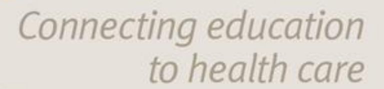

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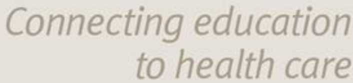
Wide Bay Health Service District interprofessional education and training developments

Mark Bahnisch, Janelle Thomas, Michele Groves, Lindy McAllister, Sandra Capra, Sharon Brownie

2012

Research and Publication Initiative 2011



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Project team

This project involved contributions from a number of people including:

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Further information

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Final report

Executive Summary

This paper reports the findings from a project conducted by researchers at the University of Queensland Centre for Clinical Research (UQCCR) on *Wide Bay Health Service District Interprofessional education and training developments*. Core to the project is the development of a set of interprofessional competencies, which will form one aspect of the District's plans to move towards a culture of interprofessional learning and interprofessional practice. This paper synthesises findings from a wide ranging and rigorous process of consultation and enquiry in order to comprehensively report on the research and to lay the groundwork for implementation of an interprofessional care project in Wide Bay Health Services District (HSD). The report describes the contexts and aims, methods utilised and findings from the research process. Substantive deliverables are attached to the report as annexes. The recommendations provide Wide Bay HSD with a guide to implementing an interprofessional care project, and are formulated on the basis of the process of enquiry and consultation as a whole.

Introduction: Project, context and personnel

Researchers at the University of Queensland Centre for Clinical Research (UQCCR) were contracted by Clinical Education and Training Queensland (ClinEdQ) in February 2011 to undertake Project 5 of ClinEdQ's *Research and Publications Initiative*. This project is entitled *Wide Bay Health Service District Interprofessional education and training developments*.

The context for the project was ClinEdQ's desire to support Wide Bay Health Service District's aim of becoming recognised as a centre of excellence in interprofessional practice. To that end, the project has as its core outcome a set of interprofessional competencies, which will be used to inform Wide Bay HSD's education and training programs, and as a tool to complement broader initiatives designed to embed interprofessional practice in the District's models of care.

The project team comprises the following members:

Dr Mark Bahnisch (Chief Investigator A)

Professor Sandra Capra AM (Chief Investigator B)

Dr Janelle Thomas (Research Officer)

Associate Professors Michele Groves, Lindy McAllister and Professor Sharon Brownie (Consultants)

This paper is the final report of the project, which concluded on 30 June 2011.

List of deliverables

The following deliverables were generated and delivered in a timely fashion, according to Table 1 below.

Table 1. List of deliverables

Deliverable number	Deliverable title	Deliverable date
1	Project planning document	25 February 2011
2	Working paper encompassing key insights from the literature	28 February 2011
3	Draft set of interprofessional competencies	25 March 2011
4	Revised project plan	29 April 2011
5	a) Curriculum framework b) Sample workshop for interprofessional communication unit of competency c) List of resources	31 May 2011
6	a) Draft evaluation framework and KPIs b) Justification of draft evaluation framework and KPIs	31 May 2011
7	Report on feedback and consultations & finalised competencies	20 June 2011
8	Final report	30 June 2011

Methods

The project began with an initial scoping and design phase, seeking to understand the precise uses to which interprofessional competencies might be put in the Wide Bay HSD context. As detailed below in Table 2, a number of meetings were conducted with Wide Bay HSD and ClinEdQ personnel, both in person and by phone. Feedback was also received on the project plan and the paper embodying insights from the literature. This informed the development of a first draft of the set of competencies, which was also guided by findings from the literature and adapted from best practice Canadian models to better suit the Australian regional context.

The end users of the competencies, the Wide Bay HSD clinical educators, were consulted through two surveys, distributed both by email and in person at a workshop in Hervey Bay on 23 May, which followed a presentation on the project and relevant literature. As outlined below, useful feedback was generated through these two mechanisms, and the competencies were redesigned accordingly.

The survey instruments used to initiate feedback can be found in Annexes 8 and 10.

The project was also informed by insights drawn from recent experience by UNSW researchers on a three year initiative with ACT Health. The research team met with Dr David Greenfield and Dr Peter Nugus in Brisbane on 21 March. The UNSW-ACT project was an action research study, seeking to embed interprofessional learning and interprofessional practice throughout the ACT jurisdiction. As there is a paucity of empirical research on interprofessional learning and interprofessional practice (as opposed to interprofessional education) in the Australian context, the researchers formed the view that many of the findings from UNSW researchers would be directly relevant to Wide Bay HSD.

Two recent publications from this project have been transmitted along with this paper as resources.

Research team members visited Maryborough on 10 June and met with the District Executive and the Education Leadership team. This provided a further opportunity for consultation.

The overall approach was to derive meaningful and flexible competencies from a combination of existing literature and exemplary models, and to tailor the resulting competencies to the specific needs of Wide Bay HSD, keeping implementation and evaluation firmly in mind.

The final set of competencies is in Annexe 2 to this report.

Table 2. List of consultations completed during the course of the project

Consultation number	Description	Date
1	Phone conference	18 February 2011
2	Meeting in Brisbane	15 March 2011
3	Survey on competencies distributed to Wide Bay HSD educators	9 May 2011
4	Workshop with educators in Hervey Bay	23 May 2011
5	Meeting with District Executive Team in Maryborough	10 June 2011
6	Meeting with Education Leadership Team in Maryborough	10 June 2011
7	Survey on curriculum framework and workshop distributed to educators	17 June 2011
8	Feedback from Wide Bay HSD and ClinEdQ on Deliverables	31 December 2011

Key findings from consultations

The consensus finding from consultations is that the competencies are best suited to adaptation to diverse and discrete contexts of practice and clinical and organisational processes. The strongest theme emerging is that if the competencies are just regarded as generic statements of principle, they will not lead to meaningful change, nor garner the enthusiasm required to engage in the process. The competencies are sufficiently adaptable across the full range of contexts of care within the Wide Bay HSD and they will provide the basis for a valuable resource as the District moves forward with its plans to develop interprofessional education and training. However, the competencies need to be viewed not as an end in themselves but as a tool forming part of a broader agenda of culture change. Through both written and verbal feedback, Wide Bay HSD staff emphasised that the competencies needed to be translatable to concrete contexts, both in adapting and deepening existing education and training modules and in stimulating discussion and action around the improvement of processes and models of care.

There are many instances where staff are working in a multi-disciplinary way, and there is scope for systematising and reflecting on practices and procedures to move further towards interprofessional practice. Interprofessional practice can complement other initiatives being taken in the district such as co-leadership of streams and reframed accountability measures. In other instances, there is already a model of interprofessional practice in place, for instance in the Bundaberg Mental Health team and in paediatrics.

The research team suggests that the competencies be utilised in such a way as to produce fruitful reflection on existing patterns of collaborative work. What needs to be avoided is a situation where the competencies are viewed as generic statements of intent and values or as an unwelcome imposition on time poor staff.

Further details of the Wide Bay HSD consultations are outlined in analyses of feedback from surveys (Annexes 9 and 11).

As the project has evolved, it has become clear that its aims are best realised through an understanding that a consistent interprofessional practice model is about much more than education and training. Senior staff and clinical educators emphasised the need to involve medical and allied health personnel, as well as operational and administrative staff. Both Wide Bay HSD senior staff and UQCCR research team members are confident that enthusiasm and momentum exists for a transformation towards a patient centred model of care, but caution that achieving buy-in will require multiple strategies and commitment across the District.

Further details of specific discussions are outlined in Annexe 12, and our recommendations have been framed accordingly.

Recommendations

Recommendation 1: The interprofessional practice project requires significant resourcing in order to be successful.

Recommendation 2: Additional leaders should be identified to drive and champion interprofessional practice, in addition to the role of the Director of Education in driving and championing interprofessional learning.

Recommendation 3: Consideration should be given to additional human resources to drive and guide implementation.

Recommendation 4: A needs analysis should be conducted and an overall strategic plan for interprofessional care formulated.

Recommendation 5: Implementation must take an integrative approach, encouraging staff to embrace a culture of change, and rewarding staff for being agents of change.

Recommendation 6: Implementation should be by way of a matrix approach, focusing both on recruitment of new staff and development of existing staff. Implementation requires champions and consultation across all streams.

Recommendation 7: The competencies should be regarded as a flexible tool for the change process; being adaptable to a variety of contexts and forming the basis for recruitment, selection and evaluation measures as well as in undergraduate education and continuing interprofessional learning.

Recommendation 8: An internal and external communications strategy should be developed to achieve maximum buy-in from all staff and prospective staff.

Recommendation 9: Reflective practice should be at the core of implementation, encouraging staff to 'work with the grain' and build on existing custom and culture as the model of care shifts from a consecutive care to an interprofessional model. Existing exemplars of interprofessional practice may form a basis for the process of reflection and dialogue.

Recommendation 10: The evaluation framework and key performance indicators supplied as an outcome of this project should be an input to the interprofessional care strategic plan.

Considerations regarding publication

The research team does not believe at this stage that the project is sufficiently advanced to warrant publication. Development of the competencies was on the basis of insights drawn from existing literature, and therefore we do not think that there has been a significant innovation which could be reported in peer-reviewed literature. This was inevitable in a project conducted over such a limited time span. It may be that, as Wide Bay HSD continues to progress initiatives in interprofessional learning and interprofessional practice, there would be a later opportunity to write a publication. However, we do think there is a gap in the Australian literature which could be filled with a review on interprofessional learning and practice, and we would therefore submit Deliverable 2 as the basis for a draft publication, which could be further progressed with a good chance of being placed in a reputable journal. Deliverable 2 *Working paper encompassing key insights from the literature* forms Annexe 1 to this report.

Delivery of sample workshop and reporting

The original timeline for the project's progression required modification, as budget considerations necessitated an unforeseen shut down of non-essential services at Wide Bay HSD from 18 April to 3 May. Accordingly, a revised project plan was submitted as Deliverable 4 on 29 April. Planned steps had to be compressed, and it became clear that it was impossible to schedule the foreshadowed delivery of the sample workshop during the course of the contracted time for the project. Accordingly, Dr Sharon Brownie suggested that the workshop be delivered as part of the initial implementation of the interprofessional competencies, and it has subsequently been agreed that the workshop will be delivered on 28 July. The workshop will be delivered by Associate Professor Lindy McAllister and Associate Professor Michele Groves, consultants to the UQ research team. Associate Professors McAllister and Groves will subsequently prepare and deliver a report to ClinEdQ and Wide Bay HSD on the outcomes of this workshop. This report will also outline the process and context of the development of the curriculum framework and sample workshop.

The curriculum framework and sample workshop, along with a list of resources to accompany the framework and workshop, form Annexes 3 to 5 of this report.

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Annexe 1. Working paper encompassing key insights from the literature

Organisational and project contexts

1. This paper, reporting on key insights from the literature against the background of research and analytical work done so far on ClinEdQ Research and Publication Initiative Project 5, represents the second Deliverable of the project.
2. The purpose of the paper is to be an internal working document to inform and progress subsequent stages of the project, particularly the development of a draft set of interprofessional competencies, due by March 18. The paper does not purport to have systematically reviewed the literature in the very short time available – about two weeks, and it has been agreed during contractual negotiations with ClinEdQ that the paper is not for publication, and does not represent a draft for later publication.
3. UQCCR Researchers await further clarification of the nature and goals of the project, as detailed in Deliverable 1, the *Project Planning Document*, transmitted to ClinEdQ and Wide Bay Health Services District on Friday 25 February. The working assumption for this paper is that the project is primarily oriented to continuing professional development of Wide Bay staff, in the context of the aim to make interprofessional working and collaborative care characteristics of centres of excellence within the district.

Summary of key insights

1. Competencies, and competency frameworks have been defined differently, with substantial overlap with similar terms such as 'capability' and 'outcomes'. Much of this definitional and conceptual debate can be traced back to the extension of the competency movement beyond vocational training to professional contexts, and a consequent broader understanding of competencies.
2. There is great interest in competency frameworks within the health sector, including as a way of bridging and better articulating together training, education, professional standards and the management, planning and delivery of care.
3. A range of drivers have led to interprofessional frameworks being very prominent in health policy and systems management debates. However, such frameworks are very much in their infancy, and there are important differences in design and utility between them and educational and professional frameworks. The literature on the outcomes of the use of interprofessional competencies in the workplace is necessarily scant (particularly when compared to the vast dimensions of the literature on interprofessional education – IPE).
4. There are some leading examples of interprofessional frameworks, particularly those developed in Canada. These frameworks have broad domains which delineate well the skills, knowledge and dispositions needed for interprofessional working and which are able to endure as an adaptable and flexible instrument for multiple prospective uses of competencies in collaborative care.
5. The conclusion to the paper synthesizes findings and suggests next steps.

Historical and policy background on competencies

Although it has precursors in management movements towards greater task efficiency from early in the Twentieth Century (Bahnisch 2000), 'competence' was first identified in the USA in 1959 as a component of motivation towards "effective interaction with the environment" and the learning of "efficacy" (White, 1959). White's groundwork was quickly followed by 'competency based' approaches that aimed to improve skills in training programs such as teacher preparation.

In the United States, McClelland proposed that testing for competence would be more reliable than intelligence testing to predict performance success (McClelland, 1973) and although his work was focussed on the educational sector, the competency approach to assessing successful performance was widely adopted by business and industry for workplace recruitment and effectiveness research. McClelland established the behavioural approach that concentrates on the characteristics of the individual who performs successfully and this approach is exemplified by Boyatzis in 1982 who defined a set of "underlying characteristics that lead to effective performance" (Rothwell and Lindholm, 1999).

Competency modelling (identifying the critical success factors driving performance in organisations) and competency assessment (the process to determine if individuals possess these critical competencies) became focal points in human resource development (HRD) and organisational improvement strategies by the 1990s. Much of the extensive literature in HRM and management studies is outside the scope of this paper, but it is important to underline the fact that competency frameworks have a large reach outside the health and social care sectors.

The UK government adopted the competency approach as national training policy by the mid-1980s, in the context of falling industrial competitiveness said to be due to an insufficiently trained or skilled workforce. The National Vocational Qualifications (NVQ) framework was established with a narrow functional definition of competence as 'the ability to perform satisfactorily in a range of occupational tasks', which was in contrast to parallel development in Europe of more broadly based concepts of competency (Guthrie, 2009). 'Occupational Standards' were developed by functional analysis of work task components (Weinstein, 1998) and the UK model strongly influenced Australian training policy from 1989.

In Australia over the past twenty years the UK model of skills-based or functional competency has become national government training policy, with all Australian vocational education and training (VET) now delivered by Competency Based Training (CBT) (Smith, 2010). Concurrently however thinking about competence had been broadening to include professional occupations, and approaches that integrate behavioural, functional and cognitive domains (Hager and Gonczi, 1996). In recent years, within the health sector, multi-dimensional frameworks have been adopted by a variety of professions as a means to define scope of practice and regulate career entry, set accreditation and quality practice standards, support multi-disciplinary and interprofessional engagement, and create greater alignment between occupational requirements and higher education outcomes (Chiarella et al., 2008).

Defining and conceptualising competencies

Up until the 1980s, 'competence' and 'competency' tended to be construed narrowly in terms of demonstrable skills or personal attributes, reflecting its association with training. Since then, though, competency research has considerably expanded and deepened, and a broader range of variables has been identified which can constitute competence. These factors cluster as follows (LeDeist and Winterton, 2005):

- *Personal competence*. Behavioural factors of the person.
- *Job competence*. Task focus or functional factors of the job.
- *Outcomes or knowledge focus*. Knowledge prerequisites whether attained by formal education or other route.

- *Context focus*. Influence of organisational culture, socio-cultural literacy, situational learning, tacit knowledge and skills constrained or engaged by the characteristics of the workplace, performance as relative to context.

- *Meta-competence.* Critical thinking skills, reflective practice, self-awareness and self-evaluation, lifelong learning skills, 'skills in acquiring other skills' (Cheetham and Chivers, 1996).

Despite such attempts to specify rigorously the components and meaning of competencies, contestation over their meaning persists (Grzeda, 2005). McGaghie et al write:

> … the definition of (medical) competence is bound to local political, social, and economic circumstances, to health needs, to the availability of resources, and to the structure of the health system. Thus any attempt to find a universal definition of competence will inevitably fail.

Commenting on this insight, Albanese et al go on to say:

> This scepticism over the viability of general competencies, however, has not stopped individuals and professional organizations from producing literally thousands of competencies. (Albanese et al., 2008)

There have also been attempts to discern subtle differences in meaning between 'competence' and 'competency' (though the explanation for the variance probably is the vocabularies used in the UK and US), and there is much overlap with terms often interchangeable in practice: 'capability', 'standard', 'outcome' being only three of the most common. However, the "fuzziness" inherent in the concept of competency arguably represents one of its strengths – in that it is therefore able to straddle or bridge a number of otherwise substantially discrete fields of activity, from education through to practice and organizational culture and goals (LeDeist and Winterton, 2005). Part of the attraction of competency frameworks, and this is exemplified by interprofessional competencies, is the potential to redescribe and translate tasks, behaviours and concepts used by multiple health professions and workforce categories.

Nevertheless, it has been recognized that a consensus definition has utility. Frank and colleagues (Frank et al., 2010b) report on an international consensus conference designed to examine competency-based medical education conceptual issues and current debates, highlighting the potential benefits and challenges of taking a competency-based approach to medical education. Simultaneously, Frank and co-authors also reported a systematic review of published definitions (Frank et al., 2010a), identifying themes that should be considered by educators to implement the use of competencies in clinical education. This work builds on the impetus of the increasingly widely disseminated CanMEDS competency framework used by the Royal College of Physicians and Surgeons of Canada (Frank, 2005), which has been adapted to inform a number of other frameworks, signally in Australia for various medical specialty colleges.

In a recent report for Health Workforce Australia (Brownie, Bahnisch and Thomas 2011, forthcoming) on which two members of the current research team were co-authors, it was recommended that a consistent definition be adopted to inform health workforce innovation. This report built on existing work, and defined the key terms as follows:

Competence:

a) A generic term referring to a person's overall capacity to perform a given role, including not only performance but capability. It involves both observable and unobservable attributes such as attitudes, values, and judgemental ability.

b) A dynamic combination of knowledge, understanding, skills and abilities. Fostering competences is the object of educational programmes. Competences will be formed in various course units and assessed at different stages.

Competency:

a) Competency is a component part of competence. It refers to specific capabilities, to apply particular knowledge, skills, decision making attributes and values to perform safely and effectively in a specific health workforce role (Verma et al., 2009, Scott Tilley, 2008).

b) The ability to consistently perform work activities to agreed standards over a range of contexts and conditions (Ridoutt et al., 2002, Knight and Nestor, 2000).

Frameworks:

The word 'framework' is used widely. Sometimes competency standards are called competency frameworks. For example, when units of competency are grouped under 'domains' (main headings for grouping related competencies) it may be called a framework. In broader application, competency frameworks can describe and may also map related sets of competency standards that cover the operational level of different roles within a workforce group such as level 1, level 2, level 3 and level 4 in a particular work role; and nurse practitioner, midwife, division 1, division 2.

Competencies, competency frameworks and health

In discussing the use of competencies in health, it is important to distinguish between at least four common applications for competency frameworks:

- For teaching and learning, curriculum design and assessment in undergraduate education (often expressed in terms of 'Outcomes') or in post-secondary vocational training;
- For post-graduate education and training in and outside workplaces (noting in particular, the quick and wide diffusion of competency based frameworks among medical specialty colleges);
- For professional accreditation, re-entry, mobility, assessment of international professionals, and continuing professional education and development;
- For workplace assessment related to appraisal, job design or evaluation, allocation of personnel or tasks, analysis of skill sets, determination of costs of procedures or functions, and so on (Spencer, 2005, Manley and Garbett, 2000).

While the introduction of competency based frameworks for professional education and training has not been without controversy, particularly over issues to do with time and clinical reasoning and competence (Australian Medical Council, 2010), many of the reservations expressed revolve around their use or potential use in the workplace and in health systems management and policy.

Recently, there has been much debate over the potential utility of competency frameworks as part of a broader health reform agenda (and particularly in the sub-field of health workforce innovation)

with support for their introduction being underlined in several prominent reports (Productivity Commission, 2005, National Health and Hospitals Reform Commission, 2009). In particular, given that much of this support is predicated on the utility of frameworks for the better co-ordination, planning and delivery of patient-centred and collaborative care, interprofessional frameworks are key to this agenda (Carver, 2009).

Both envisaged sector or jurisdiction wide competency frameworks and large scale interprofessional frameworks represent a significant leap from the use of competency frameworks in health in Australia to date. Replicating international trends, nursing was first to adopt competency standards (Gardner et al., 2006), and was followed by many allied health professions (Spencer, 2005). Concerns about defining and delineating scope of practice, and attaining greater legitimacy were significant drivers (Duckett, 2005), as have been shifts in the legal architecture of registration and the introduction and growth of nursing and allied health education in the tertiary sector (Victoria Government Department of Human Services, 2009). From the early 2000s, many medical specialist colleges adopted competency frameworks for post-graduate education, usually based on the CanMEDS model, and a lively debate continues on the scope and utility of competencies within medical education (Australian Medical Council, 2010).

At the same time, regulation and concerns about patient safety and quality care have driven the development of competency frameworks specific to particular procedures or tasks, and some employers and jurisdictions have adopted workforce wide frameworks (sometimes described as "capability frameworks") or frameworks which apply to particular professions, workforce categories or groups of professions (for example, allied health). The impetus for these developments is often partly organizational (reflecting industrial and cost drivers) and partly designed to attain the optimal skill mix within particular contexts of care (Zwar et al., 2007). It is not surprising, then, that issues surrounding workforce shortages, surplus and distribution are significant drivers (Productivity Commission, 2005) or that much momentum has derived from rural and regional health planning (Kilpatrick et al., 2007). These factors, are, however, embedded firmly within a context which seeks to mediate between population health challenges (such as the increase in 'complex' patients with co-morbidities and chronic illnesses) and new models of patient-centric care (National Health and Hospitals Reform Commission, 2009). The reinforcing nature of these aims is clear when considering the proposition that care is best delivered within teams working in the community along with the cost pressures associated with hospitals as sites of secondary and tertiary care.

Interprofessional competencies and collaborative care

There is a vast literature on interprofessional education varying from programmatic calls for its introduction and justifications for its contribution to pedagogical, practice and health outcomes through multiple reports on particular IPE programs or courses to evaluations and attempts to quantify the contributions IPE may make to care (Reeves et al., 2008, Pullon and Fry, 2005). Indeed, so widely discussed is IPE that a number of papers seek to pose the question of whether its agenda has become too diffuse or ambitious (Craddock et al., 2006, Lewy, 2010, Henderson et al., 2010). At a global level, interprofessional education is seen as being central to health policy, as instanced in recent work by the World Health Organisation (World Health Organisation, 2005, World Health Organisation, 2010) and a *Lancet* article reporting on an international consultation designed to produce a post-Flexner model for "health professionals for a new century" (Frenk et al., 2010).

Given the understanding UQCCR researchers have formed regarding the central aims of the current project (as detailed in Deliverable 1: *Project Planning Document*), this paper concentrates on insights from the literature on interprofessional competencies and collaborative care, as is appropriate for the research design phase of the project and as is needed as a precursor to the next step – the proposal of a draft set of interprofessional competencies. Relevant literature on

curriculum design will inform later Milestones in the project related to the development of a curriculum framework, a sample module/workshop and a list of resources.

Inherent in the commentary advocating interprofessional care is a recognition that professional boundaries may, and in practice often do, form a barrier to the delivery of multi-disciplinary care (Hall, 2005, Baker et al., 2011, Pecukonis et al., 2008). While it would be wrong to see such boundaries as impermeable (Cameron, 2011) (and in fact they are negotiated and enacted through the interaction order proper to health workforce settings) or as frozen rather than dynamic over time (Nancarrow and Borthwick, 2005), it is correct to conclude that professional identities are enduring and strong (Fitzgerald and Teal, 2003/4). There is, for instance, a small but important literature on experiments in the delivery of interdisciplinary care in clinics, often funded precisely to pilot or trial some of the claims made in the literature about the efficiency and outcomes advantages of collaborative care. Papers reporting on such initiatives note that – for reasons beyond issues of legal boundaries around accountability and (for instance) prescribing – the organizational culture formed within clinical teams and in sites of practice is still centred around medical doctors (Lane, 2006), thus substantiating a broader set of findings regarding the willingness of physicians to participate in interprofessional care (Bourgeault and Mulvale, 2006, Whitehead, 2007). Implicit in this finding, however, is that delineations of the scope of practice of particular professions and workforce categories are highly influential in shaping the day to day delivery of team based care. It also appears to be a repeated challenge to sustain team models of care beyond the particular circumstances in which they have been established, and to ensure their sustainability with different personnel. Perhaps in recognition of such barriers, much of the literature is concerned to emphasise that models of collaborative care do not imply the disappearance of professional identities (MacDonald et al., 2010), and that translatability between professions ought to involve a rich understanding of their respective contributions and paradigms rather than merely the descriptors or denotations for tasks performed or skills deployed.

The IPE literature often (and no doubt rightly) assumes that optimal interprofessional working will be an outcome of changing educational and training philosophies, curricula and pedagogies but that those outcomes will not necessarily be secured until sufficient time has elapsed for new graduates to progress throughout their careers (Reeves et al., 2008). There is, for instance, a study in the Australian literature which discerns different dispositions towards teamwork and interprofessional working from younger VMOs (Lane, 2006). But the pressures for the introduction of models of collaborative care are usually viewed as urgent, and therefore attention turns to more immediate levers for cultural change. It is in this context that interprofessional competency frameworks are advocated and developed (Kendall et al., 2011).

However, such frameworks are in their infancy. There is a limited English language literature reporting on developments in Sweden and Norway (Sandberg, 2010), but within countries with politically and culturally comparable health systems, most activity appears to have taken place in Canada. The expansion of the CanMEDS framework for physicians and surgeons to a possible applicability to allied health professions is one instance (Verma et al., 2006, Verma et al., 2009), and the development of a National Interprofessional Competency Framework (Canadian Interprofessional Health Collaborative, 2010) another. Details of the domains of these and other frameworks are contained in the table on pages 10 and 11.

Building and validating a competency-based framework

Competency standards are generally developed through a process of evaluating international competency standards where available, as well as reviewing relevant literature, then utilising specialist reference groups or committees consisting of experts in the field and other relevant stakeholders. Reference groups consult widely with members of the profession, employers and educators to develop draft competency standards. To validate the scope and level of draft standards, a process of field testing within a profession is usually undertaken (Community Services & Health Industry Training Board, 2005). This process is defined by Marrelli and colleagues as comprising the following seven steps: 1-defining objectives, 2-obtaining support of a sponsor, 3-

developing and implementing a communication and education plan, 4-planning methodology, 5-identifying competencies and creating the model, 6-applying the competency model, 7-evaluating and updating the competency model (Marrelli et al., 2005).

The processes used to develop several frameworks have been documented, for example, development of the UK Public Health Skills and Career Framework was led by the Department of Health in England. Competencies were agreed upon using a bottom-up approach, through a series of multi-agency, multi-professional UK-wide workshops with public health practitioners and specialists engaged in the work at national and local levels (Wright et al., 2008). Similarly, the CanMEDS Physician Competency Framework, which is used by the Royal College of Physicians and Surgeons of Canada, was developed through an extensive consultation process with Royal College fellows, family physicians, educators and expert volunteers. Its development involved substantial literature review, stakeholder surveys, consultation, consensus building, debate and educational design over a period of more than 10 years (Frank, 2005, Frank and Danoff, 2007). It has since been adopted by other Canadian interprofessional bodies after review of relevant competencies for each profession, and subsequent matching to the core competency framework (Verma et al., 2009). Similarly, Walsh et al describe development of an interprofessional learning framework for use by students of health and social care professions, formulated based on benchmark statements relating to undergraduate programs for medicine, dentistry, nursing, midwifery and social work (Walsh et al., 2005).

More specifically, development of an advanced practice competency framework for pharmacists was detailed by Meadows and co-authors (Meadows et al., 2004). The process involved a literature review of relevant policy, professional body strategy and research documents which were used by a panel of pharmacists to establish the basic structure of a competency framework; this comprised competency clusters, individual competencies for each cluster, and a progression scale. To establish content validity the framework was reviewed by three consensus development panels of pharmacists who made recommendations for the revised framework. The final stage of development involved mapping of the framework against current level of practice of leading practitioners, to provide expert validation. A similar process was used in development of a competency framework for diabetes nursing (Davis et al., 2007) and for musculoskeletal education (Chehade and Bachorski, 2008, Chehade et al., 2011).

Comparing frameworks

Framework Name	Main domains	User Group
Hunter New England NSW Health (2009): HNE Health Workforce Capability Framework	3 streams 1. Organisational culture 2. Direction 3. Capacity to deliver	Allied health workforce
The Australian Council for Safety and Quality in Health Care (2005): National patient safety education framework	7 domains 1. Communicating effectively 2. Identifying, preventing and managing adverse events and near misses 3. Using evidence and information 4. Working safely 5. Being ethical 6. Continuing learning 7. Specific issues	Health Care Workers
AHMAC National Mental Health (2002): National practice standards for the mental health workforce	12 Standards 1. Rights, responsibilities, safety and privacy 2. Consumer and carer participation 3. Awareness of diversity 4. Mental health problems and mental disorders 5. Promotion and prevention	Mental Health Workforce

Framework Name	Main domains	User Group
	6. Early detection and intervention 7. Assessment, treatment, relapse prevention and support 8. Integration and partnership 9. Service planning, development and management 10. Documentation and information systems 11. Evaluation and research 12. Ethical practice and professional responsibilities	
Canadian Interprofessional Health Collaborative (2010): A National Interprofessional Competency Framework	6 domains 1. Interprofessional communication 2. Patient/client/family/community-centred care 3. Role clarification 4. Team functioning 5. Collaborative leadership 6. Interprofessional conflict resolution	Allied health workforce
College of Health Disciplines (2008): The British Columbia Framework for Interprofessional Collaboration	3 domains 1. Interpersonal and communication skills 2. Patient-centred and family-focussed care 3. Collaborative Practice	For use in collaborative care
The Combined Universities (Sheffield) Interprofessional Learning Unit: Interprofessional Capability Framework	4 domains 1. Knowledge in practice 2. Ethical practice 3. Interprofessional working 4. Reflection	For use in IPE and CPD surrounding collaborative care
Let's Get Real (2009): Competencies for the Mental Health Workforce	7 Real Skills 1. Working with service users 2. Working with Maori 3. Working with families/whanau 4. Working with communities 5. Challenging stigma and discrimination 6. Law, policy and practice 7. Professional and personal development	Mental health and Addictions Sector
Royal College of Physicians and Surgeons of Canada (2005): CanMEDS	7 roles 1. Medical expert 2. Communicator 3. Collaborator 4. Manager 5. Health advocate 6. Scholar 7. Professional	Physicians, basis for multiple adaptations to medical specialties and other professions
World Health Organisation (2010): Framework for action on Interprofessional Education and Collaborative Practice	6 domains 1. Teamwork 2. Roles and responsibilities 3. Communication 4. Learning and critical reflection 5. Relationship with, and recognising the needs of, the patient 6. Ethical practice	All health professions

Key characteristics of interprofessional framework domains

As part of the work for this stage of the research project, a range of interprofessional frameworks has been reviewed. Because of the limitations of time and resources devoted to the project, and because it is oriented to delivering discrete outcomes rather than a more academic enquiry into the issues discerned, no attempt has been made to be comprehensive in the search and review of frameworks. However, the limited number of interprofessional frameworks (in the strict sense of the phrase) and associated papers in the literature and the previous experience of the researchers in relevant areas of inquiry give confidence that salient and important ones have been captured.

The table above gives a sample of some of the frameworks reviewed, including those believed to be most important for the next stage of the project – development of a draft set of interprofessional competencies.

A number of notable features arise. First, some frameworks are specific to particular aspects of care (for instance, the patient safety framework) and these share something in common with frameworks around particular procedures or tasks which may be performed by health workers from multiple professions – they are oriented to ensuring particular aspects of health care practice are delivered safely and efficiently. They are not interprofessional frameworks in the sense that they are applicable to all the activities team members from different professions may perform in a particular clinical setting, or in delivering care to particular categories of patient.

By contrast, frameworks for the practice of a variety of health workers in particular sectors (see the two mental health examples) will maintain a level of generality sufficient to encompass different scopes of practice and different levels of practice but be oriented to particularities in the practice context, whether described in terms of type of care or the social, cultural and organizational contexts in which care is delivered (cf. the attention paid to "Working with Maori" in the New Zealand Mental Health Framework, *Let's Get Real*). Some generalized competencies – as with cultural awareness – can be made more specific to individual contexts, and this also occurs in workplace or jurisdiction based frameworks, such as the Hunter New England Framework described above, which sits within an overall New South Wales public sector framework, and in the competency units aligned with each of the domains, articulates broad competencies to particular aspects of practice and organizational culture within the health district. The advantage of such translatable frameworks is that they can better align particular frameworks that may be in use – for example, a competency framework for use in an emergency department may be informed by knowledge, evidence and other factors specific to emergency medicine and practice, but ought to be able to be drawn under a broader framework targeted to an organization or jursidiction's vision of interprofessional working and team delivered care.

It is a highly desirable characteristic of competency frameworks generally that the number of domains be minimized and the applicability across different contexts maximized. It follows from this that they should be enduring and less in need of review and updating than competency units organized under them. So too do broad domains allow for a wide range of different assessment instruments, and the capacity to bridge education, training, professional assessment and workplace contexts. This broadness is perhaps exemplified in the case of interprofessional frameworks *per se* – which are designed to encompass potentially differing types of practitioners and mixes of skill, and to be extensible far outside a particular clinical or organizational setting (Holt et al., 2010). Similarly, the domains typically selected (well illustrated by the Canadian National Interprofessional Practice) exemplify the goals set for collaborative care and interprofessional working. For example, Suter and her colleagues report on the reasons why role understanding and effective communication constitute core competencies (Suter et al., 2009) and

MacDonald and co-authors present an argument that “knowledge of the professional role of others” is a key competency in IPE (MacDonald et al., 2010). Here it is essential to note that such domains are designed and generated more to highlight or alter existing knowledges, dispositions and ways of working rather than to synthesise and analytically describe the sum of scope of practice as in many professional frameworks. Their thrust, then, is more normative than descriptive – that is, they set out what should happen rather than summarise what does happen.

This, in turn, raises the important issue of evaluation and performance indicators. The limited literature so far is scant on detail as to the implementation of interprofessional frameworks (Wood et al., 2009). The Canadian Interprofessional Health Collaborative, for instance, suggests continuing professional development as a way of inculcating interprofessional competencies (Canadian Interprofessional Health Collaborative, 2010). But there is an important distinction, both analytically and practically, between the evaluation of particular CPD initiatives and their effect on organizational culture.

It should be noted that there is only a small literature relevant here (Mickan, 2005, Thannhauser et al., 2010, Curran et al., 2007), because interprofessional competencies in the workplace setting are a much more recent initiative than IPE, and that represents both a challenge and an opportunity in this project. To underline this, the only systematic review found in the research for this paper, a Cochrane review published in 2008 (Reeves et al., 2008), identified only six studies on the impact of continuing IPE on professional practice and health care outcomes meeting its inclusion criteria. Interestingly for the purposes of this project, two of these studies identified benefits in emergency departments. However, two studies found little or no impact of IPE, and four found little or no impact outside areas where there was already a culture of interprofessional practice. Additionally, none of the studies were rated as high quality.

Similarly, there is but limited guidance from the literature on the criteria for the design of successful interprofessional competency frameworks. The authors of the Canadian National Interprofessional Competency Framework themselves note that the absence of such frameworks has been widely commented on in the literature (Canadian Interprofessional Health Collaborative, 2010). They cite one study as suggesting three criteria for “assessing the ‘best’ approach to interprofessional competencies”. Such frameworks should:

(a) Provide identification of clear aims leading to shared understanding of goals;

(b) Have clear processes that allow integration of others’ contributions, effective communication, conflict management, and matching roles and training to the task; and

(c) Offer flexible structures supporting the processes including skills, staff, and appropriate staffing mix, responsible and proactive leaderships, effective team meetings, and documentation that facilitates sharing of knowledge, access to required resources and rewards.

These criteria are in fact rather circular in that the second point in effect replicates some of the competencies usually captured or described in domains, and the first and third points really go to purpose and implementation, focusing on resources and process. While perhaps of arguable pertinence to forming the basis for design and evaluation of competencies as such, the criteria provided do importantly highlight the need for a successful framework to have specific rather than vague or aspirational goals, and to have behind it sufficient resources and internal organizational support to succeed.

Conclusions: Insights and next steps

1. Competencies have been used as an education and training tool for several decades, and have been adopted in diverse health contexts; for professional accreditation, assessment and registration as well as in education and training.
2. There has recently been much interest in broader health competency frameworks – as part of wider reform agendas and driven by changes in approaches to patient care and population health needs. Interprofessional frameworks are a component of this agenda. But as yet there is little relevant evidence base in the literature. The literature does suggest that fairly extensive time periods are necessary to make an impact (hence the concentration on pre-registration IPE), that professional barriers are significant, and that sites of care where there is already some de facto collaborative practice may be best suited to continuing development projects embodying interprofessional collaboration goals.
3. There appears to be, as yet, no literature on attempts (primarily in Canada) to use interprofessional competency frameworks as a lever for culture change in existing workforce settings.
4. There is extensive documentation of the development of professional competency frameworks, which essentially use a variety of methods of design and validation to describe and synthesise existing practice. There is less published on the design of interprofessional competency frameworks, whose domains are more to be understood as encompassing areas which facilitate collaborative care, rather than delineating scope of practice or synthesizing different clinical or workplace tasks. Some frameworks which are specific to particular areas of practice (for instance, mental health or oncology) represent something of a blend of the two types.
5. Good frameworks need to be enduring and encompassing in their top level domains, allowing for maximum alignment with other frameworks and optimal applicability.
6. There is a difference which is both analytically and practically significant between evaluation interprofessional competency workshops as pedagogical tools and their impact on specified organizational, team and health care outcomes, including outcomes across particular organizations.
7. There is sufficient guidance in the literature and from existing interprofessional frameworks to proceed with the next step of proposing a draft set of interprofessional competencies.

Appendix: Methodology for literature search

The search strategy for literature to inform this paper proceeded along two different tracks. Since key members of the present research team had recently completed work on a major report for Health Workforce Australia (Brownie, Bahnisch and Thomas 2011, forthcoming), a considerable body of relevant resources on competencies and competency frameworks in health had already been identified. A separate literature search was conducted for material more specific to this project on interprofessional competencies and collaborative care. This search proceeded through snowballing from previously identified references, as well as a systematic though narrowly specified search of two key databases, Medline and PubMed, using the search string "interprofessional competencies" and the MESH subject "professional competence". In addition, the *Journal of Collaborative Care* was identified as a leading journal relevant to the project, and it was separately searched, as were *Australian Health Review* and the *Health Sociology Review* for Australian content. As detailed, outside the voluminous IPE literature, which was not reviewed systematically, only a small range of papers were identified as relevant. Only about two weeks was available for the task.

Details of the specifics of the search strategy and results are available on request.

Contributions and acknowledgements

This paper was written primarily by Dr Mark Bahnisch, with a draft for the section on "Building and Validating a Competency Framework" authored by Dr Janelle Thomas. The structure and themes of the paper were discussed in a full team meeting, attended by all UQCCR team members. Professor Sandra Capra reviewed the paper.

Some elements of the first two sections draw on a report for Health Workforce Australia on competency frameworks in the health sector, of which Dr Bahnisch and Dr Thomas were co-authors. To the extent that material rests on the efforts of a research team over a sustained period of time, we acknowledge the contribution of those team members named in the report.

Annexe 2. Interprofessional Competencies

Glossary of terms

The following glossary of terms aids in understanding the interprofessional competencies.

Collaborative practice
In health care occurs when multiple health workers from different professional backgrounds provide comprehensive services by working together synergistically along with patients, their families, carers and communities to deliver the highest quality of care across settings (World Health Organisation Study Group on Interprofessional Education and Study Practice, 2010).

Competency
a) Competency refers to specific capabilities, to apply particular knowledge, skills, decision making attributes and values to perform safely and effectively in a specific health workforce role (Verma et al., 2009, Scott Tilley, 2008).
b) The ability to consistently perform work activities to agreed standards over a range of contexts and conditions (Ridoutt et al., 2002, Knight and Nestor, 2000).

Continuing professional development (CPD)
Learning undertaken after initial qualification for a particular job or profession in order to maintain competence and develop capability. It aims to enhance knowledge and improve performance leading to quality outcomes (World Health Organisation Study Group on Interprofessional Education and Study Practice, 2010).

Core competencies
A set of skills, knowledge and attitudes necessary for the comprehensive practice of clinical care. They transcend the boundaries of specific professions and give transparency to clinical teams to minimize errors and enhance patient outcomes and safety (Verma et al., 2009).

Element of competency
Elements describe outcomes that contribute to a unit of competency (Victoria Government Department of Human Services, 2009).

Interprofessional collaboration (IPC)
A partnership between a team of health providers and a client in a participatory, collaborative and coordinated approach to shared decision-making around health and social issues (Canadian Interprofessional Health Collaborative, 2010)

Interprofessional competencies
Describe the complex integration of knowledge, skills, values and judgements that allow a health provider to apply these components into all collaborative situations. Competencies should guide growth and development throughout one's life and enable one to effectively perform the activities required in a given occupation or function and in various contexts (Canadian Interprofessional Health Collaborative, 2010).

Interprofessional Education (IPE)
Occurs when learners from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes (World Health Organisation Study Group on Interprofessional Education and Study Practice, 2010).

Interprofessional learning (IPL)
Learning arising from interaction between members (or students) of two or more professions. This may be a product of interprofessional education or happen spontaneously in the workplace or in

education settings (World Health Organisation Study Group on Interprofessional Education and Study Practice, 2010).

Interprofessional practice (IPP)
Occurs when practitioners from two or more professions work together with a common purpose, commitment and mutual respect (World Health Organisation Study Group on Interprofessional Education and Study Practice, 2010).

Interprofessional team
A group of people from different professional backgrounds who deliver services and coordinate care programmes in order to achieve different and often disparate service user needs. Goals are set collaboratively through consensual decision making and result in an individualised care plan which may be delivered by one or two team members. This level of collaborative practice maximises the value of shared expertise and minimises the barriers of professional autonomy. Often, one team member is appointed as a key worker or case manager for the service user; in this role they coordinate communication between practitioners and the patient or client or carer. The team meets regularly to evaluate outcomes and quality of care delivered (World Health Organisation Study Group on Interprofessional Education and Study Practice, 2010).

Multi-disciplinary practice
Multi-disciplinary practice is when health professionals from different disciplines work together in a practice setting. It is distinguished from interprofessional care because it has not necessarily embodied the principles of collaborative practice. Interprofessional principles can add value to existing modes of multi-disciplinary working through reflection on practice, and formalisation of structures and processes.

Patient-centred care
Patient-centred care is quality health care achieved through a partnership between informed and respected patients and their families or carers, and a collaborative health care team (adapted from National Health Council, 2004).

Unit of competency
A discrete component within competency standards. The domain level at which competence can be defined which organizes subordinate elements of competency and performance indicators (Victoria Government Department of Human Services, 2009).

Set of Wide Bay interprofessional competencies

This set of competencies comprises four units of competency, each of which is described by a key element, and contains a number of performance indicators.

Preamble: enablers of competencies

In order for the interprofessional competencies to be actualised in practice, there are some necessary conditions:

Reflective practice
In very many instances, health professionals already work closely and in partnership with workers from other professions. However, there is a distinction between multi-disciplinary practice and interprofessional practice. Reflecting on individual practice, and on existing work processes and relationships, and on desired goals, is a necessary precondition for collaboratively working towards patient-centred care.

Intercultural understanding

Health professionals should have a good understanding of cultural factors, both among fellow workers and patients and their carers, which may impact on communication, working together and service delivery.

Inculturation

Health professionals may have had different levels of pre-registration placement. Recognising that undergraduate education is a key element in professional socialisation, health workers should be prepared to understand that the workplace brings with it its own social norms, and that their professional identities can be maintained through working together in a complementary fashion in structures that promote patient-centred care.

Interpreting and using the competencies

These enablers represent an interpretive key to the rest of the competencies, and specify knowledge, skills and attributes every practitioner should have. Each of the competencies, their key elements and performance indicators should be interpreted in light of them.

The competencies apply to each level of skill or type of practice. They are developmental, and as professionals gain further skills and knowledge and deepen their understanding of interprofessional practice, a richer application of the competencies will become possible. They are able to be transposed to a wide variety of practice settings and processes.

In being applied to different settings and processes, measures of the performance indicators appropriate to that setting and to team members' roles can be articulated.

The competencies are designed to ensure that interprofessional practice is self-sustaining, and can contribute to cultural change above and beyond the skills, knowledge and attributes possessed by any particular team member. Two of the competency domains, Interprofessional Communication and Patient/Client/Family/Community-Centred Care inform, reinforce and support the other two competencies.

1. Interprofessional Communication

Key element: Practitioners from different professions communicate with each other in a collaborative, responsive and responsible manner.

Performance Indicators: To support interprofessional collaborative practice, practitioners demonstrate the ability to:

- Actively listen to other team members including patients/clients/families
- Communicate to ensure common understanding of care decisions
- Develop trusting relationships with patients/clients/families and other team members
- Use skills of graded assertiveness to communicate their roles where appropriate
- Effectively use information and communication technology to improve:
    - Setting shared goals
    - Setting shared plans of care
    - Supporting shared decision-making
    - Sharing responsibilities for care across team members
    - Demonstrating respect for all team members including patients/clients/families
    - The facilitation of evidence-based practice in the context of sharing professional knowledge

2.Patient/client/family/community-centred care

Key element: Practitioners seek out, integrate and value the input of the patient/client/family/community in designing and implementing care.

Performance indicators: To support interprofessional collaborative practice that is patient/client/family-centred, practitioners need to:

- Articulate and describe what is meant by patient/client/family-centred care and how it is put into practice in a variety of contexts
- Support participation of patients/clients/families as integral partners in planning, implementation and evaluation of all facets of care
- Share information with patients/clients (or family and community) in a manner that is respectful, understandable, encourages discussion, and enhances participation in decision-making
- Ensure that appropriate education and support is provided to patients/clients, family members and others involved with their care or service provision
- Listen respectfully to the expressed needs of all parties in shaping and delivering care or services
- Demonstrate that listening, informing, educating and empowering patients and other decision makers is central to care and service provision
- Respect the right of patients and other decision makers to take and have input into decisions about their own care

3. Professional scope of practice clarification

Key element: Practitioners understand their own scope of practice and the roles of those in other professions, and use this knowledge to establish and achieve patient/client/family and community goals.

Performance indicators: Practitioners demonstrate scope of practice clarification by:

- Describing their own scope of practice
- Describing others' scopes of practice and professional roles
- Recognising and respecting the diversity of other health and social care roles, responsibilities and competencies
- Performing their own roles in a culturally respectful way
- Communicating using appropriate language
- Accessing others' skills and knowledge appropriately through consultation
- Managing the areas of overlap and intersection between different professions

Note:

In order to avoid any confusion that may arise from the term 'role' insofar as it may refer to role descriptions in the sense used in human resource management, this unit of competency refers to 'scope of practice'. Where 'role' is used in the performance indicators, it should be understood in the sense of professional practice, not in the sense of a formal job description for a workplace role.

4. Team functioning

Key element: Practitioners understand the principles of team work dynamics and group/team processes to enable effective interprofessional collaboration.

Performance indicators: To support interprofessional collaboration, practitioners demonstrate the ability to:

- Describe the process of team development
- Effectively facilitate discussions and interactions among team members
- Participate in, and respect all members' participation in collaborative decision-making
- Reflect on their functioning and interactions with team members and patients/clients/families
- Respect team ethics, including confidentiality, resource allocation and professionalism

Key element: Practitioners understand and can apply leadership principles that support a collaborative practice model.

Performance indicators: This unit of competency supports shared decision-making and leadership, and implies individual accountability as defined by professional scope of practice. Practitioners collaboratively determine who will provide group leadership and positive shared outcomes by supporting:

- Working with others to enable effective patient/client outcomes
- Facilitation of effective team processes
- Facilitation of effective decision making
- Creation of an environment for shared leadership and collaborative practice
- Integration of the principles of continuous quality improvement to work processes and outcomes
- Articulation through an open and transparent process how changes in service delivery can contribute to shared goals.

Key element: Practitioners actively engage self and others, including the client/patient/family, in positively and constructively addressing disagreements as they arise.

Performance indicators: Practitioners consistently address conflict as and when it arises in a constructive manner by:

- Valuing the potential positive nature of conflict
- Recognising the potential for conflict to occur and taking constructive steps to address it
- Identifying common situations that may contribute to disagreements or conflicts, including role ambiguity, power gradients and differences in goals
- Knowing and understanding strategies to deal with conflict
- Setting guidelines for addressing disagreements
- Effectively working to address and resolve disagreements, including analysing the causes of conflict and working to reach an acceptable solution
- Establishing a safe environment in which to express diverse opinions
- Allowing all members to feel their viewpoints have been heard no matter what the outcome

Annexe 3. Curriculum framework

Competency Unit	Attribute	Learning Objectives
1. Interprofessional Communication	1.1. The ability to communicate with colleagues from other professions in a collaborative, responsive and responsible manner	1.1.1 Identify the dimensions and elements of professional communication.
		1.1.2 Recognise the dependence of communication processes on practice context.
		1.1.3 Be aware of potential ethical issues relevant to interprofessional communication and practice (e.g., maintaining confidentiality, managing boundary issues, responding to intercultural issues)
	1.2. The ability to interact effectively with others in order to provide patients with quality healthcare.	1.2.1 Develop skills to effectively communicate with peers and other health professionals in hospital and community healthcare settings.
2. Patient/client/ family/ community - Centred Care	2.1 An approach to practice that enables patients to actively participate in the management of their health	2.1.1 Recognise and understand the rights of patients and their carers to actively participate in decisions regarding their treatment and management.
		2.1.2 Develop skills in the four core elements of patient-centred care - listening, informing, educating and empowering – and apply these in all interactions with patients and their families.
		2.1.3 Elicit and integrate patient/ family perspectives into treatment and care plans
	2.2 Compassionate, empathic and respectful attitudes and communications with patients that encompasses both their health and social situation.	2.1.1 Develop the appropriate communication skills to improve health literacy, taking account of patients' educational level, culture and beliefs
3. Professional Scope of Practice clarification	3.1 An understanding of their own role and of other professions, in order to establish and achieve patient/client goals.	3.1.1 Identify and understand the roles and perspectives of the health professions relevant to your patient/client population.
		3.1.2 Demonstrate respect for the roles, expertise and responsibilities of other health professions.
	3.2 An understanding and appreciation of the boundaries and areas of overlap between and across health professional practice	3.2.1 Articulate areas of commonality and overlap in scope of practice across health professions.
		3.2.2 Formulate and apply strategies to optimise interprofessional collaboration and team functioning.

4. Team Functioning	4.1 An understanding of the principles of team work and the role of teams in effective interprofessional practice.	4.1.1 Identify the components of teamwork, including the roles and responsibilities of team members.
		4.1.2 Demonstrate a conceptual understanding of group dynamics
		4.1.3 Be able to work effectively and competently within a health team
	4.2 The ability to form, lead and work effectively in IP health care teams in partnership with patients, their families and carers.	4.2.1 Demonstrate an understanding of the patient/service user as the focus of the health care team
		4.2.2 Understand the principles, processes and relationships that create and maintain effective health care teams
		4.2.3 Develop skills in reflective practice to identify problems in team function and develop strategies to address these.

Annexe 4. Sample workshop for interprofessional communication unit of competency

Two hour workshop designed to overview IP communication skills, provide practice in some IP communication skills, and assist workshop participants develop awareness of their own communication skill strengths and future learning goals.

Targeted Attributes and Learning Objectives for this Unit of Competency: Interprofessional Communication

Competency Unit	Attribute	Learning Objectives
1. Interprofessional Communication	1.1. The ability to communicate with colleagues from other professions in a collaborative, responsive and responsible manner	1.1.1 Identify the dimensions and elements of professional communication.
		1.1.2 Recognise the dependence of communication processes on practice context.
		1.1.3 Be aware of potential ethical issues relevant to interprofessional communication and practice (e.g., maintaining confidentiality, managing boundary issues, responding to intercultural issues)
	1.2. The ability to interact effectively with others in order to provide patients with quality healthcare.	1.2.1 Develop skills to effectively communicate with peers and other health professionals in hospital and community healthcare settings.

Workshop Plan

Activity and Skill Focus	Activity Description	Timing	Resources
1. Welcome and Introductions; Aims of workshop	Welcome; introductions by facilitators and group members; Recap IP competencies	5 mins	Powerpoint recapping IP competencies; learning objectives
2. Brain storm of principles, conditions, factors and barriers for good communication generally, with special reference to IP work contexts	Triads recall what they know about good and poor communication (5mins); triads each contribute 5 points as facilitators write these up under pre-set headings, on board/butcher paper as reference for subsequent activities (10 mins)	15 mins	Workshop facilitators will produce a Powerpoint by end of workshop summarizing this information, for future use by workshop participants and Wide Bay staff
3. Reflective inquiry into communication in participants' workplaces	Triads identify from their workplace experiences, one IP situation where communication went very well or badly; with reference to the material generated in activity above, the situation is discussed in sufficient (but anonymous) detail to allow reflection on why the situation was successful or not, and how it could be improved or prevented in the	15 mins	Workshop participants should reflect on their IP experiences prior to workshop and bring a 'story' ready to share with the group

	future.		
4. Analysis of (un)successful IP communication situations in participants' workplaces	Facilitators canvass the groups for summaries of their discussions in the activity above to identify at least one successful and one unsuccessful IP communication situation; facilitators lead a discussion and analysis of factors that contributed to success/failure of communication; draw out principles, factors etc with reference to materials created in activity 2; ask group to briefly consider how things could have been done differently to produce successful IP communication.	15 mins	Group 'stories' as above
5. Critique of bad communication/interactions	Whole group views audiovisual materials demonstrating bad communication, discuss and identify what to change to produce successful communication in the same context as demonstrated in AV materials.	20 mins	CDRom: Buckman, R. & Baile, W. (2001). A practical guide to communication skills in cancer care produced by University of Calgary. Toronto, CA: Medical Audio Visual Communications.
6. Development of knowledge on how to improve	Triads write a new script to improve the bad communication viewed in Activity 5	15 mins	
7. Skill development in successful communication	Triads role play the scenario in Activity 5 using new script for improved communication; two interactants and 3rd person gives feedback.	10 mins	
8. Skill review	Whole group watches the good communication version of the interaction viewed in Activity 5, and shares views on how close this version was to their script and role plays undertaken in activities 6 & 7.	15 mins	CDRom: Buckman, R. & Baile, W. (2001). A practical guide to communication skills in cancer care produced by University of Calgary. Toronto, CA: Medical Audio Visual Communications.
9. Development of individualized future skill development and practice plan	Individuals reflect on their individual 'learnings' from discussions and role plays above, and create a personal learning plan for communication skill development focused on a particular workplace context in which to apply the new communication skill.	5 mins	
	Facilitators answer questions from group, and summarize outcomes of	5 mins	

	the workshop.		

Annexe 5. List of resources to accompany curriculum framework and sample workshop

The following resources may be a useful source of information, to be used in addition to the curriculum framework and sample module which have been provided. Generic resources covering all four Units of Competency are listed first. Resources which have a particular focus on one Unit of Competency are then listed. Some of these resources are freely available, whilst others can be purchased online. Please click on the links provided in order to navigate to the relevant resources.

Generic resources

Association for Medical Education in Europe (AMEE)
Guides which cover topics in medical and healthcare professions education
http://www.amee.org/index.asp?lm=103
(see PDFs 1 & 2 for reviews of AMEE Guide Hammick, M. et al., (2009). *Learning in Interprofessional Teams.*)

Reeves, S., Lewin, S., Espin, S., Zwarenstein, M. (2010). Interprofessional Teamwork in Health and Social Care. Wiley-Blackwell. ISBN: 978-1-4051-8191-4
This is an invaluable guide for clinicians, academics, managers and policymakers who need to understand, implement and evaluate interprofessional teamwork. It will give them a fuller understanding of how teams function, of the issues relating to the evaluation of teamwork, and of approaches to creating and implementing interventions (e.g. team training, quality improvement initiatives) within health and social care settings. It will also raise awareness of the wide range of theories that can inform interprofessional teamwork.
(see PDF: 3 Reeves chapter excerpt of the basics of IP teamwork)

Australasian Interprofessional Practice and Education Network (AIPPEN)
Resources include a list of publications, posters, presentations, videos and links on a range topics to advance interprofessional learning and patient outcomes in health care
http://www.aippen.net/resources

Japan Association For Interprofessional Education (JAIPE)
http://www.jaipe.jp/ (English Language version available if searched through Google Translate)

European Interprofessional Education Network (EIPEN)
http://www.eipen.org/

Canadian Interprofessional Health Collaborative (CIHC)
Resources include fact sheets describing topics such as interprofessional practice, collaborative care and patient-centred care
http://www.cihc.ca/resources/toolkit
(see PDFs 4-7 for Fact Sheets on: 4. Evidence for IP Education; 5. What is IP Education; 6. What is Collaborative Practice; 7. What is Patient-Centred Care)
(see PDF 8 for Module for cancer healthcare providers)

CanMEDS train-the-trainer workshop resources
Resources to assist medical educators and practising physicians as they teach, assess and embody the Roles which comprise the CanMEDS competency framework. *These modules must be purchased*.
http://www.clicshop.com/Stores/royal/en/canmeds-ttt-workshop-resources/index.html

Centre for the Advancement of Interprofessional Education (CAIPE)
Books and guides relevant to promotion of interprofessional learning
http://www.caipe.org.uk/resources/publications/

McMaster University (Canada) - Interprofessional Collaboration Toolkit
Tools used to facilitate three workshops about interprofessional collaboration; scenarios, powerpoint presentations, handouts, and a tip sheet about collaboration
http://fhs.mcmaster.ca/ipctoolkit/method.html
(see PDFs 9 & 10 for Scenarios and discussion triggers for IP groups working with children with complex needs)

Online IPE: A virtual learning centre
Problem-based interactive modules that promote interprofessional education, raise awareness of the importance of team-based patient-centred care, and stimulate team discussion and interprofessional collaboration. *These modules must be purchased*.
http://www.onlineipe.com/index.php

Queen's University (Canada) – Office of Interprofessional Education and Practice
Modules relevant to communication and collaborative practice
http://meds.queensu.ca/oipep/oipep_resources

University of Toronto (Canada) – Centre for Interprofessional Education
Resources include "The Interprofessional Mentoring Preceptorship Leadership and Coaching Super Toolkit", which contains workshop resources and course outlines
http://ipe.utoronto.ca/initiatives/ipc/implc/supertoolkit.html
(see PDF 16 for information about the Toolkit)

US Department of Health and Human Services – Partnering to Heal
A computer-based, video-simulation training program designed to promote communication and team work; based on infection control practices for clinicians, health professional students, and patient advocates.
http://www.hhs.gov/ash/initiatives/hai/training/

Resources focusing on interprofessional communication

Queen's University (Canada) – Office of Interprofessional Education and Practice
Modules relevant to communication and collaborative practice
http://meds.queensu.ca/oipep/oipep_resources

US Department of Health and Human Services – Partnering to Heal
A computer-based, video-simulation training program designed to promote communication and team work; based on infection control practices for clinicians, health professional students, and patient advocates.
http://www.hhs.gov/ash/initiatives/hai/training/

Buckman, R. & Baile, W. (2001). A practical guide to communication skills in cancer care [electronic resource 3 CDs] produced by University of Calgary. Toronto, CA: Medical Audio Visual Communications.
CD 1. I. Basic principles. II. First line (diagnosis and first treatment); CD 2. III. Difficult situations. IV. Disease progression. V. Genetic counseling; CD 3. VI. Error disclosure. VII. Telephone conversations. VIII. Aspects of oncology nursing. IX. Patients and families.
This resource may be borrowed from the UQ Library or purchased from publisher.

Resources focusing on patient/client/community centred care

Patient-Centred Care: Improving Quality and Safety by Focusing Care on Patients and Consumers. (2010). (Discussion Paper). Canberra: Australian Commission on Safety and Quality in Health Care.

Discussion paper on patient-centred care (PCC) published for public consultation by the Australian Commission on Safety and Quality in Health Care. Defines and outlines step-by-step the elements of PCC and effective ways to implement it. Also contains two case studies and tools for assessing readiness to implement PCC.
http://www.health.gov.au/internet/safety/publishing.nsf/Content/36AB9E5379378EBECA2577B3001D3C2B/$File/PCCC-DiscussPaper.pdf

Health Issues Centre – Patient Centred Care Resource Page
The Health Issues Centre's Resource Library includes a wealth of knowledge, including an extensive page of information and resources on patient-centred care.
http://www.healthissuescentre.org.au/subjects/list-library-subject.chtml?subject=35

Resources focusing on professional scope of practice clarification

Vancouver Island Health Authority – Role Clarification Worksheet
This simple worksheet can be used to facilitate group discussion regarding role clarification in health teams. Participants are encouraged to seek understanding at each stage of the worksheet and develop plans to address and implement any outcomes of the activity.
VIHA Website: http://www.viha.ca/
Worksheet:http://www.viha.ca/NR/rdonlyres/FE486DEC-E82D-4C36-A6DC-F5F78F6DB51A/0/RoleClarification.pdf

Resources focusing on team functioning

McMaster University (Canada)
(see PDFs 11-15 for resources for examining power, leadership and collaboration in IP teams)

Xyrichis, A., & Lowton, K. (2008). What fosters or prevents interprofessional teamworking in primary and community care? A literature review. *International Journal of Nursing Studies, 45*, 140-153.
This paper gives a good overview of the relevant team work literature up to the publication date and looks at a number of important themes and barriers that should be addressed in order to form an effective interprofessional team. The authors also list a number of systems that can be implemented in order to promote and foster IP in existing primary and community teams.

Salas, E., DiazGranados, D., Weaver, S. J., & King, H. (2008). Does Team Training Work? Principles for Health Care. *Academic Emergency Medicine, 15*, 1002-1009.
This paper analyses if team training works and why it works by reviewing data gathered from a range of quantitative and qualitative studies. The authors also list and discuss the "Big Five" elements of teamwork (Salas et al, 2005) and eight critical principles of teamwork that should be considered before, during and after team training.

Salas, E., Sims, D. E., & Burke, C. S. (2005). Is There a "Big Five" in Teamwork? *Small Group Research, 36*(5), 555-599.

Gardner, D. B. (2005). Ten Lessons in Collaboration. *The Online Journal of Issues in Nursing, 10*(1). Retrieved from
Originally published for nursing and clinical nurse managers, the ten lessons listed in this online article can be applied to most health care disciplines. In addition to addressing general collaboration skills, the lessons also give constructive advice on conflict management and successful advocacy in an interprofessional team.
http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume102005/No1Jan05/tpc26_116008.aspx

Axelsson, S. B., & Axelsson, R. (2009). From territoriality to altruism in interprofessional collaboration and leadership. ***Journal of Interprofessional Care, 23*****(4), 320-330.**

This paper addresses the issue of territorialism between groups and organisations within the health care community and how it can affect interactions and patient care. It acknowledges health professionals may work inter-team and inter-organisationally and as such encounter barriers to effective collaboration. The concept of altruism is suggested as a possible means of counter-acting this. The paper also addresses ways that people in leadership roles can instigate altruistic measures to facilitate better collaboration across borders and eliminate territorialism.

Annexe 6. Draft evaluation framework and KPIs

Domain	Desired outcome	Interventions	Measures	KPIs
Team process	Moving from multi-disciplinary to interprofessional practice	Utilisation of the competencies		
		Training for leadership and management in IPP	Administration of IPP scale as baseline: repeat at intervals to judge change in attributes and attitudes	Improvement on IPP scale
		Incorporation of competencies into existing modules	Number of modules redesigned; peer review by steering committee	Evaluation of redesigned modules; evaluation of effectiveness of particular changes (eg utility of case conferences, efficiency of patient handover)
		Using IPL workshops to identify potential IPP sites and processes	Number of potential sites and processes proposed; leadership and steering committee review of proposal quality	Evaluation of workshop delivery; Target of number of sites and processes met; external evaluation of change process and outcomes in IPP initiatives
		Incorporation of competencies into accountability processes for leadership	Quantifiable evidence of increased awareness and understanding of IPP	Specific KPIs for accountability and performance evaluation
Team satisfaction	Heightened team cohesion, staff morale, recruitment and retention	General and particular diffusion of the competencies throughout the District	Administration of IPP scale as baseline: repeat at intervals to judge change in attributes and attitudes; rigorous surveys of staff morale and correlation between recruitment and retention and IPP	Improvement on IPP scale; Specific targets for improved team cohesion and success of change processes; Recruitment and retention judged through instruments such as exit interviews
Patient outcomes	Demonstrable improvement in patient outcomes	Particular IPP projects or processes designed to improve patient care; processes modified by incorporation of IPP into existing modules	Proxy measures appropriate to particular procedures or types of patient (eg length of stay for cardiac	Developed to drive change in patient outcomes in relevant contexts of care

Domain	Desired outcome	Interventions	Measures	KPIs
			patients)	
Patient satisfaction	Patients feel that their rights are respected, and they are at the heart of care	Development of measures to gauge patient satisfaction	To be determined; patient experience surveys and randomised interviews possibilities	Dependent on measures chosen; should demonstrate improvement

Annexe 7. Justification of draft evaluation framework and KPIs

Project contexts

1. This paper, which explains and justifies the evaluation framework submitted as Deliverable 6a an evaluation framework and KPIs, represents part of the sixth Deliverable of the project.
2. The paper is submitted concurrently with Deliverable 5 – the curriculum framework, sample workshop and list of resources.
3. The paper incorporates insights from the consultations held in a workshop with Wide Bay educators at Hervey Bay on 23 May conducted by Dr Mark Bahnisch with assistance from A/Prof Michele Groves, and subsequent discussions on 23 May and 26 May with Jules Bennet. Detailed analysis of the data collected on both the workshop and the competencies is ongoing (and will be reported on comprehensively in the next deliverable). It may be helpful to note that the session was evaluated very positively – with 30% of participants responding to a survey administered at the end of the workshop finding it very useful and 70% useful. From the point of view of the project team, it was also an invaluable milestone in deepening understanding of the way in which interprofessional competencies can be utilised to further Wide Bay's goals, and of next steps. The way in which these insights contribute to the design of a draft evaluation framework is discussed in the next section.
4. The paper sets out several assumptions about implementation of the competencies and resource materials, which will inform their subsequent evaluation and the development of specific KPIs. These assumptions have been developed in light of feedback from Jules Bennet (Wide Bay), Dr Sharon Brownie and Dr Matthew Molineux (ClinEdQ) and from work done by the project team to clarify implementation options.
5. There are a number of key questions that arise, which this paper addresses and proposes for comment and further reflection:
   (a) How dependent on decisions about implementation is the design of an evaluation framework?
   (b) How can an evaluation framework capture process improvements or micro-effects at the level of individual behaviours or attitudes and team processes **and** organisation wide effects and outcomes?
   (c) How can we gauge a baseline for subsequent measures, KPIs and observations?
   (d) How can we bridge the potential gap between evaluation of curriculum resources and module delivery and the impact on broader desired outcomes?

Key insights from project workshop on 23 May

1. A fruitful discussion took place at Hervey Bay on 23 May around the latest draft of the competencies, and how they could best be implemented.
2. It became clear in discussion that staff felt that in many instances they are already working in a multi-disciplinary way. This varies from setting to setting – for instance, in some contexts, there are formal case conferences and in others it goes to 'managing the overlap' between clinicians from different disciplines treating the same patient at different times. It was found useful to distinguish between multi-disciplinary care and interprofessional models of care, and the notion of 'reflective practice' was widely seen as a key mediator in stimulating awareness of how 'what works' could be improved, and how existing cultural patterns of practice could be transformed in a more interprofessional direction. It was also

felt that staff morale, and the aims of recruitment and retention, could be fostered through such a process of reflection. It was agreed that systemic changes would be needed to ensure that new ways of working interprofessionally were embedded and sustainable beyond positive models of interactive care that already exist (though not necessarily formalised) so that they create expectations for new team members or personnel intermittently forming part of teams.

3. It was noted that the interprofessional competencies could be complementary to other initiatives being taken in the District under the leadership of Ken Whelan. For example, accountability is being prioritised through 'three on three' meetings, and there is shortly to be joint leadership between doctors and nurses of streams. Jules Bennet suggested that it had been envisaged that management and team leaders would be targets for training in interprofessional practice, and that the competencies would also be used to embed the principles of interprofessional practice in training modules across the spectrum (an example given was discussion of a deteriorating patient).
4. Some concern was expressed that it would be more difficult to involve doctors in IPP programs, particularly those who are not employed full time in the hospitals. The research team also observes that it is essential to include allied health staff. There may be some areas in the District – ie mental health and clinics, where this is more feasible, but may be more challenging in the hospital context. We observe that one of the distinguishing factors between multi-disciplinary and interprofessional practice is that the latter transcends the dynamics of interaction between doctors and nurses to include all health workers having an input into patient care.
5. On the related issue of professional dynamics and power relationships, one of the key points made was around the importance of professional socialisation and sensitisation to other professional roles, particularly in a context where pre-registration placements can be quite short term. This is consistent with the literature identifying socialisation and the influence of norms in undergraduate education as key to the potential for interprofessional practice, and highlights the importance of inculturation into particular norms of interprofessional working within the workplace.
6. There was much discussion of and interest in possible measures of the project outcomes. The presentation emphasised, drawing on findings from comparable projects, that competencies are most useful when they can be adapted to particular contexts, teams and processes, that it is better to generate interprofessional practice projects from reflection among teams than from purely a top-down policy approach, and that such projects require commitment, tools and resourcing. Interprofessional champions, as well as role modeling by managers and leaders are crucial to successful outcomes. These findings have profound implications for both implementation strategy and evaluation methodology.
7. Some of the participant initiated discussion focused on the interaction of the competencies and outcomes. For instance, when discussing the concept of patient-centred care, it was emphasised that the competencies rightly embodied the rights of patients and carers to have co-responsibility for their own treatment (perhaps by refusing or modifying recommendations), and that this would impact on both any measure of patient outcomes or team process. Additionally, it was noted that there could be difficulties in qualitative measures of satisfaction where adequate comparators were lacking. Participants broadly agreed that appropriate measures were crucial to outcomes.

Key insights from the literature and comparable projects

1. A full literature review on the evaluation of interprofessional competency projects is outside the scope of this paper. However, as we noted in our previous paper, *Deliverable 2: Key*

Insights from the Literature, while there are numerous evaluations reported on particular modes of delivering interprofessional education and materials for interprofessional learning (Barr et al., 2005), there is much less on the evaluation of interprofessional competencies and interprofessional practice. So while there are some published evaluations of IPL programs which can be drawn on for insights, it should be noted that there is only a small literature relevant to the evaluation of workplace interprofessional competencies (Mickan, 2005, Thannhauser et al., 2010, Curran et al., 2007).

2. However, a number of these studies are highly suggestive and very useful in the context of this project:
   (a) Hecksher and his colleagues studied cardiac care in four New Jersey hospitals, testing the validity of a typology of factors predisposing teams to interprofessional working (Hecksher et al., 2009). Measures included comprehensive ethnographic observations, length of stay and cost measures as proxies for medical/patient outcomes. Variance on the measures validated hypotheses about the influence of workplace culture and change management approach on outcomes.
   (b) Chan and co-authors reported on an Australian study of a six month intervention to improve collaboration between general practitioners and allied health professionals for chronic disease care (Chan et al., 2010). Measures included qualitative indices of teamwork and the number of GP referrals to AHPs.
   (c) D'Amour and her colleagues analysed perinatal services in four health regions in Quebec (D'Amour et al., 2008) to validate indicators of the "structuration model of collaboration" (to be discussed further below). Qualitative interviews, ethnographic observations and textual analysis of organisational documentation were utilised. The importance of the study is in proposing a dynamic typology – a continuum from "potential or latent collaboration" through "developing collaboration" to "active collaboration". This suggests that evaluation and reflection on performance indicators can itself be a useful intervention, and assist in providing a feedback loop for continuous improvement.

   These studies, taken together and synthesised with other data from our research, suggest that there needs to be a modulation between organisational wide measures (which might in themselves suggest promising sites and teams for IPP interventions to the degree that data is disaggregated) and measures which are specific to particular processes and outcomes. Given that the literature, and our analysis, suggests that interprofessional practice succeeds best where certain preconditions are already present, it may be that evaluation measures can aid in disseminating examples of existing best practice, and in having a positive impact on change and attitudes.

3. As a conceptual model to inform an evaluation methodology, we have adapted Carole Orchard's 2005 'Conceptual Model for Patient-Centred Collaborative Interdisciplinary Practice' (Orchard et al., 2005), insofar as it focuses on four foci for assessment of team effectiveness, at the end of a change process transitioning from sensitisation through exploration and intervention to evaluation. Read together with Danielle D'Amour's 'Structuration Model' (D'Amour et al., 2008), which combines relational and organisational dimensions of facilitating interprofessional collaboration, we propose a typological model of different dimensions for evaluation. Orchard suggests validated indicators for measuring team process and team satisfaction, and patient satisfaction with process and outcomes. Orchard's indicators of team effectiveness can be nested within D'Amour's dimensions – governance, shared goals and vision, formalisation and internalization – in order to capture organisational and cultural factors as well as the more context-specific measures proposed by Orchard. This model recognises that there are interactional, organisational and

systematic determinants of interprofessional practice (San Martin Rodriguez et al., 2005). The evaluation framework has been designed with this model as context, and further work will be done for the final report on articulating together implementation steps, evaluation and change strategies.

4. Adaptation of such models aids in generating theoretically robust validity, but we do not wish to propose a framework which is purely informed by theory (while observing, however, that the two models mentioned were both partly generated using grounded theory method from Canadian practice). Accordingly, we have drawn extensively on our consultations, the research and analytical work we have done, and on the findings of a UNSW study, partnering with ACT Health over three years in an action research project designed to facilitate interprofessional learning and interprofessional practice (Nugus et al., 2011). We have previously mentioned in our reporting that interchange with the UNSW researchers was very productive in informing our thinking, and it can now also be stated that their findings proved a useful comparator for discussion at the Wide Bay workshop. Among salient findings from the ACT experience are the need for local champions, the desirability of developing interprofessional practice initiatives from 'the ground up', the importance of management support, and the benefits of utilising 'what works well already' as a basis for transforming teams and processes towards the desired interprofessional model of patient-centred care.

Designing the evaluation framework

1. The evaluation framework to be outlined later in this document will suggest some KPIs for the workshops to be conducted to disseminate knowledge of the competencies. However, the precise form such an evaluation methodology for the workshops and training modules themselves will take is something that is more properly specified after the training materials are submitted, and is capable of being trialed when the sample workshop is delivered at a later stage in the project.
2. The thrust of this paper is on measuring outcomes related to interprofessional practice. It must be observed here that it is often difficult to specify a direct causal relation between the delivery of continuing professional education on interprofessional care and the outcomes of that care. There is a difference which is both analytically and practically significant between evaluation of interprofessional competency workshops as pedagogical tools and their impact on specified organisational, team and health care outcomes, including outcomes across particular organisations.
3. Taking that into account, we have focused on proposing a multi-faceted evaluation framework which is capable of measuring both changes in attitudes to interprofessional working, and concrete outcomes for individual practitioners, the organisation and its component units. The framework is not dependent on any one choice about how best to implement the competencies, and is capable of further customisation depending on decisions Wide Bay will be taking about the way forward. Crucially, we also suggest some metrics for measuring changes in patient satisfaction and patient outcomes. Specific KPIs will need to be developed to underpin particular choices about implementation, but we present a number of indicative KPIs corresponding to possible goals as a template.

Implementation options

Based on our understanding of pathways already mapped at Wide Bay, suggestions from ClinEdQ and our own research, we outline three implementation options. There have already been discussions between Dr Mark Bahnisch and Jules Bennet about implementation, and we believe that the questions surrounding how best to use the outcomes of this project will be further

elucidated in the meetings we have scheduled for 10 June with the Executive and the Leadership Education Team. We emphasise again that these options are not meant to be mutually exclusive. Options canvassed include:

1. Wide Bay has indicated that initial rollout of the competencies will be by way of incorporating them into existing training modules, and delivery of workshops on interprofessional practice to leadership and managers.
2. ClinEdQ has suggested that the competencies and teaching materials can be used as ‘train the trainer’ materials to enable a broader dissemination of ideas and principles about interprofessional practice throughout the district. We believe this aim is complementary with the goals of the Education and Research Collaborative at Wide Bay, and worthy of further consideration.
3. We will be recommending that Wide Bay consider an implementation strategy adapted from the ACT Health project, using the competencies to assist in identification of particular teams, workplace contexts and processes which might be fruitful ground for developing model interprofessional practice initiatives. The suggestion is – consistent with the findings that such initiatives have the best chance of success when grounded in practical experience and the ideas of professionals themselves – such an implementation strategy would enable progress towards the goal of making the hospitals centres of excellence in interprofessional practice through fostering a number of ‘wins’ across the District.
4. We note, in the context of implementation, the points already made about management commitment and resourcing support are crucial factors in deciding the way forward.

A guide to the evaluation framework

1. The framework is facilitative rather than directive; dynamic not static. It is a toolkit for aiding implementation and evaluation of the interprofessional competencies and other outcomes of the project, as they are embedded in Wide Bay’s practice. The framework allows for both a number of possible implementation strategies and for emergent learnings and findings to be built into it within the first year of implementation. The evaluation framework enables a feedback loop to arise, whereby there can be continuous improvement in the use of the competencies and associated materials and strategies.
2. The framework adapts four domains from Orchard’s model (Orchard et al., 2005) to organise desired goals, interventions, measures and KPIs under the headings of team process, team satisfaction, patient outcomes and patient satisfaction.
3. The framework presupposes a change model, adapted from D’Amour (D'Amour et al., 2008), seeing interprofessional practice as being able to be characterised on a continuum from “potential and latent collaboration” through “developing collaboration” towards “active collaboration”. The measures and KPIs are designed to recognise the desirability of transitioning through phases in different areas – the development of shared goals and vision, internalisation of interprofessional principles, governance and formalisation of IPP processes and structures. It is recognised that not all teams and health professionals will have the same starting point, and that a shared journey towards overall goals will involve modeling and diffusion of wins.
4. The assumption is that progress towards an interprofessional model of patient-centred care will be measurable in a variety of ways and through a variety of methods. However, central to the proposed methodology is the administration of an interprofessional learning and interprofessional practice scale developed for the ACT project (Nugus et al., 2011). This survey instrument combines elements of two validated scales on interprofessional practice and readiness for interprofessional learning (Heinemann et al., 1999, McFadyen et al., 2006).

5. We have obtained permission from the UNSW researchers for the administration of this scale, and we would strongly support its adoption as a key measure, as it enables both comparison with other jurisdictions and health districts, and is capable of gauging a baseline across the District and then being a consistent measure of change. The scale has been provided along with this deliverable.
6. A range of measures and indicators has been suggested, some of which would require the development of further survey instruments. The intent is to match a variety of modes of measurement (including observations, peer review and internal organisational processes) to specific outcomes which may arise from the implementation of the project. These measures and indicators can sit within the overall assessment provided by the interprofessional practice and interprofessional learning scale, and can be adapted to judge impacts on particular teams, sites and processes as well as a sense of the whole.
7. We were heartened by the willingness signaled in our Hervey Bay discussion to include managers, team leaders and other staff whose work impacts on patient care as collaborators and drivers in interprofessional care. Referring back also to the argument made above about interprofessional practice transcending interactions between professions commonly represented in clinical settings (most usually nurses and doctors), we also wish to propose consideration of specific initiatives to ensure the inclusion of allied health professionals in the process of moving towards interprofessional practice. We will be seeking further information about how this might best be achieved, and when that is obtained, will supplement the evaluation framework accordingly.
8. Our intent has been not to be prescriptive, and to develop a framework which can be further articulated through feedback and its demonstrable utility in the implementation stages.

Indicative KPIs

As noted above, KPIs for each specific goal and measure need development to fit the overall aims and goals and to embody the particular targets for each domain of the model (team processes, team satisfaction, patient outcomes and patient satisfaction). This model in turn sits within a change framework and the four elements of a model of collaboration (governance, shared goals and vision, formalisation and internalization). As a template for the sorts of KPIs which might support the implementation strategy, we provide a sample set of KPIs for team leaders and managers, adapted from previous research (Braithwaite and Travaglia, 2006):

Team leaders and managers should:

- Integrate interprofessional competencies into their own practice as leaders and clinicians or managers
- Identify their own current and future needs for interprofessional learning
- As colleagues provide peer support, mentoring or coaching in interprofessional practice
- As managers coach, mentor and lead in a manner which is supportive of interprofessional learning and interprofessional practice
- Be accountable for specific improvements in process and team functioning embodying interprofessional principles
- Take an active role in participating in interprofessional learning in formal and informal settings
- Model for team members, peers and students the principles of interprofessional practice
- Support the continued development of interprofessional competencies within their team

Specific targets around these action points could be negotiated and assessed in performance and peer review at appropriate intervals.

Annexe 8. Survey Instrument: Feedback survey on interprofessional competencies

Thank you for taking the time to answer the following questions.
Please click the box which best describes your response, and provide comments if you wish.

Question 1. The overall layout and content of the competency framework is:

☐ Very easy to understand

☐ Easy to understand

☐ Difficult to understand – if so, how might it be improved?

Comments:
....

Question 2. How appropriate is the level of language used to describe the competencies?

☐ Very appropriate

☐ Appropriate

☐ Inappropriate – if so, how might it be improved?

Comments:
....

Question 3. To what extent does the framework add to your understanding of interprofessional collaboration and learning?

☐ Significantly

☐ Moderately

☐ A little

☐ Not at all – if so, how might it be improved?

Comments:
....

Question 4. To what extent will the framework help you educate your colleagues in terms of interprofessional collaboration and learning?

☐ Significantly

☐ Moderately

☐ A little

☐ Not at all – if so, how might it be improved?

Comments:
....

Question 5. Have you ever worked in an environment which involves interprofessional practice?

☐ No

☐ Yes – please describe your experiences

Comments:

……

Question 6. Have you had any previous experience using competencies in the workplace?

☐ No

☐ Yes – please describe your experiences

Comments:

……

Question 7. For what length of time have you played an educational role in the workplace?

……

Question 8. Do you have any formal qualifications or certification in education/training?

☐ No

☐ Yes – please list your qualifications

Comments:

……

Question 9. If you have any further comments or suggestions regarding the framework or your experiences with interprofessional practice, please comment below.

Comments:

……

Annexe 9. Analysis of feedback on interprofessional competencies

10 participants responded to the survey.

Question 1. Understanding overall layout and content of framework
Very easy 5/10 **Easy** 4/10 **Difficult** 1/10

The person finding it difficult to understand indicated there were no clear objectives, although the purpose had been stated.

Question 2. Level of language used to describe competencies
Very appropriate 6/10 **Appropriate** 4/10 **Inappropriate** 0/10

Question 3. Extent to which framework adds to understanding of interprofessional collaboration
Significantly 3/10 **Moderately** 3/10 **A little** 3/10 **Not at all** 1/10
Two people indicated that it is a concept they are already familiar with, or that they already do interprofessional collaboration in their area of practice.

Question 4. Extent to which the framework will help re education of colleagues
Significantly 1/10 **Moderately** 5/10 **A little** 4/10 **Not at all** 0/10
Comments provided:

- It lacks detail, performance indicators not readily measureable
- No clear outcomes provided
- Needs to be developed further to be of greater use
- Unsure of extent of use, but intent is valuable
- Wording very generic, information could be further contextualised to make it relevant to participants

Question 5. Previous work in an environment involving interprofessional practice
No 0/10 **Yes** 10/10
Experiences include:

- Family partnership foundation and update programs
- Daily team meetings to review patients
- Clinical meetings and education sessions: involve medical, nursing, allied health
- Fostering collaboration and interdisciplinary care in ICU – process in its infancy
- Rural health
- Doctors attending nurse presentations and vice versa
- Clinical scenarios with medical and nursing
- Advanced life support courses
- Ongoing involvement determined by the individual, not the stream

Question 6. Previous experience using competencies in the workplace
No 1/10 **Yes** 9/10
Experiences include:

- Training programs requiring participants to demonstrate competence – assessment in simulated environment
- Nurse educators have used competencies for years
- Assessment of student competencies
- Skill or task-focussed competencies
- Clinical, ergonomics, teaching small groups
- Clinical scenarios for assessment
- Working with TAFE students and new graduates in mental health

Question 7. Length of time in educational role
Range (in years) 2, 2, 5, 7, 10, 10, 20, 20, 33
Average (in years) 12

Question 8. Formal qualifications or certification in education/training
No 1/10 **Yes** 9/10
Qualifications include:
- Bachelor of education
- Graduate diploma in occupational health nursing
- Certificate IV trainer and assessor
- Graduate certificate in child and family health
- Masters of education
- Diploma of applied science – education
- Master of advanced practice nursing (cardiac nursing + education)
- Post-graduate certificate in education
- Graduate diploma of learning and teaching
- Masters of clinical education
- Certificate IV workplace training and assessment
- Masters of medical education

Question 9. Additional comments
- 2 comments indicating that the framework 'looks good'
- To some extent competencies and interprofessional practice are already being used, arising out of a desire to improve patient outcomes and clinical practice, not driven by recruitment/retention
- Once the competencies become part of everyday practice and job satisfaction is improved, this may lead to improved retention

Annexe 10. Survey Instrument: Feedback survey on consultation in Hervey Bay 23 May 2011

Did you find this session useful? Very useful [ ] Useful [ ] Somewhat useful [ ] No [ ]

Did this session aid in deepening your understanding of interprofessional competencies? Very much so [ ] Moderately [ ] To some degree [ ] No [ ]

Do you think the interprofessional competencies will be of use in thinking about your own practice? Very much so [ ] Moderately [ ] To some degree [ ] No [ ]

Do you think the interprofessional competencies will be useful in practical contexts, for instance for thinking about how processes and ways of delivering patient-centre care could be improved? Very much so [ ] Moderately [ ] To some degree [ ] No [ ]

Please feel free to provide us with any other feedback you may have about today's session and about the interprofessional competencies project:

Background information: (Your responses will remain anonymous and only aggregated and de-identified data will be derived from them)

What is your profession (ie nursing, medicine, allied health, administration)? Please print:
____

In what service or hospital do you work?
____

What is your principal workplace role (ie theatre nurse)?
____

How many years have you worked in healthcare post-graduation (since gaining your initial qualification)? ___

Do you have formal qualifications in education and/or training? ____________________________

Have you previously had any formal education or training on the topic of "interprofessional learning" or "interprofessional practice"? Yes [ ] No [ ]

Annexe 11. Analysis of feedback on consultation in Hervey Bay 23 May 2011

10 participants responded to the survey.

Question 1. Usefulness of the session
Very 3/10 **Useful** 7/10 **Somewhat** 0/10 **No** 0/10

Question 2. Extent to which session furthered understanding of interprofessional competencies
Very much 4/10 **Moderately** 2/10 **Some degree** 4/10 **No** 0/10

Question 3. Usefulness of competencies in thinking about own practice
Very much 2/10 **Moderately** 6/10 **Some degree** 2/10 **No** 0/10

Question 4. Usefulness of competencies in practical contexts (eg how patient-centred care could be improved?)
Very much 2/10 **Moderately** 5/10 **Some degree** 3/10 **No** 0/10

Feedback about interprofessional competencies session and the competencies project:
Positive:
- Implementing interprofessional practice is a vital step towards benefiting patient care outcomes
- The Wide Bay district is a good place to be the ‘pilot’ site for developing and implementing interprofessional practice
- Combining implementation with the university setting will provide ‘less of a battle’
- The project session has provided a clearer understanding of the project, and a forum to discuss issues
- Project needs a balance between what can be interprofessional and what is more role-specific
- Need to engage all stakeholders and have preparedness to commit to the process

Negative:
- Target audience needs to be defined
- Is concern that other health streams don’t have need/desire to implement interprofessional competencies

Background information
Profession:
- Nursing (8)
- Medical (1)

Service or hospital:
- Hervey Bay/Maryborough (5)
- Education and research collaborative (1)
- Bundaberg (mental health [1], maternity services [1])
- Bundaberg and Hervey Bay (1)

Main workforce role:
- Critical care educator (1)
- Midwife (educator [2])
- Mental health (1)
- Nurse educator (2)
- Emergency (1)
- Clinical educator (1)

Years worked in healthcare post-graduation: 7, 35, 25, 13, 20, 34, 21, 30 (average 23)

Formal qualifications in education and/or training: **Yes** 8/9 **No** 1/9
Formal education or training in interprofessional learning/practice **Yes** 5/10 **No** 5/10

Annexe 12. Summary of discussions from consultations with Wide Bay Executive and Education Leadership teams 10 June 2011

Meeting 1. Executive meeting

Present:
- Approximately 10 members of executive committee including Jules Bennet
- UQCCR representatives Sandra Capra and Janelle Thomas

Absent: Ken Whelan DCEO left at the beginning of the meeting

1. Overview of the project
Sandra firstly provided an introduction to the interprofessional practice project, summarised key deliverables and highlighted suggested literature to inform the topic.

Members of the committee then provided informative comments, suggestions and queries, the key points of which have been summarised below.

2. Points which provide context for the project
- It was suggested by Jules Bennet that the vision of the DCEO is to implement IPP as a means of promoting staff recruitment and retention. This will be important from a marketing point of view, conveying the message that Wide Bay is a proactive health service district.
- There are examples of IPP programs already operating successfully in the HSD, which can be used as exemplars for buy-in and implementation on a broader scale, for example:
    - Bundaberg Mental Health Service
    - Paediatric team
- Staff are positive about IPP, and prepared to be involved

3. Insights provided by executive as to guiding the future of the project: buy-in
- It was suggested that buy-in should take a two-pronged approach, focussing on:
    - Management
    - Personnel on the wards
- Buy-in from medical staff will be key to the success of the project, and this will be facilitated by highlighting to them the benefits of the interprofessional model of care to patients.

4. Insights provided by executive as to guiding the future of the project: implementation
- It was suggested that implementation should also be a twostep process, involving:
    - Interprofessional education, to be managed by Jules Bennet
    - Interprofessional care, to be led by other executive staff
- Suggestions for implementation strategies include:
    - Take an integrative approach, rather than trying to implement as a 'leadership course' or the like
    - Involve junior medical officers
    - Introduce it at the undergraduate level for medical, nursing and allied health
    - Cultural change will be necessary

5. Questions and queries raised by executive members:
- How will IPP 'soft skills' be sold to the power-brokers?
- What published evidence exists to indicate the success of these types of competency models?
- How will the success of the project be measured?

Meeting 2. Leadership education meeting

Present: Jules Bennet (Director of Education), Tina Wallace (A/Director of Allied Health), Justine Brown (Education Admin Officer), Dave Brown (Director of Operations), Lisa Newport by videoconference (Bundaberg and rural mental health services) Sandra Capra, Janelle Thomas

1.Lisa Newport provided an overview of the mental health (MH) interprofessional care model

- Example of a successful IPP model within the Wide Bay HSD
- First implemented 2 years ago
- Staff recruitment process is key to its success
- All job applicants sent an information package to inform them re the model of care pre-interview, reinforced by follow-up phone call from MH staff
- Applicants respond positively, and are willing to adopt the model of care
- New staff receive two week orientation/induction
- Team function based on power-sharing arrangements

2. Implementation

Attendees provided valuable insight and discussion regarding implementation of IPP, both in terms of perceived barriers, and suggested strategies for implementation, summarised below.

2a. Potential barriers to implementation

- Medical model of care is very ingrained in the system, would need a facilitator or patient advocate to change this
- Legal issues: medical staff have ultimate responsibility for patient decisions
- Lack of understanding of skills or scope of practice of other colleagues
- High percentage of International Medical Graduates (IMG), estimated to be ~70-90% of acute care medical staff - unfamiliar with competencies, interprofessional model of care or general 'workplace culture'
- Silo-focussed roles, particularly noted as a potential issue for operations staff, who have a strong union presence
- Resource allocation
- Release of staff from duties to attend/complete IPP 'training' either in a face-to-face or online format

2b. Suggestions for implementation

Specifics for team members

- Emphasise the importance of the roles of all team members
- Encourage an understanding of colleagues' scope of practice, with a view to improving confidence in competency
- Encourage cultural sensitivity, for example with IMGs – encourage them to learn 'local customs'
- Create an appropriate environment eg multidispilinary clinics, with personnel and patients communicating together, so different professionals learn from each other
- Encourage development of skills required to shift from a consecutive care model to an interprofessional model:
    - clinician to identify needs and provide assessment
    - all HPs meet to decide on action plan

General recommendations

- Assume a top-down approach to implementation, encourage management to:
    - promote a culture of change
    - reward staff for being agents of change
- Start implementation in the recruitment phase:
    - post information regarding model of care on the website/intranet
    - ask applicants to address competencies in job applications

- make applicants aware of the required model of care
- inform HR staff
- have a multi-disciplinary interview panel

Overall approach to implementation

- Needs to be developed as a matrix approach, focussing on:
  1. recruitment of new staff
  2. education of existing staff
     a) train the trainers
     b) informing/educating all staff, with potentially individual but complementary approaches for:
        i) medical
        ii) nursing
        iii) allied health
        iiii) admin and operations

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