Interprofessional Education for Health Professionals in Western Australia: Perspectives and Activity

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The views and opinions expressed in this report are those of the authors and do not necessarily reflect views of the funding bodies.


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GLOSSARY
An explanation of terms and names used in this document:

- **Interprofessional education (IPE):** Occasions when two or more professions learn from, with and about each other to improve collaboration and the quality of care (CAIPE 2002).
- **Interprofessional learning (IPL):** Learning arising from interaction between members (or students) of two professions. This may be a product of interprofessional education or may happen spontaneously in the workplace or in education settings.
- **Interprofessional practice (IPP):** Two or more professions working together as a team with a common purpose, commitment and mutual respect. (Freeth et al. 2005, pp. xiv-xv)

We note the increasing usage of the term interprofessional collaborative practice, adopted by many at the forefront of policy and intellectual development in this area (e.g. WHO 2010). The current report uses the shorter term, IPP, for simplicity and consistency with other studies from the wider project.

In the document we refer to ‘competencies’, ‘learning outcomes’ and ‘capabilities’, as different universities and agencies use these different terms. The choice of one of these terms over the others to describe graduate attainments has not yet been finalised in the larger national Office for Learning and Teaching (OLT) curriculum renewal project, to which this WA report contributes. In the interim, it may be useful to consider that in the Australian context, the term ‘learning standards’ is being used to encompass a broad definition that relates to pedagogical objectives incorporating knowledge and skills.

Learning standards are best viewed as outcome standards. Learning standards describe the nature and levels of student attainment – what students and graduates know and can do. Student attainment is known by various expressions, such as learning outcomes and competencies, often with significant shades of meaning. Broadly, however, learning standards apply to desired areas of knowledge and skills, and the levels of attainment required for graduation and for the award of grades at pass level or above (Department of Education Employment and Workplace Relations 2011, p. 3).

A GUIDE TO RELATED PROJECTS

**Curriculum Renewal for Interprofessional Education in Health:** conducted by a consortium of Australian universities, led by the University of Technology, Sydney, February 2011 to June 2013. Funded by OLT.

**National Audit project:** a study of pre-registration interprofessional education in health, as delivered in Australian universities in 2011. Study conducted by a consortium of Australian universities, led by the University of Technology, Sydney, September 2011 to July 2012. Funded by Health Workforce Australia (HWA).

**Interprofessional Education for Health Professionals in Western Australia: Perspectives and Activity** (this report): a qualitative case study of interprofessional education in four West Australian universities, managed by the University of Technology, Sydney, September 2011 to May 2012. Funded by the Government of Western Australia, Department of Health.

USEFUL WEBSITES

- Curriculum Renewal for Interprofessional Education in Health project, [www.ipehealth.edu.au](http://www.ipehealth.edu.au)
- Centre for Research in Learning and Change, University of Technology, Sydney, [www.rilc.edu.au](http://www.rilc.edu.au)
IPE for Health Professionals in Western Australia

- Australasian Interprofessional Practice and Education Network, [http://www.aippen.net](http://www.aippen.net)
### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ALTC</td>
<td>Australian Learning &amp; Teaching Council</td>
</tr>
<tr>
<td>CAIPE</td>
<td>Centre for the Advancement of Interprofessional Education (UK)</td>
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<tr>
<td>CHIRI</td>
<td>Curtin Health Innovation Research Institute</td>
</tr>
<tr>
<td>CU</td>
<td>Curtin University</td>
</tr>
<tr>
<td>CUCRH</td>
<td>Combined Universities Centre for Rural Health</td>
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<tr>
<td>ECU</td>
<td>Edith Cowan University</td>
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<tr>
<td>HWA</td>
<td>Health Workforce Australia</td>
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<tr>
<td>ICAT</td>
<td>Interprofessional Capability Assessment Tool</td>
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<td>IpAC</td>
<td>Interprofessional Ambulatory Care (Unit)</td>
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<tr>
<td>IPE</td>
<td>Interprofessional Education</td>
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<td>IPL</td>
<td>Interprofessional Learning</td>
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<td>IPP</td>
<td>Interprofessional Practice</td>
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<td>ISVS</td>
<td>Interprofessional Socialisation and Valuing Scale</td>
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<tr>
<td>L-TIPP</td>
<td>Learning and Teaching for Interprofessional Practice</td>
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<td>NMAHS</td>
<td>North Metropolitan Area Health Service</td>
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<td>OLT</td>
<td>Office of Learning &amp; Teaching</td>
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<tr>
<td>RIPLS</td>
<td>Readiness for Interprofessional Learning Scale</td>
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<tr>
<td>RCS</td>
<td>Rural Clinical School</td>
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<tr>
<td>RPH</td>
<td>Royal Perth Hospital</td>
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<tr>
<td>STW</td>
<td>Student Training Ward</td>
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<tr>
<td>TAFE</td>
<td>Technical and Further Education</td>
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<tr>
<td>UDRH</td>
<td>University Department of Rural Health</td>
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<td>UNDA</td>
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<td>UWA</td>
<td>University of Western Australia</td>
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<td>UWE</td>
<td>University of Western England</td>
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<td>WA</td>
<td>Western Australia</td>
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<tr>
<td>4DF</td>
<td>Four Dimensional Curriculum Development Framework (Lee et al. In press)</td>
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EXECUTIVE SUMMARY

This report is the outcome of research funded by Western Australian Department of Health (WA Health) to ‘identify and analyse existing interprofessional health education (IPE) activity’ in Western Australia (WA) universities. It is an exploratory study, using WA as a case study in recognition of the scope and range of activities taking place in WA institutions, primarily universities.

The research consisted of interviews with 28 key informants and a comprehensive review of IPE activities in health disciplines in four universities: Curtin University (CU), Edith Cowan University (ECU), The University of Notre Dame Australia (UNDA) and The University of Western Australia (UWA).

PART 1 CONTEXT: IPE IN WESTERN AUSTRALIAN UNIVERSITIES

The meaning of IPE: Nearly all participants were aware of the Centre for the Advancement of Interprofessional Education (CAIPE) definition of IPE: ‘Interprofessional education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care’ (CAIPE 2002). There were, however, differences in interpretation and about how IPE should be implemented. The main area of divergence was the concept of students learning from each other, with some institutions adopting a more multi-professional – learning with rather than learning from – rather than an interprofessional, approach.

Part 1 presents participants’ views on the context in which IPE in health has developed in the four universities. It addresses the reasons for the development of IPE, including quality and safety of patient care, greater understanding and respect for other disciplines, efficiency and cost-effectiveness, commonality of skills and knowledge between different health disciplines, and the needs of the health system into the future.

Four key aspects were identified as pivotal to the acceptance and implementation of IPE in WA in the future:

Funding: The sustainability of IPE, and consequently the development of interprofessional practice (IPP), relies on consistency and continuity of external funding, which participants considered was not currently the case. Participants identified that a sustainable funding model was essential.

Accreditation and registration bodies: Participants perceived that increased flexibility in accreditation requirements and more emphasis on IPL in assessment criteria were both major factors in embedding IPE across diverse health professional curricula.

Educators: While generally agreeing on aims and objectives, there was divergence among educators on the scope of content that should be taught interprofessionally and the need to tailor IPE activities to the requirements of different disciplines.

Changing requirements in the health delivery services: Participants perceived that changing demographics would lead to changes being required in a number of area: for example, increased demand for primary care, the need for health professionals to adapt their roles and a need for systemic changes in remuneration. Universities had a part in trialling innovations to meet these needs.

Perspectives of key individuals

This section identified the attitudes of some health professionals, including those who taught in universities, which potentially constrained the development of IPE, including deficient or inaccurate knowledge of other disciplines, professional territorialism and limited evidence of the efficacy of IPP.

Participants reported that many staff teaching IPE often found it to be a positive experience,
but attitudes were also affected by the extra work that IPE entailed, lack of acceptance of the reasons for, or implications of, IPE and change fatigue. It was generally considered that students accepted IPE.

**Research**
Participants identified the need for more published research into IPE in WA. A number of participants identified that one way to achieve this was to build research methodologies into new projects as they commenced.

**Collaboration**
Most participants considered that, as a consequence of IPE, collaboration had increased within and between universities; between universities and external agencies; and, to a variable degree, within health service delivery agencies. Within WA, both the Curriculum Renewal for Interprofessional Education in Health project and this research were perceived to have been a significant factor in increasing collaboration.

**PART 2 IPE ACTIVITY IN WA UNIVERSITIES**
Part 2 describes the IPE activities of the universities and associated institutions. The descriptions reveal a general consensus about the aims of collaboration and teamwork in health professional practice, but a diversity of approaches about how to achieve this.

**PART 3 PERSPECTIVE ON CURRICULUM DEVELOPMENT IN IPE IN WA UNIVERSITIES**
Part 3 presents the issues involved in the development of IPE in the four institutions studied. The discussion is structured to align with the Four Dimensional Curriculum Development Framework (4DF), developed by the Curriculum Renewal for Interprofessional Education in Health project (Lee et al. In press) – see later discussion.

**Dimension 1 Future needs of health care practice**
This section discusses the context outlined in Part 1 with particular emphasis on accreditation requirements.

**Dimension 2 Capabilities**
*Current expectations for graduating health students:* Participants perceived that, in addition to discipline-specific competencies, graduates will increasingly be expected to demonstrate interprofessional capabilities, with a consequential impact on their employment prospects. Greater uniformity of the IPP competencies that graduates are required to exhibit would be desirable.

*Effect of IPE on staff practices:* The study found no clear evidence that the introduction of IPE into the universities had had any appreciable direct effect on staff practices in the hospitals or other institutions that provided student placements. However, staff in placement venues found the experience of interacting with students enriching and participants considered that IPE was increasing the awareness of IPP among health professionals. There was disagreement about whether graduates with IPE experience would affect IPP in the workplace in future, or be absorbed into existing uni-professional culture and practice.

*Professional perspectives:* Although many health professionals supported IPE, many were not prepared to actively engage with it. These attitudes could influence students by affecting the manner in which these professionals communicated with students during placements. Other factors affecting attitudes were fear of role substitution and a perception of insufficient evidence to persuade health professionals to adopt IPP. The lack of training of clinicians delivering teaching content was also a matter for concern.
Dimension 3 Teaching, learning and assessment

The purpose of IPE: There was some diversity of opinion on the purpose and aims of the development of IPE in WA. Reasons tended to centre on better outcomes for patients/clients and on economic imperatives. There was also a range of opinions on the optimum time to introduce IPE to students.

Placements: The practical experience of placements was generally seen as important for embedding IPE. Successful placement experiences were considered to require coordination and timetabling; resolution of organisational culture differences; consistency of external funding; effective planning; and good preparation of students, facilitators and staff. Astute grouping of students for placements and responding to student feedback were other factors.

A trend towards increasing IPE in campus-based placements was observed, often involving simulation. Views of IPE simulations were mixed, depending on perspectives of resource availability and best use of funds.

Supervision and facilitation: Models have evolved and been adapted as the institutions gain more experience in IPE. Valuable principles include the importance of IPE training, and the need for concurrent discipline-specific supervision and full-time overall coordinators for placements.

Assessment: IPE assessment has been based on survey instruments, as well as reflections, observation and presentations. In some areas, there is no specific IPE assessment.

Evaluation: Quantitative instruments such as the Interprofessional Socialisation and Valuing Scale (ISVS); the Readiness for Inter – professional Learning Scale (RIPLS); the University of West England (UWE) tools; and CU’S Interprofessional Capability Assessment Tool (ICAT) (quantitative and qualitative) are commonly used in WA universities. However, some participants considered these instruments inadequate because they did not measure whether course learning outcomes were being achieved; they lacked richness and depth; and were overly clinical. Consequently other evaluation methods were being trialled. The project identified a need for major longitudinal studies to provide more evidence regarding IPE efficacy – impact, outcomes and cost.

Implementing IPE programs: Participants perceived that champions of IPE and the engagement of staff were necessary to embed IPE at multiple levels in institutions where this had been successful. Impetus for change had often come from individual staff members or groups, but central leadership was also essential. Good planning was another essential element for implementation both of IPE coursework and placements. Other factors that influenced the effective implementation of IPE were the use of international experience, selection of people, environments and activities that were most likely to succeed, and heeding student feedback.

Dimension 4 Delivery in institutions

This section discusses the diversity of university culture and structures and their impact on IPE development and delivery. It suggests that there was little evidence that the introduction of IPE in universities impacted significantly on the practices of staff working in hospitals or other institutions providing student placements.

DISCUSSION

Taking into account both the extent of collaboration that already occurs in WA universities and the diversity of culture and approaches to interprofessional learning, the report concludes that establishing common coursework curriculum criteria would be an enormous task. However, the universities are well positioned to establish common cross-disciplinary competency and capability standards and assessment criteria that could become Australian exemplars.
INTRODUCTION

PURPOSE OF THE PROJECT
This report is the outcome of a research project to ‘identify and analyse existing interprofessional health education activity in universities in Western Australia (Project agreement).

The research was funded by a grant from Western Australian Department of Health (WA Health) aimed at supporting the participation of four Western Australian (WA) universities – Curtin University (CU), Edith Cowan University (ECU), the University of Notre Dame Australia (UNDA) and the University of Western Australia (UWA) – involved in an Australian Learning and Teaching Council project: Curriculum Renewal for Interprofessional Education in Health (www.ipehealth.edu.au).

This project was designed to develop a coordinated approach to mapping existing, and building future, interprofessional education (IPE) activity in the State. The idea of a state-based ‘case study’ was seen as adding particular value to the project at a time when the health sector is considering the many and complex questions associated with building interprofessional and team based practice competencies within the health workforce and as a defining feature of service models. The data gathered and presented in the study refers almost exclusively to IPE activity being undertaken or developed by the above-mentioned universities, often in partnership with other universities and/or service providers. As well as documenting the principal IPE activities, the study examines cultural, logistical and strategic factors that have an impact on the development and delivery of IPE.

The research was designed to be exploratory, with its outcomes being to facilitate discussion within and across universities. The report documenting the content of the study was conceived as a resource to support the development of the larger Office for Learning and Teaching (OLT) funded curriculum renewal project and, more particularly, to support IPE development in WA. The study is in no way evaluative, nor did it intend to be exhaustive or overly analytical. Rather the study aims to represent and make visible the major contours, development trajectories, challenges, issues and opportunities associated with IPE in WA.

We hope that this preliminary work will assist in the further development of theory and practice in the areas of IPE and interprofessional learning (IPL).

Report structure
The report has three main sections. The first presents some of the context in which IPE activities have developed in WA universities, taking account of wider social and political factors. The second section describes in some detail IPE activity occurring in each of the universities. The third section is a discussion of the variation of IPE development to date, structured to align with the Four Dimensional Curriculum Development Framework (Lee et al. In press) (4DF), developed by the OLT Curriculum Renewal for Interprofessional Education in Health project. This section focuses on curriculum, envisaged broadly, and describes the influences that have affected the development of IPE to date and how the institutions view the future of IPE from their different perspectives. It can sometimes be difficult to separate IPE from broader health education issues, but other issues are only included where they impact specifically on IPE, e.g. the issue of the availability of placements is commented on only to the extent that it impacts specifically on IPE. The 4DF is designed to integrate these and provides a useful lens for exploring the complexity of health professional curricula (see Figure 1 below).

1 Now the Office for Learning and Teaching (OLT).
2 A fifth WA University was approached to participate in the study but did not.
The 4DF was developed ‘as a tool to help health professional educators to link educational practice to health policy, workforce and professional practices in a coherent and reflexive way’ (Lee et al. In press), utilising the work of Bernstein (1971) and Ball (1990). The four inter-related dimensions each focus on a different aspect of IPE, put simply: why, what, how and where curricula for IPE are developed. The framework recognises the need to connect health curricula directly to the larger political, social and economic issues surrounding the profession(s) for which they aim to prepare graduates, as well as acknowledging the cultural and historical forces that underpin these influences and are inevitably active within curricula and institutional practices.

**Figure 1: Four Dimensional Curriculum Development Framework (Lee et al. In press)**

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3 The authors acknowledge the contribution of Marie Manidis in the development of the visual representation of the framework.
**RELATIONSHIP WITH OTHER PROJECTS**

Many of factors affecting IPE within the WA context that were discussed by participants reiterated a range of themes, in particular enablers and barriers, that were also described in detail in an earlier IPE focused national scoping project, the Learning and Teaching for Interprofessional Practice (L-TIPP) report (Dunston et al. 2009). Readers are referred to this report for a discussion of these issues. Except where there was amplification or a different development of these themes within the WA context, they have not been repeated.

This report focuses specifically on curriculum issues and practices of IPE as these were directly experienced in practice. As noted, it uses the 4DF to organise and present its findings.

The description of IPE activities within WA universities (Section 2) provides a level of detail that elaborates the findings of the audit of IPE activities across Australian universities, which has been funded by Health Workforce Australia (HWA see http://www.hwa.gov.au) and conducted concurrently with the OLT project. The activities of the participant universities in WA constitute examples and exemplars from which it is hoped that other institutions may learn.

The scope of the research has been to capture the perspective of the educators, universities and other institutions directly involved with the delivery of IPE in health professional education in WA. The OLT project on curriculum renewal casts its consultative net much wider, presenting comment from government bodies, peak professional and consumer organisations, registration and accreditation bodies and others.

**METHOD AND LIMITATIONS**

The initial phase of this research provided a broad descriptive analysis of WA IPE activity in university health professional education. It consisted of interviews to obtain information about activity on a broad scale, as well as desk research of publicly-available resources. The outcome was a draft background report that, although incomplete, captured a great deal of IPE development in the State. This information has been consolidated and updated as part of the current document.

The second phase consisted of more in-depth interviews to capture the perspectives of a wide range of participants from relevant institutions.

This stage used a modified grounded theory approach, as a way of capturing behaviour and concepts without the constraints of preconceived theories. Concepts emerge as the researcher develops his or her perspective and the emphasis is on generating substantive theory through constant comparison and data analysis, and on interpreting the relationships between categories or groups of data. This is contrasted to descriptive analysis (Glaser 2001). While much of this report is descriptive, it uses the modified grounded theory approach (Whiteley 2002), for conceptualising pertinent perspectives, distilling widely held ideas and reporting on divergences of opinion.

The NVivo qualitative analysis software package was used to analyse the audio-recorded interviews (and e-mailed responses) only. There were 21 audio-recorded interviews, and one written response to the questions. In addition, there were also meetings and telephone conversations with six people who were not included in the recorded interviews, making a total of 28 participants.

The project drew its ethics approval from the larger Curriculum Renewal for Interprofessional Education in Health project of which it was a part.

As indicated, the study includes input from four of the five WA universities. The absence of material from one university to some extent limits the comprehensive nature of what is presented. However, the four
universities participating contributed significant understandings about overall development at the state level. Importantly, the narrative and comments presented in this report have been informed by data gathered and views expressed by participants.
1. THE CONTEXT: IPE IN WESTERN AUSTRALIAN UNIVERSITIES

This section presents background to the project, by discussing participants’ views on the context in which IPE in health has been developed within WA universities. It discusses issues that might be considered part of the socio-political space in which IPE curricula are conceptualised, developed and refined. Some of these issues overlap with those included in Dimension 1 of Part 3, i.e. the climate and factors that impact upon the identification of future health care practice needs.

MEANINGS AND DEFINITIONS OF IPE

Many participants viewed IPE as the facilitated program(s) or process(es) that enable IPL by students, although some participants made no distinction between the two other than semantics. IPL is, of course possible without IPE. This distinction is important: IPE is the subject of evaluation; IPL can be the subject of assessment.

Participants were almost universally aware of the 2002 CAIPE definition of IPE (http://www.caipe.org.uk/about-us/defining-ipe): ‘Interprofessional Education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care.’ However, there were differences in interpretation. There was little disagreement with the concepts of students learning about and with each other, particularly in clinical placement settings (although there were differences of opinion on the proportion of placement experience that should be delivered interprofessionally). The main area of disagreement concerned the concept of students learning from each other. This was noticeable principally, though not exclusively, in universities with medical schools, where participants were less likely to accept the validity of this approach. Some educators were strongly in favour of all aspects of the conventional CAIPE approach. Others felt that student IPL was better served by learning from and with health professionals from other disciplines, rather than from other students. There were some who felt that guidelines like those of the Australian Medical Council were ambiguous and could be interpreted as either Multi-Professional Education (MPE) or IPE.

A less specified view was that IPE had come to simply mean students in various health disciplines learning together or being taught together. It did not address learning about or from those in other disciplines. One participant noted that in medicine, ‘interdisciplinary’ could mean between medical specialties, suggesting a somewhat narrower focus and understanding of this approach.

Overall, several participants considered it important that IPE be seen as having both theoretical content through course work and practical application through placements.

THE PURPOSE OF IPE

Participants held diverse viewpoints on the reasons for the development of IPE in WA and the nature of its aims. Better outcomes for patients/clients and economic imperatives were important. However, some participants perceived several additional reasons. The range of reasons stated by one or more participants included:

1. **Quality and safety of care.** This should be patient/client-centred. This was a strong motivator for some participants, who perceived that IPE would enable students to appreciate that good health outcomes for patients/clients often needed teamwork from more than one discipline.

2. **Understanding and respect for other disciplines.** There was little disagreement with the premise that learning about other disciplines and showing mutual respect was beneficial, with health professionals recognising their boundaries of competency and respectfully deferring to others. Many thought that understanding and
communication between health professionals could be improved, although some felt there was already good communication in many areas, such as care of older people and children, and between practitioners who had had no IPE training. There was also dissension over how much IPE was needed and how much each profession needed to know about some others. This appeared to be influenced by the mix of disciplines at each university, the culture of the university, and the extent to which non-university practitioners were involved in course delivery.

3. Relationships. Some participants believed that the development of understanding and respect for people in other disciplines would result in better working relationships between health professionals, whose improved collaboration would in turn promote better patient/client outcomes. In some cases, the patient/client was also mentioned as part of the relationship (providing care ‘with’ and not just ‘for’) and, in a few, the family and/or the community. Most, but not all, perceived IPE as the best vehicle for achieving this.

4. Efficiency and cost-effectiveness. For some participants, IPE was a way of reducing coursework costs by reducing duplication through combining disciplines in a single class. It was apparent that this approach had been taken in some courses. Clearly it did not apply to small-group work or placements, where there were increased costs due to extra resources and additional supervision requirements. However, one participant stated that IPE was just a way of increasing the number and utilisation of placements for students.

5. Commonality of skills and knowledge. Allied to the cost-effectiveness idea was the possibility of teaching generic skills common to several disciplines in an IPE environment. At CU, this approach has been adopted extensively in an interprofessional first year course. Other participants agreed that some – in some cases very few – parts of the course could be presented interprofessionally, but thought that different disciplines required different perspectives and levels of skill. They perceived insufficient benefit from the difficult task of organising common classes within the constraints of timetables and curriculum requirements. They cited examples of common classes on IPE profiles that had failed in the past for logistical reasons.

6. Future health system needs. Health professionals would need a more team-based and flexible approach in the future, due to increasing demands on the health system from an ageing population with increasing levels of chronic disease, etc., and this approach should be taught pre-registration.

PERSPECTIVES ON THE FUTURE OF HEALTH IN WA
Participants generally foresaw an increasing acceptance and implementation of IPE over the next five years. They considered that this would be driven by funding providers, accreditation and registration bodies, educators in the universities and, to a lesser degree, changing requirements from health delivery services. Students, they perceived, were and would continue to be largely accepting of curriculum changes because of their lack of experience in other paradigms.

Funding
Government and other fund providers were considered key to the sustainability of IPE and consequently the development of IPP. Participants perceived that the provision of grants for IPE in recent years reflected government and, in particular, the HWA policy focus. However, some criticised aspects of the funding process, aspects which they considered needed to be addressed for the future of IPE in the State. In particular, they voiced dissatisfaction with:

- Inconsistency in the amounts of funding, due to the ad-hoc nature of the grants process. This unpredictability, including rushed or delayed decisions, restricted the
capacity for long-term planning for the implementation of IPE initiatives.

- Lack of continuity of funding. An organisation may invest in resources in order to provide IPE, only to find that ongoing funding was not available to continue the program. This was an issue both in universities, which might be wholly dependent on grant money for IPE projects, and in private organisations, including the not-for-profit sector, which may have to invest their own funds to enable IPE student placements to occur.

- Insufficient time for planning IPE projects, due to tight deadlines to apply for grants and implement projects, potentially leading to sub-optimal outcomes.

- The division of smaller pools of money across individual institutions, which they saw as wasteful, compared with a process for aggregating funding to develop high quality IPE resources that could be used collectively.

Several participants observed that IPE would not be sustainable without outside funding. They saw it as resource intensive in itself; in addition, university staff needed ‘to be creative to get funding for the resources’ – an additional resource commitment. Some expressed the view that a sustainable funding model needed to be established.

Accreditation and registration bodies

Some participants perceived that a major factor in embedding IPE in diverse health discipline curricula was increased flexibility and emphasis on IPE in accreditation requirements. This would take time under present rules, because it could be costly or difficult for institutions to change their curricula, except during the routine periodic renewal of requirements. Also, because accreditation requirements were largely set by disciplines working separately, collaboration was needed to ensure more commonality in IPE curricula. Lack of flexibility particularly created difficulties in placements, where rigid accreditation requirements in some disciplines, e.g. nursing, were perceived to restrict students’ exposure to IPE in order for the existing accreditation requirements to be met.

Some participants believed that assessment of IPE competencies, as a course requirement, would be an effective way of overcoming resistance to IPE among university educators, as well as among those students who were focussed primarily on passing assessed activities.

Educators in universities

There was widespread agreement on the need to prepare students for a future health environment different from the present, although methods and ideas as to how to achieve this differed both between and within universities.

One view was that, in future, disciplines will need to identify boundaries to IPE. Rather than being generic, IPE content and practice would need to be more tailored to the requirements of particular disciplines and applied in select clinical circumstances. Some also felt that student groups for IPE should be selected to meet the requirements of particular practice settings.

Although many participants believed that certain course content could be taught interprofessionally, there was a wide disparity of views on what content would be more effectively and/or efficiently learned collaboratively than in a discipline-specific context.

Several participants identified that training in IPE facilitation, supervision and leadership would need to be expanded in the future, particularly in response to the staff development needs of providers of placements in the private sector.
Changing requirements in the health services delivery

The L-TIPP report (Dunston et al. 2009) documented projections of changing requirements of the health service in Australia. Participants in the current study were generally in alignment with the contents of that report, so they are not repeated here.

Some participants observed that effective collaboration and teamwork was well established in many places and that the effect of IPE in these places would be an increase in IPP rather than a paradigm change to a new form of practice.

However, there was a widespread recognition that changes were needed in primary health care. As the population aged, a team approach would be needed to cope with an increasing workload. Increased IPE would enhance understanding to identify which health professionals would be best suited to work together for individual patients/clients.

Some participants foresaw not only expanding roles for health professionals but also a need to train new kinds of health professionals, combining the skills of one or more separate disciplines. One example given was a rehabilitation degree, combining the skills of physiotherapy, occupational therapy, and speech pathology. This concept was driven by increasing demand and rising costs of care.

As well, there was a view that systemic changes were needed in remuneration, not only to resource IPE but also to facilitate more appropriate care models. In residential care for older people, for example, one participant stated that the Medicare remuneration system made it uneconomic for GPs to visit a small number of patients/clients. It was suggested that a nurse practitioner, paid by salary, could conduct the visits to work with patients/clients and interact with the GP when necessary. However, there is presently no Medicare or other Government mechanism to fund such activity.

Increased partnerships between universities and the health delivery services were considered necessary to trial innovative programs to meet these changing requirements.

PROFESSIONAL PERSPECTIVES

While many health professionals were supportive of IPE, participants noted that health professional attitudes had the potential to influence IPE in three negative ways.

1. Some were deficient in their knowledge of other disciplines, which could affect the manner in which they communicated with students on placements.

2. One participant identified ‘professional territorialism’, the well-documented fear of a diminished role due to a perceived threat from broader scopes of practice.

3. There was insufficient convincing evidence to persuade them to change well-established procedures and methods of practice.

It was noted, particularly in the medical profession, that clinicians who were not academics and who did not necessarily have formal training in health education delivered much tuition. As they were usually unpaid, their goodwill was essential and there was apprehension about the sustainability of this goodwill if they were required to adapt to IPE and teach within an interprofessional framework.

Generally it was perceived that, although the medical profession was sympathetic in what they said about IPE, they were less likely to take action to incorporate it into curriculum. This was also true of participants in other disciplines who often noted that curricula were so full that it was hard to identify where IPE issues could be addressed.
There were also divergences of opinion about how much students needed to know about other professions when they entered practice. Some expressed the view that as they gained more experience they were more likely to see the value of IPP and become more supportive of IPE. Others suggested that the risk of role substitution would diminish as economic drivers accelerated fluidity between roles. This would not, however, be at the expense of specialty services. Over time, there would be increasing recognition that IPP was about establishing trust, rather than a threat to traditional professional boundaries.

**STAFF AND STUDENT ATTITUDES**

Anecdotally, participants perceived that staff teaching IPE found it to be a positive experience, with many enjoying interprofessional teaching and learning. However, there was also resistance to IPE amongst some teaching staff. Reasons included:

- not seeing the reason for IPE;
- inability to teach or work in an interprofessional team;
- change fatigue – some staff were at their limit of capacity for change;
- belief that IPE was ‘flavour of the month’ and would fade away;
- focus on discipline-specific content, so insufficient time for IPE;
- insufficient time to embrace or learn something new.

Some participants perceived that IPE was placing extra demands on staff who were already under stress, due to new technology and teaching approaches (including new online teaching methods), and increased demands for research, as well as the need to maintain their links with practice. One response to this was to provide professional development that enabled people to articulate their concerns and address them. Some participants considered that increasing emphasis on IPE was inevitable, so staff would have no choice but to be involved.

In terms of student perspectives, some participants stated that students in their early years would accept IPE if it was part of their course. In later years, they could become more focussed on assessable content, so formal assessment for IPE was important. University evaluations indicated most students found IPE experiences rewarding.

**PAST EXPERIENCES**

Participants mentioned several previous IPE activities in WA, which have ceased. The reasons that were given for the cessation were:

- timetable incompatibility;
- divergent levels of rigour required in different disciplines;
- time pressures of staff, contributing to lack of leadership;
- imbalance of student numbers (in one case leading to dominance of one discipline);
- inability to attract funding;
- student retention of discipline-specific attitudes; and
- insufficient commonality of content requirements.

**THE NEED FOR RESEARCH**

The need for more published research into IPE in WA was widely espoused. Participants considered that the evidence base that peer-reviewed papers could provide was important to enhance knowledge, and this was influential in securing funding and motivating staff to remain committed to IPE. One participant commented, ‘research drives everything’; future funding could depend on demonstration of the benefits of IPE. One participant reported that it had been easy to obtain support and funding for an IPE project because of the success of a pilot scheme.

However, there was a dilemma: more funding was needed for research into IPE to provide the evidence that the funding of IPE was efficacious.
Some participants stressed the importance of building research methodologies (including ethics proposals) into new projects before they commenced. One example cited was a blog site for student reflections that was set up during a clinical placement. The resulting data, while perceived as valuable, could not be used for a research project because prior ethics approval had not been sought.

It was expected that more publications on IPE in WA would be forthcoming. However, one participant warned that staff involved in IPE were generally under a lot of time pressure already and not all were suited to developing research expertise on top of teaching and maintaining their links with practice. They also perceived that, in addition to some academic staff, clinicians who provided teaching services to a university part-time would be unlikely to want to participate in research.

**COLLABORATION**

Most participants agreed that they had become more collaborative as a consequence of involvement with IPE. This occurred on four levels:

**Intra-university**
Several participants commented on the increased collegiality that has resulted from the positive influence of IPE in bringing together disciplines on inter-school bodies for the development of IPE and on individual projects and grant applications. As people from different schools have grown to know one another and to share ideas and resources, new IPE activity has emerged. This can even extend outside the health faculties, e.g. TV journalism students joined CU’s Go Global experience to produce a documentary and WA Academy of Performing Arts students participated in ECU Health Simulation Centre scenarios. Participants observed that development of such collaboration was a process that needed to evolve over time. They also noted that, in some cases, collaboration had started with the implementation of systems and processes across disciplines before IPE was formally implemented.

Despite this, there were still considerable differences between schools within universities and resistance to IPE development and collaboration.

Rural areas tended to have a less hierarchical structure and fewer practitioners, so there were more natural pathways for health professionals to collaborate, including teaching students from other disciplines.

**Inter-university**
Collaboration between universities has increased as they have combined to provide appropriate numbers and combinations for new IPE placements. Participants reported that this provided opportunities for discussion and sharing of ideas about learning opportunities for students. Collaboration has also extended to Technical and Further Education (TAFE) students, particularly enrolled nurses. There is also some sharing of coursework and electives between universities. Examples are UNDA medical students attending courses at CU, and UWA medical students attending an IPP clinical placement at the Interprofessional Ambulatory Care (IpAC) Unit at ECU. Universities have also collaborated in the preparation and training of facilitators, and in developing joint grants for funding.

Some participants noted that they have learnt how important it is to clarify issues at the outset of inter-university collaborative ventures e.g. around ownership of resources, and research and publication outputs.

**University and external health service delivery**
Implementation of IPE has been a catalyst for increased collaboration between universities and the health service delivery industry. IPE ventures have been jointly funded and academics and professionals have worked together to implement innovative practices.
As well as collaborating with primary and tertiary care sites for placements, universities have also increased collaboration with the Health Department, registration bodies, area health authorities, GP super clinics, and other educational bodies. Apart from increasing placement opportunities, increased collaboration was seen as necessary to deliver what the health sector sees as required to increase the employability of students.

Within health service delivery
While it is recognised that ineffective collaboration is a cause of inadequate health care, participants in this study warned that there was a danger of overplaying the degree to which existing practice lacked collaboration. They pointed to the many situations where professions work well together, and how these positive experiences could be used to enhance learning for others.

Notwithstanding this, they noted that collaboration and teamwork could be improved by modifications to systems and processes within the health delivery systems that limited good IPP. For example, at present different health professionals see patients/clients separately and typically do not communicate between themselves about patient/client care.

Although universities were collaborating more, some participants expressed the view that there was little collaboration between external placement providers, who could benefit from sharing lessons from their experiences.

Additional note: National IPE curriculum renewal project
Some participants commented that the OLT-funded national curriculum renewal project was providing opportunities for discussion and input into shaping IPE at a state and national level.
2. IPE ACTIVITY IN WEST AUSTRALIAN UNIVERSITIES

This section summarises the IPE activity taking place in the four participating universities in WA, outlining some of the background to IPE development as well as the types of learning experiences for health professional students (courses, clinical placements, simulation opportunities etc.). This section also discusses assessment and evaluation processes.

CURTIN UNIVERSITY (CU)
The Faculty of Health Sciences at CU has been developing and implementing IPE over approximately the past four years. IPE is becoming embedded in each of over 20 disciplines. An Interprofessional Education Reference Group, chaired by the Professor of IPE, oversees the development and implementation of IPE programs across the Faculty, including embedding IPE within curricula. Other representatives of the group include the Dean of Teaching and Learning, Heads of Schools and the Director of Interprofessional Practice, who is responsible for the development of IPE in partnership with schools within the faculty and with industry partners.

For more information on IPE at Curtin, see: http://healthsciences.curtin.edu.au/faculty/ip_e_about.cfm

Framework
The Faculty of Health Sciences Interprofessional Capability Framework (Figure 2) was developed in 2010 by Brewer (2011).

The framework has three core elements: client-centred service, client safety and collaborative practice. To achieve these outcomes, students acquire five collaborative practice capabilities: communication, team functioning, role clarification, interprofessional conflict resolution and reflection (individual and team). The framework is based on both the British

Figure 2: Curtin Faculty of Health Sciences Interprofessional Capability Framework (Brewer and Jones 2013).

Colombia capability model (Charles, Bainbridge & Gilbert 2004) and the Sheffield Hallam capability model (Combined Universities Interprofessional Learning Unit 2010).

Interprofessional First Year
In 2011, for the first time, first year students in the Faculty of Health Sciences spent 75% of their coursework in an IPE environment, participating in shared learning experiences in tutorials.

All students study five core units, which together comprise half the credits for the year. These are: Foundations for Professional Health Practice 100; Human Structure and Function 100; Health and Health Behaviour 100; Evidence Informed Health Practice 100; and Indigenous Cultures and Health 130.

The rest of the first year course comprises two discipline-specific units (25% of the credits) and two units specified by discipline-specific course co-ordinators, but shared by students from different disciplines (also 25%).

As an example of IPE learning, in the ethics component of the Foundations for Professional Practice unit, students study not only the ethical code for their own discipline, but also codes from some other disciplines.
Case studies form much of the collaborative IPE learning and assessment.

The program emphasises case-based learning and uses a ‘virtual neighbourhood’ which students access through the Learning Management System at CU. Students collaborate to determine the range of health care professionals and services required to manage clients with complex problems.

Teams implementing the Interprofessional First Year were selected on the basis of leadership qualities and interprofessional capabilities, rather than discipline content expertise. The experience was said to demonstrate the need to work with and engage staff at the design stage of a new program.

Middle years coursework
At time of writing, development of vertical integration of IPE into the second and third years of courses was being undertaken.

Final year
In the final years, IPE content in clinical areas appears to be largely focussed on placements, case-based learning and practical experience (see discussion of placements below).

Off-campus clinical placements
Off-campus IPP programs have been operating for more than three years. Some of these are run through the Curtin Health Innovation Research Institute (CHIRI). IPE clinical placements, mostly for final year students, include the following:

Brightwater Care Group
Students from CU and UWA gained experience in the Brightwater project (see p. 43).

Challis Early Childhood Education Centre (ECEC)
Challis ECEC is located in Challis Primary School in Armadale, WA, and consists of a parenting centre, crèche, Aboriginal play group and multicultural playgroup as well as kindergarten, pre-primary and Year 1-2 classes. On-site services include social work, nursing, Aboriginal health, psychology, occupational therapy and speech pathology.

The IPE program began in March 2011 and has grown since, providing children with in situ health services. IPE placements are provided for CU students in speech pathology, occupational therapy, physiotherapy, social work, counselling psychology, dietetics and nursing and Marr Mooditj College students (Aboriginal health workers and enrolled nurses). The program has now been expanded to include another five primary schools.

Rowethorpe – Uniting Church Homes
Based in a residential care facility for older people, an interprofessional Disease State Medication Management Review Clinic is centred on projects such as student-led reviews of the management of medications and their effects on residents’ falls and balance, cognition and continence. Students from pharmacy, nursing, occupational therapy, physiotherapy and other disciplines learn about each other’s roles and how they contribute to the care of the residents. A CU staff coordinator works in collaboration with staff of Uniting Church Homes to support the students.

Other Interprofessional Practice Clinics
Other IPE placement opportunities are currently being provided at the Brownlie Towers housing estate health service in Bentley, Alzheimer’s Australia WA, North Metro Older Adult Mental Health, West Australian Country Health Service, and Combined Universities Centre for Rural Health (CUCRH) at Mt Magnet. A pilot Interprofessional Diabetes Clinic study called Living with Diabetes (Diabetes WA) was completed in 2011. Students also attend the Student Training Ward at Royal Perth Hospital.

For more complete information on CU’s 2012 clinical placements, see:
Go Global

Go Global started in 2001 as OT Abroad, but it was recognised that there were limits to what occupational therapists could achieve alone. A faculty-wide steering group was formed and now a wide range of students are involved in this overseas fieldwork program. Interprofessional teams deliver services such as physiotherapy, speech therapy, occupational therapy and pharmacy advice in projects that are considered to have the capacity to be sustainable in India, South Africa, China and Ukraine. Nursing, midwifery, social work and public health will also be included in future.

An earlier iteration of the ICAT assessment tool (Brewer et al. 2009) was originally developed for the Go Global program, and is now the key CU IPE placement assessment instrument, see below.

Future placement opportunities

CU is working with the Cockburn GP Super Clinic due to open in 2013 to provide facilities and infrastructure for IPE placements. Placements are also being sought at the proposed Midland GP Super Clinic.

CU is seeking approval to open WA’s third medical school, which would have IPE embedded in the course, beginning with shared learning with other disciplines.

It is also anticipated that the Fiona Stanley Hospital, due to open in 2014, will provide IPE placements for CU and other universities.

On-campus practice opportunities

On-campus clinics are being redeveloped with a view to providing existing student placement opportunities with an IPE focus: Silver Chain Wound Education Centre; Chronic Obstructive Pulmonary Disease; Stuttering; Hand Therapy; Musculo-skeletal Medical Imaging; Aussie Optimism; Pain Management; Cardiac Rehabilitation; Mood Management; and Obsessive Compulsive Disorder.

CAFAP

In CU’s Activity, Food and Attitudes Program, CAFAP students from physiotherapy, psychology, social work and dietetics provide an interprofessional service for adolescents with obesity and their families.

For more information, see: http://cafap.curtin.edu.au

IPE case-based workshops

The first Interprofessional Learning workshop took place in February 2008, attended by 42 students from the CU Schools of Pharmacy, and Nursing & Midwifery, and the UNDA School of Medicine. The workshop focused on Medication Safety & Root Cause Analysis. Since then several IPE workshops have been held each year, with topics chosen from a selection of 10 options. (They are now held solely for CU students, due to the logistics of coordinating inter-university timetabling.)

In 2011, case-based full-day IPE workshops were held on IPE Palliative Care (Semesters 1 and 2); Stroke and Depression (Semester 1); and Aboriginal and Rural Health, based on management of an Indigenous person with complex health conditions (Semester 2). An online workshop on Stroke and Depression was held over four-week periods in both semesters. As well, a blended online/face-to-face workshop on Interprofessional Care and Communication, based on the case of an elderly client with communication issues, was also held in both semesters.

The workshops were intended for students well advanced in their course, usually in their final year. In each case, students from several disciplines attended each of the workshops, which were available for selected disciplines. In several courses, the workshops were embedded in a final year unit and in others participation was voluntary.

In 2012, workshops included Stroke and Depression, Dementia, Palliative Care, and Interprofessional Care and Communication.
**Workshop evaluation**
The University of West England (UWE) instrument (Pollard, Miers & Gilchrist 2004) was used to evaluate the 2011 workshops. This replaced the two evaluation tools used in 2010: for palliative care, a modified version of the Readiness for Interprofessional Learning Scale (RIPLS) (Parsell & Bligh 1999); for dementia the Interprofessional Socialisation and Valuing Scale (ISVS) (King et al. 2010).

Following the evaluations, the ensuing changes were implemented in 2012: staff allocation increased to 0.4 FTE (full time equivalent), improved measures for communicating with staff, online registration process, and a more comprehensive training package for the staff facilitators.

More information on the workshops can be found at:
http://healthsciences.curtin.edu.au/faculty/ip_e_workshops.cfm

**HIPE conferences**
At annual half-day Health Interprofessional Education (HIPE) conferences, students and staff, together with industry participants, present their IPE learning experiences in course-work and associated work, research, fieldwork and clinical settings. The first conference was held in 2009. In 2011, there were 16 presentations from students and staff.

**Health Care Team Challenge**
Interprofessional teams of students compete before a panel of judges and a live audience to present the best-integrated care plan for a complex medical case. Held during the HIPE conference for the first time in 2011, the Health Care Team Challenge has been running for three years. The winning team can be invited to participate in a nationwide competition.

**Student preparation and liaison**
A copy of the CU on-line module for student IPE orientation and practice preparation can be found at:
http://healthsciences.curtin.edu.au/faculty/so-module.cfm

Previous students started a Facebook page, Curtin Health Inter-professional Students (CHIPS), for communication between students within CU and elsewhere. A new initiative being developed is STRIPE – Student Reviewers of Interprofessional Education – for students to actively engage in the review and development of IPE initiatives. The intention is for it to be student-driven.

**Staff professional development**
Recently, workshops for staff facilitating IPE in practice settings were developed and implemented for staff from several universities and many health organisations.

General IPE facilitator training modules and handbooks have been developed for staff in practice and classroom settings. Modules for practice settings can be found at http://healthsciences.curtin.edu.au/faculty/ft-module.cfm There is also a regular newsletter called pIPEline.

**Assessment**
The key assessment tool in interprofessional fieldwork placement is the Inter-professional Capabilities Assessment Tool (ICAT), developed by CU (Brewer et al 2011). It aims to provide a measure of students’ knowledge, skills, attitudes and values suitable for use in a diverse range of practice settings. The assessment is divided into four competency areas: communication; professionalism; collaborative practice and client-centred care.

The assessment is conducted at the middle and at the end of a placement. This allows planning for the student’s learning for the second half of the placement. The student and the IPE coordinator/facilitator complete the evaluation separately and then meet to discuss it.

The ratings are along a continuum from novice to intermediate to entry level. As a student progresses, the style of supervision
changes from directed activity to collaborative, to consultative, where the student uses staff as consultants.

The development of the ICAT tool is described in a conference paper entitled Assessment of interprofessional competencies for health professional students in fieldwork education placements (Brewer et al. 2009).

Evaluation
The principal tool for IPE evaluation used by CU is a modified University of West of England instrument (UWE) Interprofessional Questionnaire (Pollard, Miers & Gilchrist 2004). This method captures data four times: at the beginning of the program, in the second year of study, on qualification and nine months after qualifying. Self-completion questionnaires are used to explore three issues: communication and teamwork skills; student attitudes towards learning in an interprofessional context; and the quality of relationships between professionals.

Kirkpatrick’s (1967) model, modified by Barr et al. (2005) is used to explain CU’s evaluation methodology. Students’ reactions, attitudes and perceptions (Kirkpatrick’s Levels 1 & 2a) are evaluated using the quantitative UWE questionnaire, together with a written qualitative survey for student feedback on the learning experience and their perceptions of how the organisation changed in its operation as a result of IPP.

Staff reactions, attitudes and perceptions are evaluated using modified versions of the same tools. External organisations are also encouraged to survey their patient/client’s level of satisfaction, using their own, or the CU instruments.

More information and links to the instruments can be found at: http://healthsciences.curtin.edu.au/faculty/facilitator-module4.cfm

CU uses ICAT to measure final year students’ development of interprofessional capabilities (Brewer et al 2011). Additional evaluation measures include student feedback, retentions, pass rates and focus groups of students and staff.

Student opinions are also surveyed using a tool called eVALUate to rate their experience, including teaching quality, motivation and learning resources. eVALUate consists of two university-wide surveys: the unit survey in which students record their perceptions of what helps and hinders their achievement of unit learning outcomes, their motivation and engagement, and their overall satisfaction with the unit; and the teaching survey, where students give feedback to individual teachers (see http://evaluate.curtin.edu.au/info). The student questions in the survey focus on outcomes, but not specifically on IPE.

At the time of writing, evaluation of the Interprofessional First Year had not been completed.

Full details of the contents and reports on the outcomes of the eVALUate surveys can be found at: http://evaluate.curtin.edu.au/info/instrument.cfm
EDITH COWAN UNIVERSITY (ECU)
ECU emphasises providing clinical placements for students both on and off campus in an IPL environment. On campus, this includes the Interprofessional Ambulatory Care Program (IpAC) and the ECU Health Simulation Centre. An IPL Coordinator position was established in 2009, establishing collaboration that has evolved across disciplines over time. Other staff across health disciplines at ECU also have a focus towards inter-disciplinary collaboration and have established separate initiatives.

Curriculum integration
The undergraduate curricula in the Faculty of Computing, Health and Science includes courses in Nursing, Midwifery, Paramedical Science, Psychology, Occupational Therapy, Health Sciences, Biomedical Science, Human Biology, Exercise & Sports Science and Speech Pathology. At the Faculty of Regional Professional Studies in Bunbury, undergraduate courses include Social Work and Nursing.

There are some common units in these courses, in which students from different disciplines learn together with a focus on inter-disciplinary collaboration, although individual approaches to integration of IPE into curricula may differ. For example, nursing, midwifery and paramedical science students attend the first year course in Social Indigenous and Cultural Perspectives, a second year course in Ethics and Law in Health, and a second or third year course in primary health care. Occupational therapy students attend the same human anatomy and human physiology courses as exercise and sport science and other exercise-oriented courses.

Postgraduate courses in the University aim to emphasise participation in the health workforce. They have incorporated common learning opportunities throughout their curricula.

Interprofessional Ambulatory Care (IpAC) Program
This initiative was driven by a desire to increase both clinical placement capacity and student exposure to IPL. The program was established with substantial funding from the Commonwealth of Australia, Department of Health and Ageing, Increased Clinical Training Capacity Program, to create new or increased clinical training capacity for health students. ECU’s partners in the project included the North Metropolitan Area Health Service (NMAHS), UWA and Ramsay Health Care Joondalup.

Student placements commenced in 2011 and the faculty states that in the first 18 months of operation, the IpAC Program provided over 80,000 clinical placement hours for students from nine health disciplines, including medical students from UWA. In 2012, an extension of the project was possible due to funding made available by HWA.

The IpAC Program includes a community clinic on the University’s Joondalup campus, the IpAC Unit, and an external program of IPL placements in community-based agencies. The IpAC Program provides an interprofessional learning environment, where students have the opportunity to learn with, from and about other health disciplines and develop communication and collaboration skills through the delivery of real-life, client-centred care. Students engage with community members who present to the IpAC Program with a chronic condition and enrol in one of the six specifically designed care packages: general well-being with a chronic disease; weight management; communication for everyday living; stress management; cardiac rehabilitation; and diabetes management.

The emphasis of the care packages is to promote client self-management of chronic disease. For IpAC purposes, chronic disease is given a broad definition and may include combinations of precursors to chronic illness, such as high blood pressure and pre-morbid
I P E f o r  H e a l t h  P r o f e s s i o n a l s  i n  W e s t e r n  A u s t r a l i a

I P E a c t i v i t y  i n  W e s t A u s t r a l i a n  u n i v e r s i t i e s

Students in the IpAC Program gain experience in how to provide education and support to assist clients in managing their health issues and are supported by IPL clinical supervisors from a range of disciplines. The packages are designed so that clients interact with students from several disciplines.

Clients can be referred to the IpAC Program through a self-referral process or more traditional referral pathways such as their GP, cardiology consultants, through allied health professionals, including from the Vario Wellness Clinic, situated in the ECU Health and Wellness Institute.

The Unit aims for students to enhance their skills in interprofessional collaborative practice as they improve their discipline-specific clinical abilities. Students are allocated a client and work in collaboration with students from other disciplines, undertaking assessments, education, support and evaluations of progress. The assessments and education provided in the care packages are informed both by resources on chronic disease management and best practice supplied by NMAHS and by resources developed by Flinders Program of Chronic Condition Management. Each day’s schedule includes two periods for IPL debriefing, consisting of handover practice, discussion of case studies and the role of health professionals involved in each care package.

Prior to working in the IpAC Program, students receive an orientation package that they use to prepare for clinical placement. The length of time the student is on placement in the IpAC Program varies according to the health discipline program and stage in which the student is enrolled. Some students experience several weeks of interprofessional clinical skill practice, sometimes in periodic episodes, while others receive only a short period.

Challenges faced when establishing the IpAC Program included developing appropriate methods of assessment for IPL/IPP that involved little or no extra requirements from students, meeting discipline-specific accreditation requirements, timetabling and developing a professional development program for clinical supervisors.

Off-campus IpAC Program IPE placements
Off-campus IpAC Program placements are provided to support and meet the clinical placement requirements of students. The clinical supervisors at external placements aim, where opportunity avails, to provide the students with exposure to the practice of a range of health professions and facilitate discussion and reflection about interprofessional practice in health.

Assessment tool
The IpAC Program has developed an assessment tool based on five learning objectives: role clarification; team functioning and collaboration; interprofessional communication; client-centred care; and reflective practice. Depending on the length of placement time, students complete either an IPL awareness tool, or an assessment tool supporting more elaborate reflection of interprofessional learning during their clinical experience, whether at the IpAC Unit or an external placement. Additionally, there is a focus on clinical supervisor-facilitated reflective learning, through the scheduled IPL debrief sessions and reflective writing in the assessment tools.

IPL teaching resources
The university reported that the IpAC Program had enhanced students’ existing teaching and learning experience with the creation of resources to support the application of theory to practice. This was evidenced through the evaluation of the program. Both quantitative and qualitative data were collected using pre/post placement student questionnaires, student case studies and focus groups, clinical supervisor interviews and questionnaires, steering group interviews, and client interviews and questionnaires.
Two sets of resources have been developed: 17 IPL sequential simulation resources and teaching resources for students on clinical placements.

The sequential simulation resources have been developed in collaboration with the ECU Health Simulation Centre to provide education to students and health professionals in IPP. All the scenarios have been drawn from real-life experiences of health care in the hospital, outside emergencies and community environments. The content of each resource varies slightly in delivery style and content covers a wide spectrum across health disciplines.

The University reports that the resources offer a unique opportunity for students to reflect upon the client’s health care journey and identify ways in which outcomes for patients/clients can be improved. Each resource includes a manual, detailing current literature and a facilitator guide.

ECU has made the audio-visual and facilitators’ support resources available through the community pages of its website via open access. See http://www.ecu.edu.au/community/health-advancement/interprofessional-ambulatory-care-program/interprofessional-learning/ipl-through-simulation

ECU has also developed IPL learning and teaching PowerPoint presentations to augment the theory behind chronic disease management. Each PowerPoint presentation includes clinical information about a chronic health issue, a case study and a set of questions to support group discussion around clinical and interprofessional aspects of the care for clients/patients. These resources will be shared through the IpAC web pages and the HWA Clinical Supervisor Support Program initiative in WA.

Professional development for supervisors
Over the life of the program to date, more than 86 IPL clinical supervisors have been recruited to support students on clinical placement. The supervisors facilitate both clinical learning and IPE within the IpAC Program. An ongoing training and support program has been developed, including training sessions and guest speakers focussing on communication, teamwork, IPE and chronic disease self-management. The facilitators’ orientation pack can be found on the ECU website.

External evaluation
An external evaluator has used action research to evaluate the IpAC Program, providing the project team and clinical supervisors with feedback throughout the project period.

Each student attending an IpAC Program placement has completed a pre- and post-placement survey, some questions of which were derived from the RIPLS (Readiness for Interprofessional Learning Scale) instrument (Parsell & Bligh, 1999).

The evaluator has also collected qualitative data from student focus groups and longitudinally from students after their IpAC and subsequent industry clinical placements, to identify student perceptions of IPP in practice settings. IpAC Program employees and members of the internal steering group of the project have also provided qualitative data on the experience of establishing an IPL initiative within the University. The evaluation data is valuable for organisational planning and the professional development of clinical supervisors.

Quantitative and qualitative data detailed in the final evaluation report suggest students were very satisfied with the IpAC Program placement. For many students, it was their first placement and their first occasion to watch clinicians actually working with real people. Of the 854 students who completed evaluation forms, 90.6% indicated they would recommend the placement to other students. Students who were followed up (n=120), up to 10 months after finishing their IpAC placement, reported finding their own ways
to translate many of the skills, knowledge and experiences gained, either in subsequent practicums or the workplace. Students considered that, as a consequence of their increased knowledge of other disciplines, they were more proficient in developing referral pathways for clients. At the conclusion of their IpAC placement, 90% of students said that they felt more confident in their ability to work interprofessionally. This decreased to 76% at follow-up, which could be a reflection of the realities of the complexity of the workplace and students’ abilities to deal with interprofessional interactions in a less supportive environment than the IpAC Unit. A full report on the program and evaluation will be prepared as a publication.

More information on the IpAC Program can be found at: http://www.ecu.edu.au/community/health-advancement/interprofessional-ambulatory-care-program/overview

**ECU Health Simulation Centre**

The ECU Health Simulation Centre provides simulation programs at undergraduate, postgraduate and professional levels. With a focus on the non-clinical skills required in clinical practice, the programs aim to allow participants from all health disciplines to develop their skills in communication, collaboration and teamwork through diverse, innovative and immersive teaching and learning techniques. ECU students and health professionals locally, state-wide, nationally and internationally have participated in programs at the Centre, which are designed around adult learning principles.

The programs developed at the ECU Health Simulation Centre aim to provide unique sequential simulation programs and achieve a high level of psychological and environmental fidelity. A sequential simulation event was defined as one that followed a patient through the entire healthcare journey, for example from the roadside following a motor vehicle accident, to the emergency department, the ward environment and the outpatient clinic. This distinctive capability also provided interprofessional learning opportunities across all health disciplines.

Actors, staff and volunteers play the roles of patients and relatives, medical practitioners, nurses, allied health professionals, hospital staff and visitors to simulate real-life situations. Academic and technical staff from nursing, medicine, paramedicine and psychology, have been trained to facilitate in this environment.

The ECU Health Simulation Centre comprises three simulation suites, each designed to be configured to any setting e.g. an operating theatre, emergency department, hospital room, GP consulting room, home environment, mental health interview area or community health service, with video coverage to facilitate the streaming of activities to other locations for learning and teaching purposes. The simulation suites are connected to control rooms through which instructions, directions and teacher guidance can be delivered to simulations in progress.

The Centre’s specific objective is to focus on the non-clinical skills such as teamwork, leadership and communication because, as ECU maintains, these are often difficult to teach but are essential for patient safety.

**Collaboration**

ECU has worked with health disciplines at ECU and other Australian universities to embed learning through simulation into health curricula, with a view to enhancing student learning, student engagement and the overall student experience. This work has been informed by the HWA-funded national projects identifying aspects of curricula that could be effectively delivered through using simulation. (ECU led three of the projects in the disciplines of nursing, clinical psychology and paramedicine.)

This collaboration has resulted in the development of resources on a national scale and the use of the ECU Health Simulation...
Centre for formal student teaching and learning activity, including assessment.

ECU has been involved in developing an interprofessional simulation educator and training workforce. The simulation educator and clinician/coordinator training program, named AusSETT, forms part of HWA’s Simulated Learning Environment program. It was designed to provide a standardised national training program for simulation educators and technicians/coordinators. Development of the AusSETT Program has involved an Australian group with representatives from ECU, Flinders University, Monash University (lead), The University of Melbourne, The University of Queensland and Queensland Health.

In 2011, ECU was awarded a contract for the supply of High Fidelity Simulation Training to the Department of Health Western Australia, to provide a series of high and medium fidelity courses that focus on the non-clinical skills in healthcare teams and IPE.

More information about the ECU Health Simulation Centre can be found at: http://www.ecu.edu.au/community/health-advancement/ecu-health-simulation-centre/overview

**Mobile Health Service**

ECU used HWA Clinical Training Funding to ‘increase health workforce capacity and quality clinical training capacity’ to develop the ECU Mobile Health Service. The bus was officially commissioned in 2012. The project will provide clinical placement opportunities and simulated clinical scenarios for students from physiotherapy, clinical psychology, paramedicine, nursing, speech pathology and nutrition and dietetics. The funding will be used to develop clinical placement activity at community centres, residential aged care facilities and other public venues for students to provide health education or participate in simulated exercises. The simulations will take place both at the university and at external locations. ECU also intends to develop joint exercises with emergency services to promote exposure to IPL and IPP.

In collaboration with primary care and not-for-profit organisations, the project will support clinical placements and simulation through to December 2013.

**ECU Health & Wellness Institute and Vario Wellness Clinic**

The ECU Health and Wellness Institute is a cross-disciplinary alliance of research centres and expertise that aims to improve health and wellness outcomes within the community, by combining the knowledge, skills and resources of researchers in a range of disciplines, including exercise and sports science, nutrition and psychology.

The Vario Wellness Clinic is the commercial arm of ECU’s Health and Wellness Institute. Vario is a multidisciplinary health and wellness facility located on the Joondalup Campus, providing evidence-based wellness programs and integrated consulting and assessment services across the disciplines of exercise physiology, dietetics, occupational therapy, psychology and physiotherapy. For more information, see: http://www.ecuhealthwellnessinstitute.org

**Off-campus facilities**

There are also placements at a number of off-site venues.

**Wanneroo GP Super Clinic**

ECU has a lead role in the development of the Wanneroo GP Super Clinic, an integrated health service which will encompass teams of GPs, practice nurses, nurse practitioners, midwives and allied health professionals including, but not limited to, psychologists, physiotherapists, occupational therapists, exercise physiologists, paramedics, pharmacists and speech pathologists. As well as providing multi-disciplinary team-based care, the Clinic will provide training opportunities for students and graduates, with a strong focus on IPE.
Under a contract signed in September 2011, the Clinic will receive capital funding from ECU and equal funding from the Federal and the State Governments, amounting to $22 million. ECU is working with a range of private and public sector organisations ‘to be able to deliver the most comprehensive care to clients in their own community’.

**Other activities**

**IPL Health Simulation Challenges**
Health simulation challenges are interactive extra-curricular activities focused on developing students’ interprofessional collaboration. The challenges are provided by the IpAC program and the ECU Health Simulation Centre.

The inaugural IPL health simulation challenge took place in April 2011, followed by another four challenges in 2011 and 2012. Students from ECU and UWA have attended these events. Student learning from the challenges is consolidated in a formal way in subsequent sessions within the IpAC Program. ECU reports that students articulate that participation in the challenges has increased their confidence and ability to reflect on their interpersonal and professional skills.

The IPL simulation challenges require participants to assess how a mock health team comprised of professional actors interacts and responds to a scenario based on real-life events. The students discuss the scenario and can question the actors, who remain ‘in character’. They then make recommendations to improve the patient/client’s outcome, and using these, the actors re-enact the scenario, so students can see the impact of their analysis and input.

For more information, see: http://www.ecu.edu.au/community/health-advancement/interprofessional-ambulatory-care-program/interprofessional-learning/health-simulation-challenges

**South West Interprofessional Learning Centre**
The South West Interprofessional Learning Centre is a joint project between ECU and the Rural Clinical School of Western Australia, located on the ECU South West Campus in Bunbury. As well as the Rural Clinical School, it includes a Professional Learning and Development Centre.

For more information, see: http://www.ecu.edu.au/community/partnerships/health/interprofessional-learning-centre
THE UNIVERSITY OF NOTRE DAME AUSTRALIA (UNDA)

While UNDA generally integrates collaborative behaviour and teamwork into the curricula, it has tended to take a multi-disciplinary rather than IPE approach to developing IPP in students.

**Medicine**

In response to the requirement of building a workforce with well-developed team based practice capabilities, the curriculum at the medical school at UNDA provides students with learning experiences that enable them to encounter knowledge and skills from a wide range of disciplines (scientific and clinical) in the context of real-life patient cases. These patient cases are print-based in the first two years, delivered via an authentic problem-based learning program, and clinically-based in the final two years of the course. In the process of trying to understand patient problems better, students are also given opportunities to develop their clinical reasoning, communication and interpersonal skills.

IPP is not delivered as a discrete subject. Instead, it is embedded into the curriculum and integrated into the fabric of patient cases. Nevertheless, at the broad unit goal level (each unit is a year in length), there is a distinct focus on IPP. For example, in the first year of the course students will ‘demonstrate an understanding of the importance of interprofessional health care of patients’. In the second year, students will ‘participate in opportunities for interprofessional learning and healthcare’. In the third year students will ‘work effectively within an interprofessional healthcare team’ and in the final year, students ‘will work collaboratively as an integral member of an interprofessional health care team to provide quality patient-centred care’.

These broad goals are specified as detailed learning objectives that are embedded in patient cases. They are aimed at developing students’:

1. Communication skills (e.g. students will demonstrate the ability to communicate effectively, both orally and in writing, with patients, patients’ families, colleagues and others with whom physicians must exchange information in carrying out their responsibilities).

2. Knowledge of IPP roles (e.g. students will describe the role of the Aboriginal healthcare worker; students will examine the roles, functions and dynamics of multidisciplinary teams; students will explore the potential for nurses, physiotherapists, occupational therapists, podiatrists, pharmacists and other allied health professionals to contribute to the diagnosis and management of patients with musculoskeletal disorders etc.).

3. Respect for other healthcare roles (e.g. students will demonstrate an understanding of and respect for the roles of other health care professionals, and the need to collaborate with others in caring for individual patients and in promoting the health of defined populations).

The following are examples of activities and learning experiences that the medical school uses to enable students to address these learning objectives:

- Attending clinical sessions in GP practices, aged care, hospital placements etc. in the first two years of the course.
- Participating in multidisciplinary panel discussions based on a hypothetical case of a 15-year-old girl seeking contraception from the school nurse.
- Attending team meetings during clinical rotations in the final two years of the course and observing the functioning of a multidisciplinary team. In the final year, students are expected to present at these meetings.
• Attending lectures provided by a range of healthcare professionals from different disciplines in relation to the problem of the week (e.g. lecture by a dietician with regards to changes in nutritional requirements throughout the life cycle, particularly as it pertains to the elderly and groups with neurological conditions such as Parkinson’s Disease).

Tutors in the problem-based program in the first year of the course represent a range of health professions, whilst in the second year they are medically qualified. Students also have opportunities to work with health professionals from other disciplines whilst attending their rural placements (embedded in each of the four years/units of the course). In the final year of the course, medicine students can elect to participate in the Royal Perth Hospital Student Training Ward as part of their two-week selective or their four-week elective. Health professional students from a range of WA Universities attend this ward.

At the time of writing, the IPE-related parts of the medical course were being audited by the four Domains (course developers) to ensure that the School of Medicine is meeting its accreditation requirements, as stated by the Australian Medical Council.

Post Graduate Courses in Health Professional Education
Recently, the School of Medicine was given approval to develop and deliver two online postgraduate courses in health professional education, aimed at staff teaching in the Schools of Medicine, Nursing, Physiotherapy and Counselling. Whilst IPE is not the sole focus it will be a key element of a unit exploring contemporary issues in the design and delivery of health professional education.

Physiotherapy
The physiotherapy course has input from staff in other disciplines, e.g., paediatrics, occupational therapy, pharmacology, and radiotherapy, to increase understanding of IPP, but not often from students from other disciplines. Students work multi-professionally with others in the early stages of the course, undertaking observations and reflections, and also work for 30 hours in the community sector before they can do placements. The latter may be with physiotherapists or with professionals from other disciplines. Fourth-year students have exposure to working with other health professionals, especially in disability, aged care and paediatrics. On rural placements, too, students work with health professionals from other disciplines. Physiotherapy students also conduct role-plays where they assume the role as a professional from another discipline.

Physiotherapy students are assessed six months after graduation and later, including their interactions with other health professionals. According to the school, the assessments show that students are considered to be patient-centred, with good cultural sensitivity, and are able to work well in teams.

Nursing
In the nursing school, non-nursing academics deliver content in some courses. The School of Nursing and Midwifery offers an inter-disciplinary Graduate Certificate in Acute Mental Health. In 2012 this was extended to a Graduate Diploma. The School was also involved in assisting to set up a short course in Management of the Mentally Ill Patient at the Marian Centre. This course was offered over two years for nursing students from across all Universities in WA and some TAFE colleges. Graduating nursing students facilitate an interprofessional panel each year that enhances their understanding of the health care arena. The School has a unit on Aboriginal Health that enrolls students from the Bachelor of Nursing and the Bachelor of Preventive Health. The lectures and tutorials for all students are conducted by a Senior Lecturer from the School of Nursing and Midwifery.
Nursing students share placements with medical students from UWA at Bethesda Hospital on the Palliative Care ward. Also, nursing students participated in the Royal Perth Hospital (RPH) Student Training Ward in October 2011.

IPE in the past
Previously there was a course that brought medical and nursing students together, but it was discontinued due to timetabling issues, which arose because the medicine course was an integrated, problem based model, while the nursing course was more traditional, based on discrete units. There was also a common leadership and management unit for nursing and physiotherapy students that ran for four years. It was discontinued because of different requirements from the students in each group. There was also a common anatomy and physiology course, but as it did not have a nursing context it was discontinued.

In a Health Care Management course, nursing and physiotherapy students jointly attended lectures, but workshops were run separately. Staff noticed that for shared presentations the discipline with a majority tended to dominate. The collaboration was discontinued when the staff involved left the University.

Simulations
The University has two nursing laboratories and several physiotherapy and medicine laboratories. The School of Nursing and Midwifery has a strong focus on clinical experience in its course, which, it says, reduces the need for a high fidelity nursing laboratory.
UNIVERSITY OF WESTERN AUSTRALIA (UWA)

In the past few years, several examples of IPE projects have been run within the Faculty of Medicine, Dentistry and Health Sciences (FMDHS) at UWA, sometimes outside the core curriculum of a course. The Faculty is now developing IPE initiatives with the aim of preparing graduates from medicine, dentistry, health science, podiatric medicine, nursing and social work to be interprofessionally capable practitioners.

The FMDHS consists of the following schools: Dentistry; Medicine and Pharmacology; Paediatrics and Child Health; Pathology and Laboratory Medicine; Population Health; Primary, Aboriginal and Rural Health Care; Psychiatry and Clinical Neurosciences; Surgery; Women’s and Infants’ Health.

UWA is moving to a new course structure. In future all undergraduate study will occur for one of five degrees: Arts, Commerce, Design, Science, Philosophy (Honours). Medicine will be a graduate course, with any bachelor-level degree as one of the criteria for entry. The last intake of students for the undergraduate MBBS and BDSc courses occurred in 2011, and 2012 will see the last intake of the graduate entry medical course (MBBS). The new degrees of Doctor of Dental Medicine (DMD) and Doctor of Podiatric Medicine (DPM) commence in 2013 and the Doctor of Medicine (MD) in 2014.

A Master of Nursing Science course which provides entry to practice is run through the School of Population Health, which also offers a Bachelor of Health Science course, including a major in biomedical or social science and a compulsory major in public health.

At UWA, the Faculty of Life and Physical Sciences incorporates disciplines that are included as Health Sciences at other universities, i.e. Anatomy and Human Biology; Biomedical, Biomolecular and Chemical Sciences; Psychology; Sport Science, Exercise and Health.

Interprofessional Learning Interest Group (IPLIG)

In January 2010, the Faculty Teaching and Learning Committee (FTLC) recommended the formation of an Interprofessional Learning Interest Group (IPLIG) from a group of educators with an interest in IPE. The IPLIG has representatives from each pre-registration course taught in the Faculty of Medicine, Dentistry and Health Sciences.

The IPLIG determined five fundamental commitments for the Faculty to strengthen and enhance IPE as an integral component of training, research, and faculty development. These were to:

- develop an IPL curriculum framework for embedding and integrating IPE in all courses in the faculty;
- create infrastructure within the Faculty for effective intra-faculty and inter-institutional interprofessional curricular activities;
- enhance faculty development programs in knowledge and utility of IPE;
- establish dedicated time within the curricula for students to engage in IPE with students from other health professions;
- promote and support qualitative and quantitative research in IPE through established programs. For more information see the UWA website and Carr (2012).

The Faculty is making progress in achieving these aims. It has developed an IPL curriculum framework (below) and has mapped IPE capabilities to the learning outcomes of the current medical course. Mapping of other courses is in progress. The Faculty is developing infrastructure to enable and strengthen intra-faculty and inter-institutional interprofessional curricular activities, and to increase knowledge of IPL in the Faculty.
Further, there is now dedicated IPE time within the curriculum for students to engage with students from other health professions. For the first time in 2012, this is available to all, not just some, medical students. Medical students will all undertake a two-week IPE placement.

The new postgraduate medical course will include a five-week clinical attachment focused on interprofessional working and collaboration.

Members of the faculty are also undertaking qualitative and quantitative educational research into IPE.

The IPLIG listed three priority areas for 2012:

1. Dedicated time within curricula for students to engage in IPE with students from other professions to be established in all new courses or expanded in existing courses using the IPL Curriculum Framework as a guide. The IPLIG will liaise with the curriculum developers of Medicine, Podiatric Medicine, Dentistry, Nursing, Social Work and Pharmacy to establish a process to develop and promote IPE within each pre-registration course of the Faculty. This process aims to enhance and strengthen effective intra-faculty curricular activities.

2. Opportunities for faculty members to enhance their understanding of IPE and their skills in facilitating IPL in clinical and classroom settings. To this end, the Faculty Education Centre is developing a website and online modules to support IPL for both students and teachers. Additionally, a one-day workshop, developed by the IPLIG, is to be offered for staff in Semester 1, 2012, on interprofessional teamwork; facilitating interprofessional learning; and facilitating collaborative clinical practice.

3. Current and future IPL-related projects to be evaluated in a methodical, scholarly manner. The IPLIG, with support from the Faculty Education Centre, aims to provide advice and support around methodological approaches to evaluation and educational research of IPE-related projects. Project leaders will be contacted to invite a conversation around evaluation strategies being employed.

Pilot projects
In 2009, the FMDHS awarded a Teaching and Learning grant for two pilot projects relating to IPE.

Pilot A: Simulation
The grant was to develop and pilot IPL scenarios focused on building the capacity of senior students from across the faculty to work in interprofessional teams, through the use of simulation. It aimed to ascertain whether the simulations can be run sustainably.

A simulated ward was set up with simulated patients, for students to work in an IPP manner. Students had an introductory workshop and were given resources on key interprofessional issues such as leadership, conflict in teams and communication. After a familiarisation period, there was a handover of patients to the students – from medicine, nursing, dentistry, and podiatry – who were left to run the ward for 50 minutes. Each team had four patient cases, tailored to their specific disciplines, with volunteers acting as patients in an early assessment ward. This was followed by a debriefing, for reflection and mentoring. The cycle was repeated three times.
Development of simulation has been constrained by lack of continued availability of premises. The simulations piloted last year were at the WA School of Nursing at Sir Charles Gairdner Hospital. Three simulations were intended, but due to timetabling coordination problems only two eventuated. Facilities that can be used for simulation have now been developed at the Bethanie aged care facility at Joondanna and it is intended that they will be used for IPE.

A range of evaluation instruments was used for the pilot including ISVS, RIPLS, ICAT, and a mentor observation checklist.

**Pilot B: International elective**

The second Faculty Teaching & Learning grant facilitated support for an overseas elective with an IPE focus for students from different disciplines. It aimed to create a unit that was sustainable and in which students gained experience in working in interprofessional teams in an international context.

To achieve this, a new unit, Interprofessional Health Practice, was created. Four third-year medical students, one graduate nursing and 10 first-year health science students participated. Three seminars for student preparation were held, before the two-week field trip in December 2011.

Students were located and worked with a non-government organisation concerned with maternal and child health outcomes in a rural area of India. They observed the role of interprofessional health practice of community health workers in addressing these issues.

Assessment was based on two assignments, one with a group component before the fieldwork, and one a group assignment after the field trip. In addition, there was a short presentation on return to Perth. Part of these assessments included reflection on IPE within the student group, and IPP in the villages. Evaluation of the IPE component of the elective used RIPLS, ISVS, a student focus group and observational studies on the field trip. It was noted that, because most evaluation tools are designed for a clinical context, it was difficult to source a suitable instrument for this project.

**Placements**

**Interprofessional Learning in Ambulatory Care**

At the outset, this project aimed to establish an educator-supported interprofessional learning environment in the ambulatory setting for medical and nursing students. It aimed to focus on interprofessional collaboration in care delivery and to increase the number of clinical places available by modifying a workplace that had been unsuited to student learning, by using an educator supported IPL model.

The project, a collaboration between UWA, Sir Charles Gardiner Hospital (SCGH) and Silver Chain, received funding from the Commonwealth Department of Health and Ageing. Following a successful pilot project in 2010, the program was expanded in 2011 to include 56 participants from fourth year Bachelor of Medicine students and first year Master of Nursing Science students from UWA.

The program used a teaching registrar and nurse educator model, with the students’ clinical practice supervised by ambulatory care clinicians working collaboratively, and supported by the teaching registrar and nurse educator. To avoid the common complaint of an inadequate environment for students in ambulatory care settings and to ease the load on clinicians, learning was integrated into the current workplace, rather than using specific ambulatory care teaching clinics. The model also aimed to avoid passive observation by students. The principles were to:

- facilitate students to learn in a work environment by taking responsibility for patient care;
- facilitate students to learn in interprofessional groups;
have well-defined cross professional and profession specific objectives;
• focus on self-directed, reflective learning with the provision of good feedback.

Students were attached to one of two services for two weeks.

At Sir Charles Gairdner Hospital, students on the pilot project attended the respiratory outpatients’ clinics where they participated in a structured program in a variety of respiratory clinics. The program also incorporated self-directed sessions to allow students to reflect and learn from clinical experiences and to be supported with structured learning and patient follow-up. In 2011, clinical attachments also included diabetes and cardiology clinics, where students gained experience of patients/clients with chronic conditions such as chronic obstructive pulmonary disease (COPD), heart failure, lung cancer, ischaemic heart disease and diabetes, while gaining skills in liaising with other health providers.

At Silver Chain, students worked in interprofessional pairs reviewing patients/clients through the Hospital At Home program and through clinics such as the wound clinic and continence clinic. Students were supported with structured learning from content experts, to consolidate theory to practice.

In 2012 all medical students who are assigned to Sir Charles Gairdner Hospital in their final year for clinical experience are required to attend a two-week IPE placement, which aligns with the nursing practicums. This could be at Brightwater Care Group (see p. 43), Silver Chain or the hospital. The medical students work with second-year nursing students, matching the activities they need to complete.

The evaluation used a range of instruments: ICAT; a Bondy scale; pre placement and post placement ISVS; and student and preceptor post-placement evaluation surveys. For more information, refer to Lake, Saunders & Dugmore (2012).

**Brightwater**

Students from UWA and CU gained experience in the Brightwater project (see p. 43).

**Bethanie IPE facility**

Unused space in the Bethanie aged care facility at Joondanna has been converted to provide a clinical learning environment for nursing. A nursing home was refurbished to create a clinical learning environment with a mix of one or two bedrooms and consulting rooms, with observation capability that can be used for simulation or direct patient care. Initially placements will be discipline-specific, but staff plan to introduce IPE for nursing, medical podiatric, pharmacy, and possibly social work students. Enrolled nurses from West Coast TAFE College and Central TAFE College are also involved in the project.

Facilities include consultation rooms, with observation rooms, and a community flat so students can engage in, for example, caring for someone in their home or preparing someone to go home. Because Bethanie operates on a paperless management system, students have the opportunity to become familiar with e-health technology and accessing electronic health records for training and actual delivery of care.

Funding for this initiative was provided by HWA.

**Bethesda Hospital**

HWA funded a project to build training capacity in palliative care at Bethesda Hospital, which is expected to provide IPE placements for medical and nursing students from UWA and UNDA, when capital works, including creating a student learning hub as a dedicated learning and debriefing environment, are completed in 2012. Although there have been some placements...
already, IPE has so far been limited by scheduling. Hospital staff, a practitioner scholar (nursing) and a palliative care physician support the students.

**IPE in Medicine**

**ECU IpAC**

UWA medical students attend a clinical placement at the IpAC Unit at ECU. UWA also provides support through facilitation of some of the development and training of the IpAC Program clinical supervisors.

Medical students from UWA also attend a voluntary half-day session in the IpAC Unit: 49 attended in 2011 and a further 52 during 2012. Collaborative evaluation of this attachment is underway between ECU and UWA.

**First-year community placement program**

The community placement program for first-year medical students is embedded in the Foundations of Clinical Practice unit. Students are placed with a health agency for a total of 12 to 15 hours, usually over a two-day period during the first semester, to observe the work of health professionals in the work environment. Settings may be community clinics, schools, clients' homes, outpatient or agency-based programs. Following placement, students complete a community placement report based on their experiences and observation. Students also give an oral presentation to their tutorial group and complete a short evaluation survey.

More information is available at: http://www.meddent.uwa.edu.au/teaching/fcp-program

**GP Division**

The GP Division runs an introductory course for fourth year medical students, where they do two shifts of nursing. The course is arranged through Sir Charles Gairdner Hospital.

**Rural Clinical School**

The Rural Clinical School (RCS) is established in the UWA School of Primary, Aboriginal and Rural Health Care and incorporates medical students from UNDA. The school has the explicit goal of attracting more doctors to regional, rural, and remote practice. Based in Kalgoorlie, the RCS operates in 13 WA cities and towns and has an urban centre in Perth.

Although students at RCS experience interprofessional teaching, this does not often include formal learning from other students. In the rural context health professionals necessarily work closely together and, as a consequence, IPP is perceived to be occurring already.

Reporting on interprofessional learning tends to be anecdotal. Interviews at each of the 13 sites have found attitudes to IPE are quite variable. Student attitudes are not measured.

**IPE in Nursing**

IPE is integrated through the graduate nursing course, with theory provided in lectures throughout the curriculum, including one dedicated to IPE. Practical IPE experience is provided on placements, most notably the Brightwater Project (see p. 43) and the IPL in Ambulatory Care project.

**IPE in Podiatry**

Final year podiatry students have had placements at the Multi-Disciplinary Foot Ulcer Clinic at Royal Perth Hospital. There have also been placements at the Centre for Aboriginal Medical and Dental Health Clinic at the UWA School of Primary, Aboriginal and Rural Health Care. Attempts to involve students from other disciplines at the latter organisation have been unsuccessful.

**Postgraduate programs in IPE**

Interprofessional education as a discrete subject is an elective in three post-graduate courses:

- Graduate Certificate in Health Professional Education;
IPE for Health Professionals in Western Australia

- Graduate Diploma in Health Professional Education;
- Master of Health Professional Education.

The unit content focuses on developing skills in planning and delivering effective interprofessional education. Learning outcomes require students to be able to:
1. Discuss the principles of and rationale for IPE.
2. Critique the evidence for IPE.
3. Identify barriers and facilitators to IPE.
4. Demonstrate how to design effective IPE.
5. Develop effective assessment of IPE.
6. Identify strategies to embed IPE education into a curriculum.

Assessment: There are no formal examinations. Assessment is based on an assignment (60%) and a presentation (40%).

More information:
http://units.handbooks.uwa.edu.au/units/imed/imed8832

The unit ran in 2010 and 2011. A short course in Facilitation of IPE is being offered for Faculty members in 2012, which will address the same learning outcomes.
**Multi-Institutional Collaboration in IPE**

**Combined Universities Centre for Rural Health (CUCRH)**

CUCRH is an organisation based in Geraldton providing support to all students undertaking studies related to rural health for all five Western Australian universities. It is funded by the Commonwealth Department of Health and Ageing, under the university Departments of Rural Health (UDRH) programs. CUCRH is the UDRH for Western Australia.

**Country Week**

Country Week is a one-week intensive student educational experience held annually in a rural or remote area. The focus is experiential IPL, although the program is not specifically structured to be IPE. By working in interprofessional groups and considering their own professional perspectives, students are exposed to an IPL experience.

Through the program, students studying a range of health professions work together to learn about health in remote or rural communities. Country Week has a particular focus on the health of Aboriginal people living in remote or rural areas.

Country Week is open to all Australian-resident students studying a health or health-related course in Western Australian universities. In recent years, Country Week has included students studying physiotherapy, health promotion, occupational therapy, medicine, human communications science, health science, dietetics, pharmacy, nursing, social work and environmental health. It has been conducted with people and organisations from the communities of Cue, Meekatharra, Northampton, Kalbarri and Kalgoorlie as partners.

Each year Country Week runs during the mid-year break so that students from different universities and courses are able to attend. Approximately one month prior to Country Week, students attend a half-day preparatory workshop conducted in Perth that includes foundations for the week and aspects of working in Aboriginal cultural and health contexts.

Country Week is assessed and credited as a clinical placement by some professions, with assessment based on aspects such as how well the students relate to colleagues and communicate with other students.

Evaluations have consistently shown that students value learning about working in an Aboriginal context and in an interprofessional context. Evaluation uses ISVS and an adapted version of a cultural competency scale, open-ended questions (reflections), program facilitators’ journals and some student journals.

A similar experience (called Country Week for Staff) has also been made available for university staff.

For more information, see: http://www.cucrh.uwa.edu.au/index.php/students/country-week.

Country Week was not available in 2012.

**Geraldton IPE Program**

During 2010 and 2011, CUCRH ran three half-day IPE workshops per semester for students from the Rural Clinical School and other students in Geraldton on placements. This was funded by a grant from UWA and developed in collaboration with CU. The focus was Aboriginal health and chronic condition management from an IPE perspective, particularly the interaction between health professionals and Aboriginal people around management of their chronic conditions. However, with no more funding the program has been discontinued.

One resource is an interprofessional cultural orientation program – available on the CUCRH web site. Originally designed for allied health, it is now also used by nursing and medical students.
Brightwater Care Group
Following a successful pilot interprofessional placement at Brightwater in late 2009, a collaboration between CU and the Brightwater Care Group, UWA joined to lead a successful bid for funding for IPE placements for students from the two universities. Brightwater provides residential, rehabilitation and community care for people with disabilities and older people with high support requirements in appropriate accommodation or in their own homes.

The placements for 2011 were situated at five sites providing residential care, high care resident and community care. A total of 220 students participated, including nursing and medical students from UWA and physiotherapy, occupational therapy, speech pathology, social work, dietetics, nursing and pharmacy students from CU.

The sites were selected because they were considered to have appropriate care managers and clinical lessons to be learnt, and to provide a quality student experience. Dedicated interprofessional facilitators were appointed and trained to oversee the process on a daily basis, together with facilitators for each of the disciplines and an overarching interprofessional facilitator at each facility. Student activities were organised by Brightwater.

The project appears to have been an exemplar of collaboration between organisations with different cultures, which required overcoming a number of challenges. Some misunderstandings were exacerbated by insufficient planning time allowed for implementation after the grant was approved. This added to the problems of timetabling, resourcing and providing infrastructure. Matching the requirements of different courses of study in two universities with the capacity of the placement venues to provide appropriate experiences available at the right time was a challenge. The difficulties appear to have been largely overcome by goodwill and trust.

Student preparation was performed on-line because of the timetabling difficulties for face-to-face workshops. Workshops for university facilitators were carried out at separate universities, and there was a view that these could be improved in combined sessions. Brightwater staff were also provided with supervisor training if they wished.

A GP was located on-site for medical students, who have sometimes complained about insufficient clinical work on IPE placements. The students were on call and took the lead on cases and on decisions as to when to call the GP. However, the number of clinical assessments required of medical students was thought to have detracted from their IPE experience.

Although the project has been generally considered to be a success, only one of the sites, Madeley, is providing placements in 2012, because ongoing external funding has not been provided to allow the other sites to continue to accept IPE students. This has left facilities, some of them funded by the organisation itself, unused.

For a description of the development of the pilot project, refer to Brewer, Franklin & Lawrence (2011).

Student Training Ward
The Student Training Ward (STW) at Royal Perth Hospital (RPH), established by a partnership between CU and UWA, is now in its third year of operation and continues to prove a success with staff and students alike. Inspired by the student training wards at Linkoping University and the Karolinska Institute in Sweden and St Georges University in the UK, the Perth operation was set up following a successful pilot study funded by CU. Although it was originally intended to situate the ward in the orthopaedics
treatment area (to focus on patients with a fractured neck of femur) or in a geriatric treatment area, the ward was eventually located in general medicine, in an acute admissions unit.

Initially it was intended to involve all WA universities, but the complexity of the negotiations resulted in limited progress. In its first year (2010) only students from CU and the UWA medical school were involved. This activity was coordinated by CU, and in 2012 all WA universities were invited to participate.

Coordinators report that an important factor in its success has been obtaining the support of hospital executive, key university stakeholders, clinicians (heads of departments involved in the hospital) and the health professionals whose patients were involved.

No evaluation was available at the time of the research, though an evaluation has subsequently been submitted for publication. Anecdotal evidence was that student reaction in 2011 was more mixed than 2010, at times positive and at others less so. This was at least in part due to the introduction of three-week placements, instead of two, for medical students, which disrupted the timing of placements for other disciplines. For example, physiotherapy schools did not want students to take more than two weeks out of their traditional five-week hospital placements. The training ward has reverted to two-week placements for 2012.

The STW has recognised the importance of implementing changes as a result of student feedback to improve the program. For example, students said they were being required to attend too many debrief sessions, which they found somewhat repetitive. Consequently, the frequency of the debrief sessions was reduced over the length of the placement.

Further, students and staff indicated that they felt that the number of assessments was excessive; this has been reduced for 2012, with only the ICAT utilised. There is also a move towards less physical participation in the roles of other disciplines – for example, medical students could not see the relevance of being asked to take on the role of nurses, in washing patients, as part of understanding nursing experience. Current research is focused on analysis of ward round processes and team dynamics as part of the student learning experience.

The main threat to the sustainability of the STW was said to be the limited number of champions for the project, to provide continuity of support when the initiator of the project retires. Champions in key leadership positions have been identified.

It is widely anticipated that the new Fiona Stanley Hospital will include a student training ward based on the RPH model. A student handbook for the STW is available online at www.healthsciences.curtin.edu.au/local/docs/Student_Training_Ward_handbook.pdf.
3. PERSPECTIVES ON CURRICULUM DEVELOPMENT IN IPE IN WA

Despite sharing broad common aims of better collaboration and teamwork, the four universities that provided the data for this study had diverse approaches to preparing students for IPP. Rural schools were different again. This diversity appeared to be grounded in the different teaching methods and cultures of the institutions but was also influenced by other issues.

Several factors appeared to affect the development of and commitment to IPE in curricula in the different universities. These are discussed in the context of the 4DF (Lee et al. In press).

The following discussion reflects on the various characteristics of IPE activities in participating WA universities (see Section 2) using the 4DF model (illustrated on p. 13). It summarises input and issues discussed by key participants. It is not intended as a definitive analysis of circumstances in WA universities. Clearly, some issues straddle more than one dimension of the model.

DIMENSION 1: IDENTIFYING FUTURE HEALTH CARE PRACTICE NEEDS

Dimension 1 identifies curriculum as ‘a program of knowledge and learning, shaped by social, historical, political, economic, professional and educational forces’ (Lee et al. In press). In the current context, it refers to why curriculum for IPE are developed. Issues identified by participants have been extensively discussed in Section 1. The only new issue identified below is that of professional accreditation, an issue presented by participants as critical to the system-wide development of IPE.

Accreditation requirements

Accreditation standards identified by various discipline-specific bodies not only varied but were also capable of different interpretations both by institutions, faculties and schools. For some, the accreditation requirements were experienced as enabling; for others they were seen as a constraint. This was evident in the IPE content of courses that were intended to prepare students for working collaboratively in teams.

In one view, IPE was given considerable prominence in curricula but was insufficiently emphasised in professional accreditation requirements, which were perceived as lacking flexibility. Other participants considered that IPE - as defined broadly by CAIPE (2002) - was not in fact taught or assessed. Rather, students were exposed to working, interacting and reflecting in multidisciplinary teams and received some lectures from staff in other disciplines to obtain a different perspective.

Another perspective was that IPP was best learned from registered health professionals from other disciplines, sometimes with other students from other disciplines, rather than from other students within the same discipline.

Participants considered that accreditation requirements were critical, if IPE was to become widely accepted as a core part of the curriculum. However, they recognised that changes to accreditation standards took time, because they were likely to occur only when the standards were due for renewal.

DIMENSION 2: DEFINING AND UNDERSTANDING CAPABILITIES

Dimension 2 refers to ‘identifying sets of learning outcomes, expressed in relation to standards and sets of attributes’ (Lee et al. In press) – what is being taught in IPE, both directly and indirectly. Key issues in this area include the expectations of new graduates entering the health professions and the roles
and attitudes of different disciplines in relation to IPE and IPP.

**What is expected of graduating health students**

Health professional graduates were primarily expected to be ready to start practising their own discipline competently, immediately upon graduation. This comprised providing safe, high-quality care, coupled with the ability and willingness to recognise when help from others within the discipline was needed.

Participants recognised that teamwork and collaborative practice were important, but there were different perspectives on this. On the one hand, it was perceived that inter-professional or multi-professional practice was already common in many areas and that, whether or not health professionals had been exposed to IPE, as they became more experienced and mature they would be increasingly willing to interact with other professions. On the other hand, some believed that cultural changes were needed in many parts of the health delivery system for IPE to become relevant to practising health professionals.

Expectations appeared to be changing. There was a perception that demonstrated IPP capability was an increasingly desirable characteristic that could influence a graduate’s employment prospects, especially in allied health.

Opinions also diverged as to whether this increasing awareness of IPP was driven by practising health professionals in the workplace, or was a reaction to initiatives from more forward-thinking universities, as well as HWA and the WA Health Department.

Capabilities that new graduates in WA were expected to have, included:

- knowledge of discipline-specific disorders;
- grounding in patient/client assessment, ability to initiate appropriate management and seek assistance when needed;
- safe practice, including drug prescription or use;
- ability to work in teams, with a patient/client-centred approach;
- propensity to lifelong learning;
- understanding of how the health system works;
- cultural sensitivity; and
- professionalism, including professional conduct, ethics, legal matters, and leadership and administration skills.

Some participants expressed a wish for more uniformity between professions in the IPE competencies that graduates were required to exhibit. It was noted that there had been some progress in this regard, working on nationally agreed competency frameworks with, e.g. occupational therapists, physiotherapists, speech pathologists and nurses. Where IPE was already embedded into competencies, participants indicated that more emphasis from accreditation bodies and in curricula was necessary for further progress.

**Discipline-specific roles**

The balance between discipline-specific learning and IPE was one of the main sources of contention regarding IPE content.

Attitudes to some extent reflected perceptions of professional roles. Medical educators tended to emphasise that the medical practitioner was expected to be the leader of a health care team. This received some emphasis in rural areas. Others perceived that the leadership role could sometimes lie with other professions. These varied attitudes appeared to affect views on how students should be taught about the health care system and how to work together with others within it.

There was little disagreement that it was important for students to identify with their professional group. The challenge for IPE was
for students to retain that alignment while also grasping what other professions do, what they had to offer in a health care team and what their responsibilities were in collaborative relationships. The disagreement was with how much of this collaboration could or should be learned in a discipline-specific context.

One aspect of this issue was the extent to which students should be exposed to the practices and different approaches of the other health professions. On the one hand, some participants perceived that students gained understanding and respect from considerable experience working together that they could not obtain from learning with students from within their own discipline. They stated that anecdotal evidence of positive student reactions to this was widespread. On the other hand, there was a concern that IPE activities could divert resources from important discipline-specific learning. While it was desirable for students to understand other professions in order to know what they could reasonably expect others to contribute and what was practical, the degree to which this needed to be learnt at student level was not uniformly accepted.

The divergence of opinion was evident in the different strategies adopted by the universities. As noted elsewhere in the report, for first year students these ranged from shared coursework to limited or no IPE experience. In subsequent years, IPE and/or interprofessional collaboration were integrated into some discipline-specific coursework. In later or final years of courses IPE experience in placements ranged from opportunistic through limited IPE-specific placements to an estimated 25% of placement time. The divergence of opinion affected not only the extent of IPE but also at what stage of a course it was to be implemented.

Relevance
Some educators believed there were limits to the relevance of IPE. Examples were a belief that IPE was not necessary for physiotherapy because when they were assessed six months after graduation physiotherapy students were considered to be patient-centred, well-rounded, with good cultural sensitivity, and able to work well in teams – all without pre-registration IPE training. Biomedical science with its emphasis on genetics was another discipline mentioned in the context of minimal relevance.

Where this issue had been addressed, participants stated that educators had to help students make the connections and see why it was relevant, e.g. for a social worker to know about anatomy. This required commitment from the staff, in order for students to have a positive IPE learning experience. Various means of encouraging this buy-in by staff are discussed in Implementing IPE Programs (see below).

Participants observed that although in some disciplines relevance was not clear to students, they realised the importance of IPE once they graduated and were in practice.

DIMENSION 3: UNDERTAKING TEACHING AND LEARNING
The third dimension ‘involves the core educational activities of teaching, learning and assessment’ (Lee et al. In press) – how students learn about IPE.

The previous section 2 included details of the teaching modes and methods that are currently used in IPE in four Western Australian universities, both in terms of coursework and practical education, including clinical placement, simulation and other learning activities.

When to introduce IPE
The question of the most efficacious time in a course to introduce IPE was a vexed one. Several viewpoints emerged:

1. Students needed to identify with their chosen profession and gain some experience in this so they had something to share.
Therefore IPE was better experienced in the final year(s) of a course.

2. Students could enter university with a rigid idea of their profession and this sometimes led them to be dismissive of other professions. Therefore students needed to learn how disciplines could share common elements throughout the course.

3. If models of delivery were to be changed in future, it was necessary to show the advantages of IPE to students as early as possible. Therefore IPE should be introduced at the start of a course.

4. Content was less undifferentiated in the early parts of a course, so students could work together to get a basic grounding in some areas, then learn more specialised roles later. However, ideas on what content should constitute this grounding were extremely diverse, with some participants maintaining that most subject matter required a context within a discipline while others believed generic skills and even some basic clinical competencies could be learned in a shared interprofessional environment.

The nearest to a WA consensus would be that IPE should be seen as a longitudinal learning process, with some specific, discrete assessed activities in addition to placements, e.g. assignments, reflective journals, workshops and teamwork based on cases with different perspectives. In addition, other activities throughout the course could still have some aspects of an IPP focus, but not all activities need to be done in partnership with other disciplines. Learning early in the course should include a theoretical base for the practical learning that takes place later. However, provided they were well implemented, placements were generally considered to be the most valuable IPE learning experience.

There were varied views on the amount of extensive shared coursework that should occur in first year. IPE early in the course was perceived to provide students with the capacity to work together effectively and to learn client-centred and team-oriented thinking rather than profession specific thinking. This would frame their learning for the rest of the curriculum. While few questioned the value of this, there were different views on the extent of the IPE needed at this early stage.

The middle years of courses tended to be single-discipline focussed. Participants expressed the view that as students progressed through their course, they became more focussed on their discipline. This was emphasised for medical students: ‘they want to practise being doctors, rather than looking at the interprofessional side of their work’. This presented challenges for IPE. Timetabling became difficult because of the different schedules and teaching requirements of different disciplines, e.g. nursing students undertook practicums throughout the course, but physiotherapy students did not commence placements until their fourth year. One solution to facilitate the vertical integration of IPE throughout courses was to develop a large number of case studies that could be shared between disciplines within the university, as occasions could be arranged.

Professional allegiance influenced perceptions of the potential benefits of placements in the final year(s). It was generally accepted that practice at this level was valuable to consolidate and extend learning. However, medical students, among others, were focused on passing their discipline-specific clinical requirements; participants considered that for many students this would only change if IPE became a core assessable requirement. Nursing students also had strict requirements that were not always seen to have the flexibility for extensive IPE. However, in two of the universities, in allied health disciplines, extensive IPE placements were becoming entrenched.
Placements

The practical experience provided through placements was generally seen as important for embedding IPE. As well as enabling students to put into practice the principles of interprofessional teamwork, by exposing them to real-life issues and problems, it also highlighted the value of collaborative, holistic care. One participant stated: (in rehabilitation) ‘learning to use your muscles again is different to learning to walk safely across the road.’

In achieving this in WA, participants emphasised that IPE should be integrated into the curriculum and not treated as an additional part of it. This was still being developed, as IPE placements are relatively recent in WA, with most activity occurring in the last two to five years.

Prior to this, placement experiences were largely single-discipline. However, venues for student placements were approaching saturation and part of the drive for IPE placements is a need to innovate to increase placement opportunities. Reinforced by funding incentives from HWA, this has led to increased placements in areas that were considered to be under-serviced as well as appropriate to developing IPE, including ambulatory care, aged care, rehabilitation and primary schools.

However, implementing IPE in external facilities has been a complex undertaking. Some of the issues addressed by participants were as follows:

 Coordination
Within the university, the coordinating role includes the complex task of ensuring that students from different schools and unit programs can be available at the same times for interprofessional placements and that are also suitable to the external facility. For the facility, experiences that are appropriate to the particular combinations of students in the groups and staff must be prepared and provided. The need for suitably trained supervisors and facilitators to be available is critical for universities and facilities alike.

Participants considered that it was preferable for a university to appoint one person to coordinate placements at each facility, in order to simplify liaison with several schools. It was also necessary to provide timely support when problems arose; in some cases this was experienced as readily available but in others, contact and assistance were not always readily available.

The complexities of coordination were exacerbated when more than one university was involved in placements. It was noted that not only were timetabling issues intensified, but also semester times and non-contact weeks did not always synchronise.

 Different settings
Anecdotal reports indicated that staff in placement venues found the experience of working with students very rewarding, enjoying learning how to share their knowledge and taking pride in what they did.

Considerable planning and cooperation was essential to achieve this by reconciling the requirements of a working facility and the university’s learning requirements. The facilities had to adapt to provide educational infrastructure, which they did not have. As well, adaptations of processes were necessary to protect the interests of patients/clients and these did not always suit the universities.

These differences were exacerbated when more than one university was involved in placements at the same facility. One participant warned that the cultural differences between universities should not be underestimated: ‘the cultures are politically very different and the demands are very different’, likening it to the cultural challenges of merging two business organisations. Not only did teaching models and philosophies differ, but so did the structure, timetabling, and mixes of students. However, for some participants in the
universities, this cross-fertilisation provided discussion and new ideas that may not otherwise have occurred.

Different approaches were also apparent when health professionals from different disciplines were supervising or facilitating. The location of the IPE experience also had an effect on the efficacy and nature of a placement, e.g. an acute setting was very different to a home visit.

Overall, experience demonstrated that sufficient planning time, goodwill and patience were all essential to effective IPE through placements.

Student feedback
Internal university surveys and anecdotal evidence indicated that students on placements mostly valued the IPE experience and many had gained an enhanced appreciation not only of other professions but also of their own. One student emailed: ‘This was amazing. Not only did I learn what the physios do, but I learned what I do.’

Some final year medical students would have preferred placements in acute care settings. In some of these cases, facilitators worked to increase clinical opportunities on IPE placements to meet their needs.

Some universities would like to increase student exposure to the Student Training Ward at Royal Perth Hospital, as timetabling constraints mean that currently only a handful of students are able to participate in this clinical rotation. The feedback from these students, however, has been overwhelmingly positive.

Funding
It was widely perceived that external placements were only possible with the aid of government funding. Universities faced extra costs of supervision and coordination, and the placement sites had to provide coordination, facilitation and infrastructure, which could not be fully internally funded. External venues faced additional set-up costs, e.g. providing space for student activities and training coordinators and facilitators. Some stated that a recurrent, sustainable funding model was needed if this expenditure was to be justified.

An additional issue was transparency of funding. It has not always been the case that all partners to a placement partnership received full information about the allocation and acquittal of external funding. This was a source, not only of irritation, but also of practical difficulties in the allocation of resources.

Planning
As indicated in Implementation Planning (see below), considerable planning and preparation has been required to ensure commitment amongst staff both at external sites and in university schools, as well as for adequate preparation for staffing and resources. Funding conditions have not always allowed for the necessary time frames, nor has it been recognised that planning is an ongoing commitment.

Preparation of students and staff
Participants considered that adequate preparation of students for IPE placements was critical to quality placement experience. Preparation included theory of IPE and awareness of the practice environment at the placement site. ECU, CU and UWA have developed preparation manuals for students and staff.

Preparation manuals for students can be found at the ECU website http://www.ecu.edu.au/community/health-advancement/interprofessional-ambulatory-care-program/information-for-students or at the CU website: http://healthsciences.curtin.edu.au/faculty/somodule.cfm.

Participants in one university reported that it was difficult to get students to attend face-to-face preparation sessions because of timetable clashes, so preparation was
performed online and at the start of placements. One approach has been case-based, with discussion about each case in advance. Some universities have developed handbooks, preceptor guides and clinical placement guides for students. Preparation manuals for university staff are found at the ECU website http://www.ecu.edu.au/community/health-advancement/interprofessional-ambulatory-care-program/information-for-supervisors or at the CU website: http://healthsciences.curtin.edu.au/faculty/ft-module.cfm

As external organisations have begun taking IPE placements, they have also had to think differently about the way they supervise and deliver their service. Some participants considered that the universities should assist the organisations offering placements, in adapting to the IPE requirements.

**Student groupings**
Participants identified several challenges in selecting students to participate in IPE placements. Firstly, the level and competencies of the students differed between disciplines. In one example, second year nurses were combined with sixth year medical students to match their prior knowledge and skill sets with the activities they needed to complete. However, logistical issues such as timetabling and accreditation requirements could make such matching difficult.

Secondly, placement planning needed to consider the balance of student numbers to make up suitable IPE teams. Where there were wide disparities in the number of students in different schools, there was a tendency to collaborate with other universities to assemble the IPE student groups.

Finally, there was a concern about equity if all students were not provided with IPE placements.

**GP Super Clinics**
New placement opportunities are likely to be provided by universities that are working to develop IPE opportunities for students at GP Super Clinics. These are due to open over the next few years.

**Placements on campus**
Three universities have established, or are in the process of establishing, on-campus or university-controlled IPE placement settings. In some cases, this has involved redevelopment and/or expansion of existing facilities for adaptation to IPE. In other cases, new facilities have been developed specifically for IPE use. Participants considered that this trend would increase in the future.

Reasons given were:
- reduction of dependence on external placements, which can be restricted due to staffing/supervision capacity at the site;
- provision of on-campus education for academic and clinical staff about IPE placements, including for external staff;
- reduction in resistance to IPE, in particular logistical difficulties with off-campus assessment and safety concerns;
- convenience for students, especially for travel (although travel was not considered to be a barrier), and easier timetabling and supervision coordination;
- availability of facilities suitable for use as, or conversion to, clinical placement sites.

**International field trips**
One participant related how an international field trip had been a valuable IPE experience for students because they had been taken out of their own cultural context where they had a defined idea of their own discipline in their minds. Exposing them to another culture encouraged them to challenge and reflect on their role.
In another case, previously discipline-specific overseas experiences had transitioned to interprofessional because patients/clients perceived that the contributions of other disciplines would be of value.

**Simulation**

WA’s showpiece simulation suite is the ECU Health Simulation Centre, where high-fidelity simulation is available using an IPE approach. Both UWA and CU also have simulation facilities suitable for IPE and both are increasing their capacity.

Given the formative state of research into the complexities of simulation, and the still developing debate about the educational affordances of simulation in relation to those of ‘real-life’ situations, it was not surprising to find varying views about the uses, benefits, limitations and implications of simulation compared with other forms of educational activity. For example, several participants considered simulation to be a useful addition/adjunct to classroom-based activities and preparation for practice, where students could learn about others in the team in a controlled and safe environment. However, some participants were reluctant to accept simulation as an alternative or ‘substitute’ for learning in natural practice settings stating that it could not reproduce the complexities or the uncontrollable and unexpected aspects faced in practice. Another participant disagreed with this viewpoint and indicated that current research has the potential to demonstrate to the contrary.

Simulation environments offer students different learning opportunities from those available in natural practice settings. One participant related an experience where medical students were said to have benefited from simulation because, with no registered health professionals in the ward, they prioritised care themselves and learned how to rely on an interprofessional team. This was contrasted with the different kind of learning occurring with a traditional medical clinical placement where nurses would provide guidance to the medical students. Another participant stated that podiatry students in particular gained the respect of medical students in interprofessional simulation exercises, because of their ability to prioritise patient assessment and management. One further area of comment and differing views related to the cost-effectiveness of simulation. Several participants pointed out that simulation is more costly when compared with clinical placements, not only in terms of the resources required, but also because only a few students participate at once. It was noted that where simulated environments depended on outside organisations for funding, there was a sustainability risk. However, another participant stated that simulation activity in some situations had been shown to be cost-effective.

Finally, participants also noted that national registration accreditation was specific about training in clinical hours, but did not indicate whether it could be substituted with simulation.

What is being referred to here is, we believe, a set of complex issues about how different educational methods produce different kinds of learning opportunities. How such methods are located to produce well-developed IPP competencies is clearly a matter for careful curriculum design and the need for far more research into this important area.

**Supervision and facilitation**

Facilitation and supervision models have evolved and been adapted as institutions gain more experience in IPE. Some of the principles that have emerged are:

- IPE preparation and education for academic staff and other facilitators in clinical areas are vital, to ensure a clear understanding of what is involved.
- IPE supervision is not a substitute for discipline-specific supervision, which is essential for quality-assurance and assessment. IPE supervision must be done in tandem with discipline-
specific supervision and be of equally high quality.

- Where team teaching has been used in coursework, facilitators working together utilise one another’s resources. The teaching focus is not on IPE as a subject, but on working together in an interprofessional team. For many teaching staff, this is a new model and a new way of thinking, with education for facilitators being essential.

- IPE education for health professionals from placement sites who fill tuition or mentoring roles has been seen as desirable but not essential and is sometimes not practical because of resources or staff inclinations.

- On placements, at least one dedicated full-time supervisor/coordinator is considered to be essential.

- The amount of facilitation provided on placements is a matter of negotiation, which includes the placement venue and students.

**Assessment**

In general, the same survey instruments are used for IPE assessment and evaluation. These are described under Evaluation below. Some courses also use reflections, observation and presentations. In some areas, there is no specific IPE assessment.

More detail on assessment at each university can be found in Section 2.

**Evaluation**

Participants commented that to date, IPE course evaluation had largely been limited to student and staff satisfaction, together with changes in student attitudes i.e. Levels 1 and 2 of Kirkpatrick’s model (Barr et al. 2005). They suggested that more needed to be done to research whether students applied what they learned and whether the targeted capabilities and outcomes of student learning experiences were being met, which would likely require a longitudinal study.

**Survey evaluation tools**

The survey evaluation tools that appear to have been most commonly used for IPE have been adaptations of ISVS (King et al. 2010) and the RIPLS (Parsell & Bligh 1999). One or both of these have been used at all the three universities that undertake IPE-specific evaluations, as well as at CUCRH.

CU has developed its own ICAT (Brewer et al 2011), which is used for assessment and evaluation of all IPE placements.

In addition, CU uses a modified UWE instrument (Pollard, Miers & Gilchrist 2004) for attitudinal evaluation of its first year course. At UWA, the ICAT tool is being modified, based on UWA IPE outcomes, using the Bondy scale (1983).

At ECU, IPE evaluation of internal and external clinical placements at the IpAC Unit has been conducted by an external evaluator. The evaluation tool used was partly based on RIPLS, with other instruments developed by the evaluator and the IpAC Unit project team.

**Extending evaluation**

Although these are validated tools that are used internationally, some participants criticised these instruments for:

- emphasis on student attitudes rather than measurement of whether course learning outcomes were being achieved;

- lack of richness and depth;

- overly clinical orientation, which was not always appropriate.

Some participants considered that more appropriate models and theoretical constructs were needed. Where necessary these should use the concepts and language of community health.

In an attempt to overcome these perceived deficiencies, other evaluation methods have been adopted, including interviews with clinical and IPE supervisors, mentor observation checklists, on-line post-program
questionnaires, patient/client group discussions and student focus groups. In one case, the University employed an external qualitative researcher to enrich the evaluation tools.

Further evaluations are conducted separately within individual schools.

In one case, IPE reporting was only anecdotal, because attitudinal changes were perceived as difficult to measure adequately and the tools in use were not considered sensitive enough. As well, student awareness of the evaluation process was considered likely to lead to an overly positive response.

Others voiced the opinion that research was also needed into the different combinations of types of students and/or health professionals to try to evaluate which were the most efficacious for IPE/IPP in particular situations.

However, the major gap identified was the lack of the long-term longitudinal evaluation that could provide an evidence base for IPE.

Implementing IPE Programs
From the interviews it has been possible to construct an outline of requirements for developing an IPE program, from a base of discipline-specific courses, as experienced and/or proposed in Western Australia. The following is a consolidation of the viewpoints of participants.

Need for champions or enthused leaders
Participants almost universally accepted this concept. Some participants expressed the view that if there were only one or two enthusiasts driving the implementation of IPE, the initiative would be likely to fail. Ideally, leaders needed to be at all levels, from Vice Chancellor through Heads of School and Deans, course coordinators and unit coordinators, to those who deliver courses. Particularly important was the unit level, where indifferent facilitation of IPE could be very damaging. In one university, staff were making an effort to also involve students as champions.

An important aspect of leadership was not just coordination but also facilitating support for IPE at all levels. Methods included engagement of staff at the design stage of IPE; reporting structures to keep people well informed; and personal communication (not by e-mail).

Champions were also seen as an important factor in the sustainability of IPE initiatives.

Top down or bottom up?
Much of the initial impetus for IPE has come from university staff who have realised the potential or need for improved collaboration and taken action to implement relatively small-scale IPE activities. Examples have been:

- the establishment of an interest group to promote the implementation of IPE at one university;
- the realisation by one school providing an overseas experience for students that the experience would be enriched if other disciplines were involved, which led in time to involvement in the program by students across the faculty; and
- the establishment of an IPE-specific role to work collaboratively across health disciplines.

At this level, funding often tended to be initially sourced from grants for relatively small projects. However, participants considered that central leadership, e.g. at faculty level, became essential. This could be achieved by developing initiatives that had been started by individuals or small groups, or by establishing new initiatives from heads of faculty or schools. Leadership from the senior levels of the institution was necessary to ensure provision of resources and funding, to prevent duplication of work such as evaluation methods and assessments, and to facilitate sharing of data.
This shift in responsibility to faculty level carried the risk that the activity was seen as belonging to ‘them’ and not ‘us’, risking a decline in ‘buy-in’ from staff who had had a high personal investment in shaping the learning experience. To overcome this, sufficient resources needed to be devoted to ensuring not only coordination but also staff engagement. This included continual face-to-face communication and reporting structures that made sure people were well informed. For this, funding from the university may be sought and/or provided, as well as external grants.

Implementation planning
There was general agreement that implementation of IPE projects in the curriculum required a systematic approach and a strategic plan for optimal outcomes. This varied with universities, but tended to involve initial consultations, which could include discussion papers and forums, as well as formal and informal meetings, to agree on the structure of the IPE components of courses. This would be followed by design of the actual IPL experiences, with representatives of the teaching staff. In one case, a participant stated that course design meetings were the first time some staff had met people from other schools.

Because IPE tended to be introduced in the early stages on a fairly ad hoc basis, planning was often undertaken for individual projects and then broadened across a faculty.

Planning was also a vital factor in developing placement facilities. A particular area of concern was primary health care services, where IPE placements were relatively new and infrastructure had to be developed. This included designing and coordinating activities that would provide a quality experience for students, developing appropriate physical space and facilities for students, and preparing and motivating staff who were to be involved in the teaching experience. Due to constraints imposed by grant specifications, time was not always adequate for this planning to be conducted optimally.

Using international experience
Where it has been used, openness to learning from international experience was identified as a key factor in the development of IPE. Mentors, or staff with international experience, have been valued. However, participants observed that in some cases there appeared to be a degree of insularity in the approach to IPE in WA and there was a need to engage more systematically in what can be shared among different countries. There were risks in failing to pick up international developments.

Selecting for success
A key factor in successful implementation was the selection of suitable people, environments for placements and placement activities.

Participants considered it important that staff involved in driving the implementation of IPE should wherever possible be recruited on the basis of their leadership and IPP abilities. Passion for and commitment to IPE were seen as valued attributes.

Similarly, participants reported that sites for both pilot studies and placements were chosen because they were expected to be conducive to success, based on prior knowledge. Primary care placement providers themselves also aimed to select venues for student experiences with a view to building in success, where there were good care managers and good clinical lessons to be learned.

Multi-university programs
The difficulties of coordinating and timetabling placements were exacerbated when more than one university sent students to the same placement venue. In some cases, it was necessary for students to work with others from a different university to enhance representation of particular disciplines across institutions to enable meaningful sharing of experience. Apart from the obvious increased
coordination challenges this caused, there were also differences in university cultures and course design that needed to be reconciled. An example of this complexity is that the three physiotherapy programs in WA have to all align their placement times with placement site availability, making it difficult to also align with other disciplines for IPE.

**Student involvement**
Although participants consistently emphasised the centrality of patient-centeredness to IPE, several also pointed to the importance of the quality of the student experience and student satisfaction in developing IPE. It was important to listen to, and where appropriate act on, student feedback. For example, in one placement venue, students complained they were being over-facilitated and that this detracted from their experience with patients/clients. This was resolved by changing the facilitation model. In another instance, course designers aimed to ensure student teams had a balance of experience and maturity as well as of different disciplines to enhance collaborative learning.

**DIMENSION 4: SUPPORTING DELIVERY IN INSTITUTIONS**
The final dimension of the 4DF relates to ‘the organisational and administrative context in which curriculum is structured, implemented and experienced’ (based on Ball 1990 in Lee et al. In press) – the where IPE is experienced. ‘This fourth dimension involves cultural norms, protocols and procedures responsive to specific universities and locations’ (Lee et al. In press). This discussion focuses on the culture and structure of universities that have inevitably impacted the development of IPE in situ.

**University culture and structure**
Within WA university faculties, various traditional structures and discipline-based cultural perspectives are apparent, at institution, school, and unit levels. Consequently, there are very different views of the importance and relevance of IPE.

Although IPE development has tended to begin as a bottom-up development, where there has been a degree of central control and/or influence by the faculty, this has been instrumental in facilitating a more rapid uptake of IPE. The use of funding as an incentive appears to have been an effective tool in facilitating the implementation of IPE.

Conversely, where funding is fully controlled by individual schools, participants considered that there is more potential for IPE to be under-resourced. Because implementation of IPE requires additional resources and individual schools place different importance on it, the fragmentation of funding is perceived to be a threat to IPE in the future. Further, changes in key personnel in the schools could also have an effect on funding decisions.

In addition, university structures in WA as elsewhere, tend to be devolved, so that decisions on funding can be made not only at the school level, but are also to some extent dependent on grants to individuals or small groups. An outcome of this is that it can be difficult to implement change, because of the issues in persuading people who may have a traditional and/or vested interest in the status quo.

As well as structural factors, the environment in which each university operates, with different combinations of disciplines and teaching models, also appears to have affected the speed of uptake of IPE. There was a perception that IPP was more accepted and developed in allied health professions than medicine or nursing and that this could affect attitudes to IPE. However, it was also evident that all universities recognised a need for graduates to possess teamwork and collaboration capabilities. They differed in how this was to be achieved.

Where universities shared resources, there was a need for considerable collaboration because of the inter-university differences. In one case, course-work is shared between students of two universities, although inter-
university sharing experiences more commonly take place in workshops and placements. Placement venues that received students from more than one university also had to cope with cultural differences between universities.

The relationship between IPE and staff practices
The research found no clear evidence that the introduction of IPE in the universities had had any appreciable direct effect on staff practices in hospitals or other institutions that provided student placements.

Participants commented that the concepts of IPE and IPP were relatively new in WA and there had not been time for them to become embedded in practice. On the other hand, some participants stated that a great deal of effective collaboration already occurred, and consequently the need for change was not immediately apparent.

Two less direct effects were noted. Staff in primary care establishments, who were involved in facilitating or mentoring students on placements, were perceived to have found the experience enriching and enjoyable. Sharing their knowledge helped them to identify more with their own profession and take pride in it, as well as to reflect and learn about their own practices.

Secondly, although IPE had not directly affected practice, it was believed by some that awareness of the concept was increasing among health professionals and this was partly because of discussions about the need for IPE, contact with people involved with its introduction and its effectiveness.

There were two conflicting perspectives on how IPE may affect IPP in WA in the future. The first was that as students who had been trained in IPE joined the workforce, they would begin to have more influence on how health professionals collaborate and relate to one another. In this view, it was necessary to change the work environment to bring about change in interprofessional behaviour. One university stated that there was already evidence that IPE placements were creating a need for adaptation by the institutions providing the student experience.

A contrary view was that graduates would be simply absorbed into the extant culture of their workplace, which would overtake what they had learned in university IPE courses. In one case, a practitioner stated that there were more disciplines working together now than a decade ago and they were collaborating well despite having had no IPE training.
4. DISCUSSION

The introduction and implementation of IPE into health education curricula involves changes in both organisational and educational cultures, as well as requiring change in the uni-professional culture and traditions of health professions. In this context, the development of IPE in Western Australia over the last four or five years has been a remarkable achievement. Most participants in this research would agree that as well as consolidation of the changes that have occurred, considerably more development will be needed to meet the challenges of the future, both in terms of educating to meet the health needs of the future and in meeting changing accreditation requirements.

This research has made visible some of the ways in which the challenges of change have been addressed, as well as some of the remaining challenges to making IPE sustainable as a central element within the curricula.

A major factor influencing the future of IPE in WA, and more broadly, is the degree of diversity in approach that was apparent in the research. Although there was general agreement with the aim of improved collaboration and teamwork between health professionals, with a view to better patient/client outcomes, there was a wide diversity of views on the most efficacious way to achieve these goals.

The diversity was strongly influenced by the perceived different educational needs of the various disciplines, particularly in content, together with perceptions of the learning potential of different groups of students. The cultural environment of the university and its mix of disciplines also influenced these perspectives. Some participants, for example, considered that anatomy could be taught interprofessionally (and this was being done), while others said that knowledge of anatomy requirements were too different for some disciplines for collaborative learning to be efficacious.

This diversity has major implications for the establishment of a more coordinated approach to the development of IPE. There are disagreements about how to teach interprofessional collaboration and about how much IPE is desirable at pre-registration level. Some believe that although IPE appears a worthy goal, it is doubtful whether the evidence for its benefits is sufficient to warrant the considerable effort and resources necessary to implement it.

One area of commonality was the value of practice and placements as learning experiences. There was general agreement that, given adequate preparation, this was the most valuable area of IPE.

This research suggests that achieving more than an extremely limited commonality in coursework curricula among different institutions would be an enormous task. However, with enough flexibility to allow for different institutional and discipline requirements, common competency and capability requirements and assessment criteria for placements should be achievable. Indeed, they are already built into some health discipline accreditation standards.

The IPE implementation experience already achieved in WA and the collaboration that has developed between institutions, suggest that the universities are well positioned to make this a reality and become an exemplar for the rest of Australia.

CONCLUDING COMMENTS

This report has outlined in detail the extensive activity in IPE that the universities in WA are undertaking and which they are considering for the future. As indicated in the introduction, four key issues – funding, disciplinary accreditations (and registrations), educator perspectives and responsiveness to the changing requirements of health delivery services – are central to the future of IPE in...
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WA. The sustainability and direction of IPE and consequently the development of IPP rely on consistency, continuity and alignment of these policy and contextual drivers.

This preliminary work will assist in the further development of theory and practice in the areas of IPE, IPP and IPL in WA and nationally.
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