one profession from another, and collaborative competencies which are those necessary to work effectively with others. The collaborative competencies proposed by Barr and colleagues (2005) are listed in Table 2 on the next page.

**Table 2: Competencies for collaborative practice
(modified and adapted from Barr et al 2005)**

Cooperating and communicating between professions and between agencies
Recognising and observing the constraints of one's roles, responsibilities and competence yet perceiving needs in a wider context
Providing assessments of client need on which other professions can act
Using formal and informal networks
Managing confidentiality between professions and between agencies
Negotiating working agreements with other professions and between agencies
Coordinating a team and conducting interprofessional meetings
Ensuring that your professional point of view is heard
Conveying agency policies
Adapting to unilateral change by another profession or agency
Coping with conflict
Contributing to the development and knowledge of other professions
Contributing to joint service planning, implementation, monitoring and review
Evaluating another practitioner's assessment
Describing one's roles and responsibilities clearly to other professions and discharging them to the satisfaction of those others
Recognising and respecting the roles, responsibilities and competence of other professions in relation to one's own, knowing when, where and how to involve these others through agreed channels
Working with other professions to review services, effect change, improve standards, solve problems and resolve conflict in the provision of care and treatment
Working with other professions to assess, plan, provide and review care for individual patients and support carers
Tolerating differences, misunderstandings, ambiguities, shortcomings and unilateral change in another profession
Entering into interdependent relationships, teaching and sustaining other professions and learning from and being sustained by those other professions
Facilitating interprofessional case conferences, meetings, team working and networking

A critique of these competency frameworks is that they have focused on individual performance. Boreham (2004; 2007) has argued that in many cases, competence should be regarded as an attribute of groups, teams and communities. He has proposed that collective competencies such as (1) making collective sense of events in the workplace, (2) developing and using a collective knowledge base, and (3) developing a sense of interdependency, are necessary for working effectively together.

Assessment

The development of valid, reliable and feasible assessments of interprofessional learning outcomes remains a major challenge for interprofessional educators. Health professional students are almost always assessed for individual achievement and their registration depends on meeting defined standards in knowledge and skills. While it is possible to assess knowledge of teamwork, roles and responsibilities, teamwork skills should at some point be assessed in the context of students working in teams. Some writers have drawn attention to the difficulty of assessing team attitudes or students’ ‘positive regard of the values of interprofessional practice’ (Hammick & Anderson, 2009. p216). Within the Swedish IPL training wards, such as that at Linköping University, students are observed and rated on their skills during clinical practice by senior clinicians (Fallsberg & Hammar, 2000). Brewer and colleagues (2009) from Curtin University have developed and field-tested a tool designed to assess students’ interprofessional competencies while on international fieldwork placements. The tool was developed by an interprofessional academic team, and preliminary evaluation results appear promising, although the authors identify that much more work is required to establish its validity, reliability, and authenticity. In summary, more work is required to develop suitable interprofessional assessment methods and to evaluate these tools for fitness for purpose. A compounding difficulty will be that registration bodies in some jurisdictions will require that students be assessed by qualified personnel from the same profession.

Pedagogy

Oandasan and Reeves (2005a) have provided a summary of the learning and teaching issues connected with IPL, and suggested that the ‘learning curve is still steep in forming better pedagogical constructs of ‘how’ to teach’ (Freeth et al., 2005; Oandasan & Reeves, 2005b). We can however, draw together some key messages for interprofessional learning and teaching.

Interactive learning approaches

Consistent with the core definition of IPE, the teaching strategies utilised for interprofessional learning must include interactive methods. Small group formats and interactive sessions have the potential to encourage students to learn *with, from, and about* one another as students are dependent upon each other for at least part of their learning (Freeth et al., 2005). Interactive learning may be achieved in a number of ways, as identified in Table 3 below, but each method places different demands on participants, facilitators, and resources.

Table 3: Types of interactive learning (Freeth et al., 2005)

Exchange-based	debates, seminar or workshop discussions, case and problem-solving study sessions
Observation-based	work shadowing, joint client/patient consultations
Action-based	collaborative enquiry, problem-based learning, joint research, quality improvement initiatives, community development projects, practice-based placements for students
Simulation-based	Role-play, experiential group work, clinical skills centres, integrated drama groups within teaching sessions

Relevance to the learner

There remains a reliance in some parts of the IPE literature on early theories of adult learning from the 1970s and 80s, while elsewhere some more contemporary thinking (such as the work of Boreham discussed earlier) is beginning to emerge. A core underpinning assumption of adult learning theory is that learning experiences need to be relevant to the student (Knowles, 1980). In the context of IPL, Oandasan and Reeves (2005) have suggested that, by incorporating some form of clinical exposure, relevance is enhanced, and hence motivation of learners to engage in IPE activities is also increased. This clinical exposure could range from interviewing patients about their healthcare needs, to participating in organised IPL clinical placements – see for example papers by Nisbet et al (2008), Kipp and Pimlott (2003), and Wahlstrom and Sanden (1998).

Stage of Learning

There is considerable debate and little consensus concerning the stage at which pre-qualification healthcare students should be introduced to interprofessional learning. Some have argued that it should begin early in the training programs of individual professions before any misconceptions are formed or stereotyping occurs (Anvaripour, Jacobson, Schweiger, & Weissman, 1991; Horak, O'Leary, & Carlson, 1998). Others have proposed that students must first gain knowledge and confidence within their chosen field before interacting effectively with other professions (Mariano, 1989; Petrie, 1976). Harden (1998) has suggested that “when” is not as important as ensuring that the learning activities are appropriate for the level of experience and stage at which the student is at within their program. For example, IPL clinical placements involving students exchanging and applying profession specific clinical knowledge, are best suited for senior students.

Integrating pedagogical principles

As IPE moves into new phases of development, there are attempts to draw together and integrate core pedagogical principles such as those outlined above. An example of a program

that has explicitly addressed some of these pedagogical principles is the New Generation Program at Southampton University which incorporates three pedagogical approaches: guided discovery learning; interprofessional learning; and collaborative learning within their IPL model (O'Halloran et al., 2006). The first of these approaches enables students to develop their self-directed learning skills, while the second requires that students have the opportunity to learn not only with each other, but also from each other. This links with the third approach of collaborative learning. Learning activities are designed in a manner that allow for authentic interdependence and equal contributions from all group members (Craddock et al., 2006).

Impact /effectiveness of IPE

While there is an extensive body of descriptive evaluative literature on IPL/IPE/IPP, it is generally acknowledged that evaluation of outcomes are mostly limited to the level of participant satisfaction or reaction, and are inconsistently measured using a range of approaches and tools (M. Davidson, Smith, Dodd, Smith, & O'Loughlan, 2008). A number of reviews have been conducted in recent years to appraise this limited evidence (Barr et al., 2005; Cooper, Carlisle, Gibbs, & Watkins, 2001; M. Davidson et al., 2008; Hammick, Freeth, Koppel, Reeves, & Barr, 2007; Reeves et al., 2008; Remington, Foulk, & Williams, 2006). The most recent Cochrane Collaboration review, identified only six studies that met its inclusion criteria of randomised controlled trials, controlled before-and after- studies and interrupted time series studies that reported objectively measured or self reported outcomes related to patient care or healthcare process (Reeves et al., 2008). Four of these studies demonstrated positive outcomes; two studies showed mixed results; and two studies indicated no impact. Of relevance to our project, all the above studies were conducted in the workplace with qualified practitioners. Most of these studies, however, did not have IPL as a primary focus, but rather focused on quality improvement. No studies were identified at a

pre-qualification level. This not does mean that IPE is ineffective in changing practice or influencing patient care outcomes in the undergraduate context, but rather that such controlled intervention studies are perhaps more difficult to design and implement for pre-qualification students and hence not attempted.

Hammick and colleagues (2007) included twenty-one papers in their Best Evidence Medical Education (BEME) review of IPE. In contrast to the Cochrane review, most studies included in this review evaluated IPE delivered to undergraduate students. The authors used a modified model of Kirkpatrick's evaluation framework in their analysis (Freeth et al., 2005). The majority of studies still focused on learner attitudes, skills and knowledge, and indicated minimal impact of interprofessional activities on learner attitudes towards other professional groups. There were also a handful of studies from the undergraduate setting that addressed behaviour changes and patient care outcomes (e.g. satisfaction with care), demonstrating a positive effect of IPE interventions. In summary, although the evidence has demonstrated that interprofessional education and practice activities help participants develop knowledge and skills for collaborative working, including understanding of roles and responsibilities, much more work is required in systematically evaluating and disseminating outcomes.

Barriers to the effective establishment of IPE

Interprofessional learning presents many challenges for educational organisations, health care providers and professional associations (Gardner, Chamberlin, Heestand, & Stowe, 2002; Headrick, Wilcock, & Batalden, 1998). Barriers include:

- » differing expectations of each profession.
This is seen at an academic level, as well as with site-based educators and placement supervisors; it may be as a result of differences in requirements and regulations between the professions
- » the fear that interprofessional practice will lead to a loss of status, a loss of professional identity, and a dilution of the role of individual professions in patient care
- » historical interprofessional and intraprofessional rivalries
- » an already full course curriculum and clinical placement schedule for each profession.
- » conflicting academic calendars and timetables offering very few opportunities for interprofessional activities (e.g. clinical placements)
- » differing ability and interests across students.
- » lack of availability of suitably trained academic staff and clinical placement supervisors to facilitate interprofessional programs
- » time and resource commitments involved in establishing interprofessional programs
- » lack of facilities and resources to deliver campus based interprofessional programs e.g. tutorial rooms
- » lack of geographical co-location of individual schools/ faculties

In the next part of this review, we summarise the findings of our L-TIPP (Aus) study which reviewed the state of IPL and IPE in the Australian higher education sector and made recommendations for reform (Learning and Teaching for Interprofessional Practice Australia (L-TIPP Aus), 2009).

Learning and Teaching for Interprofessional Practice in Australia (L-TIPP Aus)

This final part of the review summarises the findings of a recent study into IPE in Australia. The study ran between 2007 and 2009, was co-led by the University of Technology Sydney and the University of Sydney and was funded by a grant from the Australian Learning and Teaching Council.

The focus of this study was to map existing IPE practices within Australian universities, to identify key issues constraining and enabling IPE in Australia, to identify development directions, to locate Australian IPE within an international context, and finally, through the study process, to build additional capacity within Australian higher education in the area of IPE. The study produced three reports and this literature review is the final output from the study.⁶

In developing its findings and directions for action, the study drew on the transcribed and analysed content from twenty-seven semi-structured in-depth interviews and from two focus groups. Participants were key stakeholders including managers, clinicians, educators and those involved in policy development, drawn from higher education, health and government. All were actively involved in the development of IPE. The development directions and specific actions, which were identified from the above interviews and focus groups, were then made available for comment as part of an Australia-wide survey. The breadth of these consultations informed the most up-to-date representation of the state of IPE in Australia.

Common themes

Three key themes emerged from this study including: i) the need to find common ground between health and higher education; ii) the importance of enablers and constraints of IPE in current practice; and iii) the urgent need for research to establish an evidence base to

inform future curriculum, practice and policy developments in the Australian context.

While stakeholders consistently discussed the existence of well-developed partnerships between the health and higher education sectors, and also between individual universities, they also identified a range of tensions, competing interests, and jurisdictional differences that constrained the scope and depth of collaboration. The most frequently discussed theme identified by stakeholders was about the constraints and enablers associated with existing IPE and institutional practices. Constraints and enablers were discussed across a broad range of areas: from a micro focus on curriculum timetabling, to a macro focus on a nationally supported and system wide approach. While the many challenges of *designing* an effective IPE curriculum were identified, stakeholders emphasised the even greater challenge of *embedding and sustaining* such initiatives. The critical role of professional regulatory bodies in the development of IPE was consistently discussed and the enabling or constraining implications of capacity, in particular, dedicated funding, was strongly identified.

One of the most urgent issues identified was the need for further research, and, critically, the need to develop a national research agenda. Four broad areas of research focus were identified:

- » impact on patient outcomes e.g. quality of care, complications and error rates
- » impact on health professionals in terms of skills, job satisfaction, recruitment, retention and workforce issues

⁶ L-TIPP (Aus) publications can be accessed at <http://www.altc.edu.au/resource-learning-teaching-health-uts-2009> or at <http://www.aippen.net/australia#ltipp>

- » impact on the health system and education system in terms of economic benefits and cost effectiveness
- » impact on students in terms of student perceptions and satisfaction.

Building a national program of collaborative research was seen as one important mechanism to link health and education providers around an area of shared interest.

Stakeholders also identified two important areas that they argued as central to the likely success of the broader IPE/IPP reform agenda. First, they observed the need for a multi-dimensional and nationally coordinated approach to the development of IPE/IPCP. Stakeholders were at pains to note that a national approach was not about a prescriptive curriculum; rather, it involved supporting, enabling, resourcing, and connecting education activity at the local level. A networked and flexible approach to curriculum development was identified as essential. Second, stakeholders drew attention to the cultural implications and challenges that mainstreaming IPE within the curriculum posed to uni-professional approaches to education and practice. For example, challenges to well-established practice boundaries referenced only to disciplinary models of knowledge, and challenges to education and learning activities that attend only to uni-disciplinary practice requirements. For many stakeholders, addressing this issue was fundamental and, for the most part, not well identified or addressed. Not surprisingly, the direction of comments made by Australian health and higher education practitioners interviewed in the study reiterate much that has been identified and learned internationally.

Key areas of development

Looking to the future, stakeholders identified the need for a significant re-conceptualisation of health professional education, moving from that of a uni-disciplinary position to that of a complex, team-based, interprofessional and patient-focused activity. In more particular terms, stakeholders identified five key areas of development:

1. identifying mechanisms for the development of health professional curricula that embed IPE/IPP as core components of the curricula, together with appropriate teaching and learning approaches;
2. exploring approaches to embedding IPP as a core component of health professional practice standards (including, where appropriate, in registration and accreditation processes);
3. reviewing existing Australian IPE programs for what has been learned and for what can be adapted to existing and new IPE initiatives;
4. designing and implementing a nationally coordinated program of research that is responsive to Australian conditions and requirements; and
5. contributing to the development and implementation of a national IPE knowledge management strategy – to ensure the widest and most effective organisation and dissemination of IPE information, knowledge and resources.

In the following section we provide a list of key national and international resources and links. In the appendix to this report, we provide some examples of the inclusion of IPL standards in professional accreditation documents in Australia.

Key resources and links

Australian resources and links

Australasian Interprofessional Practice and Education Network (AIPPEN)

<http://www.aipen.net/>

Australian Learning and Teaching Council

<http://www.altc.edu.au/>

International resources and links

Canadian Interprofessional Health Collaborative (CIHC)

www.cihc.ca/

Centre for the Advancement of Interprofessional Education (CAIPE)

www.caipe.org.uk/

European Interprofessional Education Network (EIPPEN)

www.eipen.org/

Health Professionals Global Network (HPGN)

<http://hpgn.org/>

Nordic Interprofessional Network (NIPNET)

www.nipnet.org/

The Network: Towards Unity for Health (Network: TUFH)

www.the-networktufh.org/

Appendix

IPL Standards in Professional Accreditation and Association documents: some Australian examples

Profession	Standard/ Competency	Reference
Health Information Management	A7: Cross-Functional Perspective (Participation in and contribution to multi-disciplinary teams): Actively participate in cross-functional teams. (Entry Level)	Health Information Management Association of Australia (2001) <i>HIM Competency Standards, Edition 1.</i>
Medicine	Standard 3.2: Curriculum Structure, Composition and Duration. "The course provides a comprehensive coverage of: » Patient safety and quality of health care » Interprofessional education Notes on Standard 3.2 include: "Interprofessional education. All members of the healthcare team need to be competent in assessing, monitoring and managing risk... include opportunities to appreciate the roles and function of all healthcare providers and how to work effectively as a healthcare team.	Australian Medical Council (effective 2007) <i>Standards for Accreditation of Medical Schools</i>
Nursing	Standard 10.1: Recognises that the membership and roles of health care teams and service providers will vary depending on an individual's/ group's needs and health care setting. » Recognises when to negotiate with, or refer to, other health care or service providers. » Establishes positive and productive working relationships with colleagues » Recognises and understands the separate and interdependent roles and functions of health care team members Standard 10.2: Communicates nursing assessments and decisions to the interdisciplinary health care team and other relevant service providers. » Collaborates with members of the health care team in decision making about care of individuals/groups Standard 10.3: Facilitates coordination of care to achieve agreed health outcomes » Establishes and maintains effective and collaborative working relationships with other members of the health care team.	Australian Nursing and Midwifery Council (2005) <i>National Competency Standards for the Registered Nurse</i>
Occupational Therapy	Standard 1.5: Establishes and maintains collaborative working relationships with other disciplines. » Refers to/ consults with other staff when appropriate » Involves other disciplines in joint intervention » Provides information to support personnel regarding the role of other disciplines » Combined assessment and interventions with other disciplines are considered and undertaken where appropriate » Actively participates in multi-disciplinary team, assuming roles appropriate to skills and experience.	Occupational Therapy Australia. (1994) <i>Australian Competency Standards for Entry-Level Occupational Therapists.</i>

Pharmacy	<p>Functional Area 1: Practise pharmacy in a professional and ethical manner. Competency Unit 1.2: Practise to accepted standards Element: Demonstrate personal and professional integrity Performance Criteria:</p> <ul style="list-style-type: none"> » Respects and preserves the relationships that other health professionals have with patient » Demonstrated ability to discuss the role of other members of the health care team (including with patients) in a way that engenders understanding and confidence in the team and its members <p>Element: Behave in a professional and ethical manner Performance Criteria:</p> <ul style="list-style-type: none"> » Recognises and respects the values, beliefs and cultural backgrounds of patients and other health professionals » Considers the rights, responsibilities, duty of care and/or legislative obligations applicable to other health professionals/ facility personnel with whom they cooperate in the delivery of professional services. » Collaborates with other health care professionals to enable patient to achieve the best health outcomes <p>Functional Area 2: Manage work issues and interpersonal relationships in pharmacy practice Competency Unit 2.1: Apply communication Skills Element: Adopt sound principles for the communication process Performance Criteria:</p> <ul style="list-style-type: none"> » Maintains open lines of communication » Values the input of others » Respects the 'uniqueness' of individuals » Accepts the complementary roles and skills of others » Communicates respectfully and with tact <p>Functional Area 3: Promote and contribute to optimal use of medicines Competency Unit 3.3: Promote rational drug use Element: Share findings and recommendations to improve trends in drug use Performance Criteria: e.g.</p> <ul style="list-style-type: none"> » Works collaboratively with clinicians to prepare or revise medication treatment protocols, guidelines, criteria and/or standards 	<p>Pharmaceutical Society of Australia (2003). <i>Competency Standards for Pharmacists in Australia</i>.</p>
Physiotherapy	<p>Standard 2.3: Communicate effectively with other service providers. 2.3.1: Effective working relationships with colleagues and team members are established. Standard 9.2: Work effectively within a team 9.2.4: Support and respect for colleagues and other professionals are provided.</p>	<p>Australian Physiotherapy Council. (2006) <i>Australian Standards for Physiotherapy</i>.</p>
Rehabilitation Counselling	<p>Competency 11: Community Liaison and Consultation. 11.2: Demonstrate an ability to work effectively with a range of professional and non professional staff and to develop an extensive communication and service network.</p>	<p>Australian Society of Rehabilitation Counsellors (1995) <i>Core Competencies for the Profession of Rehabilitation Counseling</i>.</p>

Social Work

Standard 1.8: Within the multi disciplinary team, the social worker maintains social work principles, values and practice whilst acknowledging the practice base of other disciplines.
Indicators: ...The social worker negotiates respectfully with colleagues from other disciplines.

Standard 2.5: The social work manager promotes effective teamwork and communication
Indicators: ... The value of teamwork is promoted within the social work service and across the organisation. Strategies for effective teamwork are identified and implemented.

4.2.1: Priority of clients' interest
"d) . Social workers will collaborate with other professionals and service providers in the interests of clients...

4.3: Responsibilities to colleagues

- a) Social workers will relate to both social work colleagues and colleagues from other disciplines with respect, integrity and courtesy, seeking to understand differences in viewpoints and practice.
- b) When working in teams, social workers will utilise the expertise of other team members and disciplines for the benefit of their clients.
- c) Social workers will co-operate with other disciplines to promote and expand ideas, knowledge, theory and skills, experience and opportunities that improve professional expertise and service provision.
- f) Social workers will remain open to constructive comment on their practice or behaviour. Any criticism of colleagues' practice or behaviour must be defensible and must be dealt with in a professional manner.

Australian Association of Social Workers (2003) *Practice Standards for Social Workers: Achieving Outcomes*, AASW: Canberra.

Australian Association of Social Workers (2000) *Code of Ethics*, AASW : Canberra

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