



Interprofessional Collaborative Practice in Primary Health Care: Nursing and Midwifery Perspectives

Six Case Studies

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Acronyms

CHAI	Catholic Health Association of India
CP	collaborative practice
IPCLUs	Interprofessional Clinical Learning Units
IPE	interprofessional education
PHC	primary health care
WHO	World Health Organization

Executive summary

There is increasing interest in the ability of health-care professionals to work together, and in understanding how such collaborative practice contributes to primary health care (PHC). Interprofessional education drives the need to identify and establish enabling mechanisms for collaborative practice in PHC. This study examines six PHC practice settings from both resource-constrained and resource-rich countries in order to identify not only the enabling mechanisms that facilitate collaborative practice to support PHC, but also barriers to such practice. The World Health Organization's Framework for Action on Interprofessional Education and Collaborative Practice was used to examine the mechanisms that shape interprofessional education, collaborative practice, and health and education systems. Findings are consistent with the growing body of literature on enabling mechanisms for and barriers to interprofessional education and collaborative practice. The study concludes with a discussion of policy and practice implications and recommendations for future research. Based on this work, it is clear that interprofessional education and collaborative practice are closely interrelated.

1

Background

Health system reforms based on the principles of primary health care (PHC) have become a major challenge for policy-makers, health workers and leaders across the globe. The World Health Organization (WHO) defined PHC in 1978 as “essential health care based on practical, scientifically sound and socially acceptable models and technology made universally accessible to individuals and families in the community through their full participation and at the cost that the community can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.” Collaborative practice (CP) has been identified as a promising means of strengthening health systems and improving health outcomes. Such collaboration is increasingly regarded as important for health systems worldwide to meet complex health needs given the limited human and financial resources (Mickan et al. 2010; Reeves et al. 2009).

There is now sufficient evidence to conclude that effective interprofessional education (IPE) enables effective CP (Blackwell et al. 2011; Frenk et al. 2010; Reeves et al. 2009; Yan et al. 2007). WHO defines IPE as “students from two or more professions learn[ing] about, from, and with each other to enable effective collaboration and improve health outcomes” (WHO 2010, p. 13). Interprofessional education can transform health professional education, which is currently fragmented and outdated with a static curriculum that fails to equip graduates adequately for CP (Frenk et al. 2010). The World Health Organization (2010) defines interprofessional CP as “multiple health workers from different professional backgrounds working together with patients, families, caregivers and communities to deliver the highest quality of care” (ibid.). The WHO Framework for Action on Interprofessional Education and Collaborative Practice (2010) offers strategies to help health policy-makers implement the elements of IPE and CP that will benefit their health systems in their individual country contexts.

This Framework reflects the fragmentation inherent in many health systems worldwide and the challenges posed to the health workforce by increasingly complex health issues. Evidence shows that as health workers move through the system, interprofessional experience offers them the necessary skills to become part of a collaborative, practice-ready health workforce. A collaborative practice-ready workforce is one in which health workers have received effective training in IPE (WHO 2010, p. 10) enabling them to enter the workplace as members of a CP team.

A number of mechanisms shape how IPE is developed and delivered. The WHO Framework for Action on Interprofessional Education and Collaborative Practice groups these mechanisms into two categories: educator mechanisms (for academic staff, training, champions, institutional support, managerial commitment and learning outcomes) and curricular mechanisms (concerning logistics and scheduling, programme content, compulsory attendance, shared objectives, adult learning principles and contextual learning) (WHO 2010, p. 12). Other mechanisms shape how CP is introduced and executed. Examples of these mechanisms are divided into three categories: institutional support mechanisms (concerning governance models, structured protocols, shared operating resources, personnel policies, supportive management practices); working culture mechanisms (for communication strategies, conflict resolution policies, shared decision-making processes); and environmental mechanisms (on the built environment, facilities, space design). Once a collaborative, practice-ready health workforce is in place, these mechanisms help decision-makers to identify the actions that will support CP. This document beginning by presenting information on IPE and CP based on the literature review and then highlights specific case studies.

2

What the literature shows

This report outlines six case studies. The starting point for these was an extensive literature review to identify key issues for IPE and/or CP, including barriers and potential solutions. Several databases, including MEDLINE, CINAHL, EMBASE and SCOPUS, were used. Search terms included keywords such as “interprofessional collaboration,” “collaboration” and “interprofessional education.” Recognizing that many academics and practitioners use the terms interprofessional and transdisciplinary interchangeably, “transdisciplinary” was added as a keyword. In the initial database searches, articles published between 2000 and 2012 were accepted. To supplement the database searches cited above, reference lists were reviewed to retrieve recent relevant reports. In general, original articles were included in the literature review if they focused on barriers to or enablers for IPE and/or CP.

2.1 Interprofessional education and collaborative practice

There is a growing body of literature on IPE and CP. Several proponents of IPE and CP have discussed the various barriers and enablers shaping collaboration. Instituting IPE and CP will require implementers to overcome barriers. For example, Ginsburg and Tregunno (2005) describe the distinct professional culture in which each health profession constitutes a significant barrier to IPE and CP. Clark (2011) identifies pride as being a barrier to and cause for failure of IPE programmes in the United States, as health professionals are reluctant to recognize the accomplishments of others and focus primarily on promoting themselves and their own discipline (*ibid.* p. 323). Accreditation criteria also pose a significant challenge to IPE initiatives. Accreditation bodies dictate the contents of curricula and have been slow to integrate interprofessional competencies and criteria into their requirements and regulations (Gilbert 2005). For example, nursing education programmes have been criticized for not adequately promoting teamwork, which is rarely taught, resulting in a “nursing-only” focus, which impedes interprofessional team practice (Orchard 2010, p. 250). In some countries, efforts have been made to address this gap: for example, the 2007 Health Systems Improvement Act passed by the provincial government in Ontario, Canada, mandated health regulatory colleges to “promote interprofessional collaboration with other health profession colleges” (Ontario Ministry of Health and Long-Term Care 2007).

In the following sections the key messages from these articles concerning enablers and barriers relating to IPE and CP are synthesized and categorized into themes. As there is much overlap between barriers in IPE and in CP, and between enablers in IPE and in CP, these enablers and barriers are

discussed jointly, subject to necessary distinctions. The main barriers found in the literature related to: professional cultures and stereotypes; inconsistent language; curriculum barriers; and lack of interprofessional knowledge (Baker et al. 2011; Hall 2005; Herbert et al. 2007). The main enablers included: leaders and champions; administrative, institutional and work culture support; mentorship and learning; a shared vision and mission; and an enabling built environment.

2.2 Barriers to interprofessional education and collaborative practice

Professional cultures and stereotypes

Professional cultures and stereotypes were the barriers to collaboration most commonly cited in the literature. Hall (2005) identifies professional culture as “the social heritage of a community, the sum total of the professions, ways of thinking and behavior which distinguishes one group of people from another and which tend to be passed down from generation to generation” (p. 188). Professional cultures are a function of beliefs, values, customs and behaviours (*ibid.*)

Professional cultures often stifle opportunities for collaboration and constitute significant barriers to achieving IPE and CP. Herbert et al. (2007) identified the desire, common among health professionals, to establish themselves professionally and advocate for their chosen professions as being at odds with CP. For example, in a study with nurses, occupational therapists, physiotherapists, doctors and massage therapists, CP was described as being in conflict with the work of advocacy for a particular profession (*ibid.*) In addition, Baker et al. (2011) conducted 25 interviews with health professionals when evaluating a multi-site IPE initiative in North America; they describe how health professions demarcate their territory by establishing monopolies over certain bodies of knowledge, and by tightly regulating entry and work practices. According to Orchard (2010) these practices can lead to turf wars between health-care professionals regarding their scopes of practice and care decisions.

Professional cultures function as barriers to IPE and CP: the process of professional training and socialization hinders collaboration (Baker et al. 2011). Baker et al. interviewed 132 health professionals engaged in a large multi-site IPE initiative in North America. The interviewees discussed the socialization process and how it shaped how they view themselves and their roles within a health-care team. Physicians described themselves as “leaders” and “decision-makers,” while nurses, social workers, therapists and other professionals labelled themselves as “team players.” Collaboration is difficult to achieve in a hierarchy

which invests power in some professions and treats others as subservient (Fewster-Thuente 2008). This perception of physician dominance in decision-making can function as a significant barrier to collaboration: within the traditional hierarchy other professionals often do not have the opportunity to be involved in setting patient-care directions. While physicians play a significant role in a successful interdisciplinary team, this hierarchy must be broken down and the knowledge of all professionals valued and taken into account (Fewster-Thuente 2008).

Students often start out with preformed stereotypes about their professional identity (Ginsburg & Tregunno 2005). Recognizing that these stereotypes and attitudes become entrenched with time, a number of scholars have emphasized the importance of addressing students' assumptions early in their professional training (Gilbert 2005). However, a longitudinal survey of nursing, dentistry, dietetics, medicine, midwifery, occupational therapy, pharmacy and physiotherapy students in the United Kingdom, Coster et al. (2007) found that students who started courses with negative attitudes towards interprofessional learning reported gaining the least from IPE courses, demonstrating the challenge inherent in changing attitudes and beliefs.

Inconsistent use and different understandings of language

A number of authors identified inconsistencies in the terminology used to describe interprofessional collaboration as another barrier to the integration of IPE into health profession programmes and CP. As the Health Professions Regulatory Advisory Council of Ontario (2008) states, many terms are used interchangeably to describe interprofessional collaboration. When Barker et al. (2005) conducted in-depth interviews with individuals considered champions of IPE for CP to gain an understanding of the factors involved in its implementation, a number of interviewees pointed to lack of consensus in appropriate terminology as a significant barrier to its implementation. Many people do not understand the differences between "multidisciplinary," "transdisciplinary" and "interdisciplinary," which makes it difficult to integrate IPE into health profession programmes (Barker et al. 2005) and PHC settings. Makary et al. (2006) studied nurses and physicians in the operating room. They found that, for nurses, collaboration entailed having influence in decision-making, while for physicians it meant having their directions

followed and needs anticipated. "However, both need to consciously examine their patterns of communication in order to affect clinical interaction styles that maintain unequal or hierarchical relationships. Studies of interprofessional communication, including style of clinical interaction, conflict resolution, use of humor, and negotiation, contribute support for nurses and physicians in collaborative relationships" (Taylor-Seehafer 1998, p. 390).

Accreditation and curricula

Curricula focused solely on achieving discipline-specific competencies constitute another barrier to IPE for CP. Tucker et al. (2003) in evaluating the feasibility and effectiveness of an interprofessional learning initiative at the University of Manchester, found that student participation in the initiative was problematic, as multiprofessional activities were not formally included in courses. They concluded that multiprofessional opportunities and innovations need to be included in curricula. Participants in a study by Bennett et al. (2011) identified professional accreditation and regulation requirements as one of the challenges to implementing IPE. Effective implementation can only be achieved by changing course content, which is determined by the accrediting bodies for health professions. Gilbert (2005) therefore found that successful implementation of IPE would require its integration into those bodies' registration and accreditation requirements.

Knowledge of the roles and scope of other health professions

In a study by Baker et al. (2011) interviews were conducted with health professionals, including nurses, occupational therapists, pharmacists, physical therapists, speech and language therapists and social workers, to elicit perceptions of interprofessional learning in practice settings. Interviewees cited lack of interprofessional awareness as another barrier to collaboration. For example, a number of nurses and occupational therapists expressed frustration with physicians' misconceptions about their roles and scopes of practice, leading to what many nurses and therapists labelled "inappropriate consultations" with them. This lack of knowledge was viewed by those respondents as disregard for their professions. While many barriers exist, there are also enabling factors that are fundamental to the success of IPE and CP programmes. The following section discusses key enablers for IPE and CP.

3

Key enablers for interprofessional education and collaborative practice

This section highlights some of the key enablers for IPE and CP reported in the literature. These include: the presence of leaders and champions; administrative and institutional supports; mentorship and learning; a shared vision and mission; and, lastly, an enabling built environment.

Martin-Rodriguez et al. (2005) argue that administrative support is vital in order to create organizational conditions in which interprofessional collaboration can thrive. Similarly, in academic settings, as Barnsteiner et al. (2007) stress that, administrative support is needed to adjust curricula and schedules so that they facilitate IPE. Gilbert (2005) recognizes the scheduling of classes and curriculum development as resource-intensive undertakings that require appropriate administrative funding and faculty compensation, without which the development of interprofessional activities would not be possible. Further, it is argued that IPE needs to become embedded in university structures and governance models, and recognized as part of the regular functioning of an academic institution. Governance structures, in turn, should enable a collaborative environment to promote joint curriculum development and interaction between disciplines. Gilbert (2005) argues that academic administrators should not only be involved in initiating IPE activities, but should also play an instrumental role in creating an environment in which these activities can be sustained (as cited in Barr 2005) to counter the current tendency for IPE initiatives to consist of one-off experiments that are ultimately unsustainable (Gilbert 2005).

3.1 Leaders and champions

One of the essential factors for achieving IPE and CP is the presence of leaders and champions (Barker et al. 2005; WHO 2010) who are skilled communicators, passionate about IPE and CP, and able both to disseminate information and elicit institutional support. An evaluation of the University of Washington Health Sciences Center and six other academic health centres in the US engaged in interprofessional initiatives identified the components of successful interprofessional programmes (Mitchell et al. 2006). One of these was the presence of faculty champions to advance the centre's work.

Bennett et al. (2011) point to the importance of leadership for IPE success. In their interviews with faculty members involved in IPE at a university in Australia, participants described leadership and commitment from the executive level as being fundamental to the success of IPE initiatives, without which it would not be possible to ensure participation by the various health departments or schools. Hoffman et al.

(2008) emphasize the importance of champions in furthering IPE. While other research highlights the need for faculty or other post-licensure champions, Hoffman et al. (2008) argue that student leaders also play a key role in ensuring the success of IPE initiatives. As Hoffman et al. (2008) state, student leadership increases students' willingness to collaborate and is cost-effective and efficient. Through peer teaching, for example, students are able to help shape positive attitudes towards interprofessional collaboration, because the power differential that normally exists between traditional instructors and students is avoided, and students are more receptive of their peers' views. Hoffman et al. (2008) maintain that, through such leadership, students are more likely to alter their negative attitudes and beliefs about other professions, which this review identified as a major barrier to interprofessional collaboration. A questionnaire administered by Hoffman et al. (2008) to 37 Canadian student leaders in IPE at the Third Annual Conference of the National Health Sciences Students' Association highlighted some of the benefits of student-led IPE. These included increased knowledge of health professional roles and willingness to collaborate.

Whether champions are students or faculty members, it is clear from the reviewed literature that they are essential for promoting and sustaining interprofessional initiatives.

3.2 Administrative, institutional and work culture support

Administrative, institutional and work culture support was identified in the literature as another key enabler. Reeves and Freeth (2002) conducted a pilot interprofessional training project in the United Kingdom among pre-licensure medical, nursing, occupational therapy and physiotherapy students. The pilot project studied a 27-bed orthopaedic and rheumatology ward and engaged 36 pre-licensure students working in six different teams. Institutional support facilitating the use of the London training ward was described as a key factor in the project's success. The authors concluded that partnerships between institutions fostered a deep commitment to collaboration, by providing students with high-quality placements that also offered opportunities for staff development. Similarly, WHO (2010), in discussing educator and curricular mechanisms in IPE, recognizes the role of supportive institutional policies in shaping IPE. WHO delineates a number of mechanisms related to CP, again pointing to the importance of institutional support in facilitating collaboration and creating synergies between team members.

3.3 Mentorship and learning

Successful IPE also requires teachers who are able to facilitate learning and enable students to “learn with, from and about each other” (Anderson, Cox & Thorpe 2009, p. 82). Anderson, Cox and Thorpe (2009) conducted an evaluation of a master’s level two-day course at the University of Leicester, United Kingdom, intended to prepare teachers to design, develop and facilitate interprofessional student groups. Responding to one-to-one interviews and questionnaires, approximately 40 course participants, including practice teachers and university lecturers from a range of disciplines, expressed high levels of satisfaction with the course and pointed to improved facilitation skills as one of its main benefits. A teacher who acts as a facilitator, instead of acting as an expert, focuses on encouraging students to ask questions in the group setting (ibid.) Anderson, Cox and Thorpe (2009) maintain that professional development opportunities, such as the master’s-level course, are essential for IPE educators to gain a better understanding of IPE and of how to enhance learner outcomes through effective facilitation and active learning.

Lees and Meyer’s (2011) study on IPE demonstrates that the facilitator is pivotal to IPE success. The authors evaluated an interprofessional continuing professional development programme for health, education and social care professionals in the United Kingdom. The stated goal of the programme was to enhance participants’ ability to work collaboratively and thereby meet the challenges posed by the implementation of the Every Child Matters agenda, which was focused on the integration of child and youth services. An experienced academic from a Centre for Excellence in Teaching and Learning was the facilitator for the programme. Participants expressed high levels of satisfaction with the facilitator, who created a comfortable atmosphere, and was responsive to the needs of the group, flexible and inclusive.

In the interprofessional training pilot project described by Reeves and Freeth (2002) students were split into six teams consisting of two nursing students, two medical students, one occupational therapy student and one physiotherapy student. Each team was responsible, under supervision, for planning and delivering care for rheumatology and orthopaedic patients. Further, each team was assigned a nurse facilitator and additional profession-specific facilitation. Observational data indicated that different styles of team facilitation emerged. When student teams were assessed at the end of their placement, it was found that teams with facilitators who offered minimal input and did not actively encourage teamwork and accountability demonstrated poor interprofessional collaboration and high interpersonal friction. On the other hand, teams with highly engaged facilitators who worked with the team, offered direction and encouraged teamwork, demonstrated low interpersonal friction and high

interprofessional collaboration. Reeves and Freeth’s findings suggest that the style of facilitation plays an important role in shaping IPE outcomes. However, observational data also indicated that even those facilitators who encouraged students to work in teams tended themselves to work in silos or in parallel with each other, missing an opportunity to encourage collaboration by acting as role models of CP.

3.4 Shared vision or mission

The literature also emphasizes the importance of creating a common vision or mission for successful collaboration. The process of identifying a shared vision or mission statement enables an interprofessional group to jointly determine what they want to accomplish, and helps mitigate future conflicts (Chambers et al. 2010). Thompson, Socolar, Brown and Haggerty (2002) conducted a process evaluation of North Carolina’s Intensive Home Visitation Demonstration Project in order to elicit understandings of factors facilitating or impeding interprofessional collaboration. Of the seven counties that implemented the project, a shared vision was found to be a facilitating factor for five of them. Project leaders played an important role in unifying the group through this shared vision. Furthermore, the WHO (2010) Framework for IPE and CP states that a shared vision is essential in developing IPE curricula, and therefore constitutes an important educator mechanism.

3.5 Physical environment and space design

Mitchell et al. (2006) identified physical infrastructure as one of the eight components necessary for successful collaboration. For Barker, Bosco and Oandasan (2005) the theme of logistics, including geography and physical space, arose repeatedly in their interviews with twelve individuals considered to be champions of IPE and CP. Appropriate physical spaces to engage in interprofessional learning were identified by those individuals as a key enabler. Similarly, Morey et al. (2002) in evaluating the effectiveness of an Emergency Team Coordination Course on team behaviour, emergency department performance (medical errors) and attitudes and opinions, discuss the role of physical layout in promoting teamwork between emergency department staff. In a number of the departments evaluated, workspaces were renovated to eliminate barriers to communication. WHO (2010) identifies the environment as an important CP mechanism. Space and the built environment can significantly enhance or hinder CP in an interprofessional setting. In designing and / or organizing spaces for collaboration, it is important that the built environment does not reflect the traditional hierarchy of positions, so pervasive in PHC settings, but instead eliminates barriers to effective communication (WHO 2010).

4

The case studies

In February 2010 the Health Professionals Global Network, WHO and associated partners held a Global Virtual Discussion Forum on the contribution of interprofessional collaboration to better health outcomes. One result was the recommendation to document good practices in interprofessional collaboration in order to fill evidence gaps. To follow up this recommendation, WHO planned to secure case studies to illustrate interprofessional collaboration in PHC, with the goal of developing a compendium of good practice in interprofessional collaboration in PHC. A template was produced by WHO to facilitate data gathering from case studies. The aim was to share experiences of how interprofessional collaboration contributes to effective primary care. Information was solicited on a set of PHC services/projects which may include priority programmes on specific health topics (such as cancer, obesity, infectious diseases, child and maternal health, etc.) and projects on a particular health issue or social determinant of health or for a specific target population located in a community-oriented primary care service.

4.1 Methodology

A sample of six PHC settings from geographically diverse resource-rich and resource-constrained countries across the globe was chosen for the case studies. Coordinators of the programmes answered a questionnaire designed by WHO. The resulting data were collected, analyzed and tabulated using the WHO Framework for Action on Interprofessional Education and Collaborative Practice (2010) to examine the mechanisms that shape how IPE and CP are developed and delivered.

The case study settings were: Porto Alegre (Brazil), Alberta and Ontario (Canada), Eastern Cape (South Africa), Andhra Pradesh (India) and Philadelphia (United States).

The coordinator or lead for each PHC setting was the key informant for their geographical location and provided information related to the practice setting, using the WHO case study template. The following section includes an overview of the context of each case study, their goals and objectives and highlights of their programmes.

4.2 Limitations

While the case studies yield rich insights and perspectives from the diverse PHC settings selected, they have a number of limitations. Purposive sampling was used for reasons of convenience, but this did not allow for the most representative sample to be chosen. While both resource-rich and resource-constrained settings in various countries were studied, other parts of the world have complex contextual differences and therefore the findings cannot be generalized globally and do not reflect all regions of the world. In fact, the case studies are not necessarily representative even of the country in which they are located. The sample included both academic and practice settings, which adds more variables to the already complex contexts. The survey template does not include definition of the key concepts. This resulted in inconsistent interpretations by the key informants. Additionally, the categories used were not aligned to the WHO framework. The results of this qualitative study are thus transferable, but not generalizable.

5

Description of case studies

5.1 Porto Alegre, Brazil

The programme in Brazil started in 2009 as part of a federal government initiative under the auspices of the Ministries of Health and Education. The goal is to enhance the relationship between academia, the community, and PHC services in the Family Health Program through tutorial learning in multidisciplinary groups. The care model is based on the integration of health knowledge across the university, to promote an open attitude towards developing competencies for working in multidisciplinary teams, towards PHC. The programme was developed in an area of the city of Porto Alegre, which has a population of 152,911.

Health and social problems abound in this community, including low incomes, poor housing, water and sanitation problems and drug abuse. Students and their preceptors develop activities in the health unit based on the concept of “embracement”, which encourages openness when listening to patients’ expressions of needs at every point of contact. Interdisciplinary actions include the use of a postural school through physiotherapy, in which patients can participate in walking or other outdoor activities, the referral of family issues to the psychology department, and the inclusion of home services in the care provided.

Incentives for educational institutions were put in place by the government to change the existing curricula and to ensure that students gain early exposure to interprofessional practice, in accordance with the goal of integrating CP into the national health system. In addition, the programme stipulates that a research project be developed by all its members. There are 20 research projects, involving students, health professionals and faculty members. The learning outcomes from this programme are currently being evaluated.

5.2 Edmonton, Alberta, Canada

The Edmonton, Alberta case study focused on designing and implementing Interprofessional Clinical Learning Units (IPCLUs) on acute care, rehabilitation and complex care. Within the mandate of primary care, direct care IPCLUs endeavour to enhance clinical education capacity by drawing on the expertise of both academics and patient care team members across the health-care professions. Professionals involved include nurses, speech language pathologists, social workers, occupational therapists, physical therapists, pharmacists, recreational therapists, dieticians, physicians, nurse practitioners, administrators and educators.

An IPCLU is a collaborative model of interprofessional clinical teaching and learning developed for an existing patient care unit, which aims to influence patient care by supporting the interprofessional environment and by creating a positive learning and practice environment for students, academics and front-line patient care teams. The programme also bridges the perceived gap between academics and clinicians by having students, faculty members and interprofessional teams learn together. The model promoted a cultural shift towards IPE: every team member is simultaneously a practitioner, educator and learner. It increased awareness of interprofessional core competencies (communication, collaboration, role clarity and reflection), improved interprofessional communication and increased interactions between students in various professions.

The model utilizes a broad range of IPE initiatives, including teaching sessions, in-service training, mentoring and conferences. Extensive institutional support was provided for collaboration by health authorities and health science institutions. Learning outcomes from the Alberta programme indicate a cultural change whereby every practitioner, student and educator in the unit exemplifies interprofessional competencies, for the benefit of the patient. While pre- and post-implementation evaluations indicated that environment was conducive to IPE, CP and evidence-based learning, no details were reported of how this evaluation was conducted.

5.3 Hamilton, Ontario, Canada

The case study in Hamilton started in 2008 as an interprofessional, integrated collaborative care programme to provide comprehensive geriatric assessment and management of elderly patients living in the community, including comprehensive assessment and management of dementia, delirium, falls, incontinence and poly-pharmacy as these are chronic/ degenerative conditions commonly experienced by the elderly. Home assessment and management services for housebound seniors are available, as well as preventive services, identification and elimination of home fire risks, falling hazards, food procurement problems and care-giver exhaustion. Treatment plans are developed in conjunction with an interprofessional team and a visiting geriatrician. Education opportunities are provided for health professional learners through participation in team-based care. The team consists of nurse practitioner, family physician, registered nurse, pharmacist, social worker, dietitian, geriatrician, and care-givers, with a skill-mix appropriate to the needs, goals and expectations of patients and their care-givers. A programme of “purposeful pairing” of medical learners with the other health disciplines was developed to ensure collaboration at the education level. Learner evaluation is also part of the programme: each professional is evaluated not just by their own discipline but also by the paired team members.

5.4 Andhra Pradesh, India

The programme in India is organized by the Catholic Health Association of India (CHAI), a large non-governmental organization with over 3,347 member institutions. These include hospitals, health centres and social service societies whose mission is to deliver health-care services at the grass-roots level. CHAI has been effectively providing much needed critical services to poor and marginalized people in India for 62 years. In India the decentralization of HIV/AIDS services to PHC level has been critical for people living in rural and remote areas, especially for access to counselling and testing services, which provide a gateway for the entire range of HIV/AIDS services. HIV/AIDS-related services were initially available only at district and sub-district levels; the Center for Disease Control and Prevention (CDC-GAP) in collaboration with its partners decentralized those services to PHC level by piloting this PHC enhancement project.

This PHC programme is in Andhra Pradesh, the fifth largest state in India, with a total population of around 80 million, of whom 73% live in rural areas. Andhra Pradesh is also among the six Indian states with the highest prevalence of HIV/AIDS: estimated among adults at 0.97%, or 21% of all people living with HIV/AIDS in India. Andhra Pradesh was the only state identified as having an antenatal HIV prevalence of $\geq 1\%$ in the HIV Sentinel Surveillance 2007.. The initiative is unique in that it made HIV/AIDS-related services available and accessible to the rural population at the PHC level for the first time. This involved service delivery through a novel “task shifting model” whereby nurses were trained for extended roles as counsellor, lab technician and outreach worker.

Stringent monitoring and evaluation were also implemented, including the supervision of nurses by the PHC Medical Officer and nurse supervisors. In 2009 PHC nurses underwent a qualitative HR assessment: 80% were rated as excellent, while the remaining 20% needed upgrading. A subsequent evaluation indicated more positive results for the programme, particularly with respect to the nurses’ roles.

5.5 Eastern Cape Province, South Africa

In Eastern Cape Province the PHC programme, started in 2004. It provides outreach mentoring across the continuum of prevention, care and treatment. The model is based on classroom training of multidisciplinary health-care teams, followed by structured outreach mentoring and demonstration of competent care. Multidisciplinary teams of medical officers, nurses, pharmacists, social workers, medical technologists, community care workers, PHC nurses, midwives and nurse educators from all district services and departments of health come together in classroom training on role clarification and development of a care plan. This is followed by continued outreach mentoring for all professions. The goal is to improve access to high-quality HIV/AIDS, tuberculosis and sexually-transmitted infection prevention, care and treatment in the Eastern Cape Province. Integrated learning networks have also been established, which facilitate the exchange of skills and knowledge between local champions and leaders.

The programme involved collaboration with many organizations to assist in training, including the International Training and Education Center, which provided clinical mentors from United States Centers for Diseases Control and Prevention South Africa, and the Institute for Health Care Improvement, which provided technical support for methodologies. In addition, participants took pre- and post-training tests to assess knowledge gaps and knowledge gained, but the results were not reported in the case study.

5.6 Philadelphia, PA, USA

The Philadelphia case study is a faith-based programme of several interprofessional collaborations, involving primary care physicians, specialists, pharmacists, nurses, physical therapist, and nutritionist, as well as church and community agencies. The service was conducted in Winslow Township, Camden County and started in 2002. The population of the area is 39,499, with approximately 13,567 residing in the township. The racial makeup is diverse, with 58.7% white, 31.0% African American, 9.2% Latino or Hispanic, 10.2% Native American, 2.30% Asian, 3.6% mixed race, and 4.2% from two or more races. The goal is to provide culturally sensitive community health collaboration with primary care providers, community health education programmes, community screening programmes, 1:1 patient education, nursing assessment, nursing home visits and supportive medical and spiritual care. The programme also provides assistance in navigating the US medical care system, including acquisition of primary medical care, home health needs, medications, procedures and follow-up services. All services are developed in conjunction with a multidisciplinary team. Continuing education credits were granted at little or no cost for the IPE sessions as an incentive for health professionals to join the programme as volunteers. Collaborative relationships with neighbouring universities were also maintained since many of the health professionals have faculty appointments. This also facilitated students of health disciplines to practise and train in IPE and CP. Formative evaluation was carried out by both university instructors for the students and programme volunteers, but the results were not reported.

6

Discussion

The study has brought together case studies of programmes in Brazil, Canada, India, South Africa and the USA. These examples demonstrate the realities of learning and working in different countries with a cross section of characteristics from health-care centres, a faith-based agency, and academic and practice settings. The literature review and case studies illustrate the importance of the contexts in which these mechanisms are negotiated for the implementation of IPE and CP in primary health care settings. The case studies exhibit many differences: in their structures, processes, goals and objectives, funding, administrative and organizational cultures, mentorship and learning approaches, physical environments, scopes of practice, use of interprofessional health workers etc. They represent diversity in culture, resources and geography and involve a diverse range of contexts and stakeholders.

This study also provides the opportunity to reflect on the country-specific experiences in PHC settings around the world. It offers a locus for global discussion to review and contextualize the mechanisms that shape IPE and CP. For example, health legislation in Brazil includes a National Primary Health Care Policy stemming from a constitutional reform in the 1980s that led to the establishment of family health teams. The Brazil case study is government funded and a tangible expression of the government's commitment to PHC. In the Canadian case studies there is strong government as well as academic leadership in IPE, with the explicit goal of promoting team-based learning. Supportive policies which align the work of universities, agencies and government were described. The Canadian programmes are examples of collaborative environments which promote both interprofessional curricular development and implementation as well as practical interaction between health disciplines. In Ontario, Canada, IPE courses are mandatory in the undergraduate programmes of all health disciplines. It is clear from all the settings studied that professional educators are key players; other major stakeholders include professional bodies, universities, NGOs, international agencies, donors, charitable foundations and community organizations. The Andhra Pradesh, India case study describes a different model where nurses manage the PHC programmes and assume extended roles by performing tasks seen as the responsibility of different professionals in other countries, including the resource-rich countries studied.

6.1 Summary of enablers in case studies

Administrative and institutional support

CP thrives in a work culture nourished by administrative and institutional support (Martin-Rodriguez et al. 2005). Without administrative support, organizations face challenges in integrating CP methods into their curricula, logistics,

scheduling etc. (Gilbert 2005; Martin-Rodriguez et al. 2005; Barker, Bosco & Oandasan 2005). Institutional support in the forms of shared operating resources and supportive management was received by all the organizations surveyed for this project. These institutional supports involve relevant governance models, structured protocols, communication strategies and shared operating procedures. A deeper understanding of these mechanisms and the contexts in which they are negotiated is vital for implementing successful IPE and CP. While informal networking and regular meetings were consistently reported, the Canadian cases were particularly innovative in their use of electronic messaging between team members to ensure effective communication, and in their use of communication boards, as well as improved patient bedside information boards and scheduling boards, and development of websites. Settings supported by legislation on PHC and regulations requiring interprofessional training in student curricula, such as Brazil and Canada, produced strong innovative and collaborative programmes.

Leaders and champions

Leaders and champions are essential enablers for promoting and sustaining interprofessional initiatives (Bennett et al. 2011). Leadership and commitment at the executive level are cited as being fundamental to the success of IPE initiatives (Barker et al. 2005). Consistent with the literature review, the importance of effective leaders and champions and organizational management support as enabling mechanisms for IPE and CP were highlighted in all the case studies. For instance, in the South Africa case study the PHC organization created learning networks where it serves as facilitator. These networks serve as skills and knowledge hubs. In the examples from Brazil, Canada, India and the USA leaders come together in committees to advance IPE and CP.

The Brazil project's care model benefits from the support of the university, garnering knowledge from its various departments to allow students of all health disciplines to develop attitudes, competencies and skills for CP, promoting the concept of integrated care. The matrix model of management was identified as supporting team decision-making in patient care.

The Alberta, Canada case study described management as a driving force behind the success of IPCLU initiatives, taking a leadership role in bringing together decision-makers to advance IPE initiatives in Alberta. The Ontario, Canada case study showed that provincial government support for family health teams facilitated the IPE initiative. The collaborators in India provided institutional support, and nurses were identified as leaders and champions in a successful project following a "task shifting" model. This collaborative model facilitated shared decision-making by all institutional partners and team members.

Physical environment and space design

The physical layout of work and education environments plays a key role in facilitating collaboration and promoting teamwork, communication and organization (Mitchell et al. 2006; Barker et al. 2005; Morey et al. 2002). A positive work environment with physical spaces designed to facilitate cooperation between team members to engage in interprofessional learning is an important enabler. However, the Ontario, Canada case study is the only one that specifically identified the co-location of the service and academic sites for IPE and CP as an enabler for the programme. Case studies in resource-constrained settings identified problems with space and equipment which are not conducive to interprofessional care.

6.2 Summary of barriers in case studies

Professional cultures and stereotypes

In the process of establishing unique professional identities, health-care professionals often overlook the value of teamwork and collaboration. Numerous studies have found evidence of professional cultures and stereotypes being adopted by health professionals (Barker et al. 2005; Clark 2011; Ginsburg & Tregunno 2005; Herbert et al. 2007; Makary et al. 2006; Morey et al. 2002; Orchard 2010). One of the most prevalent stereotypes among physicians is that they see themselves as “leaders” and “decision-makers” whereas other health-care professionals are considered to be “team players” (Fewster-Thuente 2008). Recognizing that these stereotypes and attitudes become more entrenched with time, a number of scholars have emphasized the importance of addressing students’ beliefs and assumptions early in their professional training (Baker et al. 2011; Coster et al. 2007; Gilbert 2005; Herbert et al. 2007). The Brazilian and Canadian case studies demonstrate initiatives introducing mandatory IPE programmes early in health professional curricula; other case study settings do not have this IPE requirement.

Inconsistent use and different understandings of language

A wide range of terminology is used interchangeably to describe CP; health professionals also have different understandings of what it means to “collaborate” (Barker et al. 2005; Makary et al. 2006). All the case studies showed that inconsistent use of language concerning CP and related concepts resulted in inconsistency in reporting CP-related issues, which made data gathering and analysis more challenging.

Accreditation and curricula

Accreditation bodies for health professions determine what is included and what excluded from their curricula. Successful implementation of CP requires the inclusion of IPE in accreditation and registration requirements (Bennett et al. 2011). While accreditation was not a focus in the case studies, participants in India commented on accreditation

by government or educational institutions, and defined accreditation as the continuing assessment of staff/volunteers by methods including feedback, testing and review processes.

Shared vision

A shared vision was identified as a key enabler in the literature, helping to unify a team, and facilitating the achievement of its common goals (Chambers et al. 2010). While all the programmes studied here define their goals, they do not label these as a shared vision. Only programme-specific goals were described, such as providing comprehensive HIV care, helping to fill existing gaps in health-care systems, and promoting relationships between academics, the community and health services in PHC, as well as goals on IPE for CP.

6.3 Guiding principles for developing interprofessional education and collaborative practice

Despite differences between the case study settings, there are common mechanisms that unify these cases in shaping IPE and CP. The mechanisms identified in all cases and in the literature include: shared vision, shared governance, government infrastructure, supportive legislation for health and education sectors, dedicated funding and resources, and strong linkages between academia and clinical sites. While many of the insights on CP are context-dependent and not generalizable, these global case studies nonetheless provide transferrable knowledge: practice-based evidence which can guide and inform CP.

First and foremost, health leaders and governments must assess their strengths and weaknesses in terms of the enablers, barriers and mechanisms that shape IPE and CP, and take appropriate action in their local context. As outlined in the WHO Framework, countries need to assess what is currently available, build on it, and work towards integrating IPE and CP into primary health programmes. It is important to examine a country’s local context to determine its needs and capabilities in order to champion the integration of the enabling mechanisms that shape interprofessional collaboration into new and existing programmes. Fostering strong partnerships globally, across sectors, and between academics and practitioners is vital, and could provide the funding, infrastructure and other resources required.

Health workers need IPE in order to work collaboratively, to be practice-ready and to maximize their team-working skills (Frenk et al. 2010). Developing IPE requires both educator and curricular mechanisms, and strong links between the academic and health sectors. Integrating IPE into health discipline curricula at an early stage, and creating innovative pedagogical strategies relevant to the local context, are essential (Gilbert, 2005). In addition, accreditation and professional bodies need to be engaged in IPE in order to

integrate IPE into health discipline accreditation and curricula (Bennett et al. 2011).

With collaborative, practice-ready health workers, practice level mechanisms are necessary to achieve optimal health services (Reeves 2002). Institutional and work culture supports need to be in place (Barnsteiner et al. 2007). Creating relevant models of shared governance will facilitate CP between different health professionals and across sectors. Champions and leaders are necessary to advance the agenda of CP by advocating and negotiating for policy and management supports (Bennett et al. 2011; Mitchell et al. 2006). Contextual strategies can then be developed and integrated into new and existing programmes, including structured protocols, shared decision-making and communication processes. CP teams in different countries and settings need to be financially supported, competently led, and empowered to develop innovative models that are relevant to their local contexts (Mickan et al. 2010).

6.4 Suggested further research

While the six case studies do not reflect all regions of the world, and therefore cannot be generalized globally, the examples together present a picture that reflects the enablers and barriers identified in the literature review. The results of these case studies support the growing evidence that, in spite of many barriers, this style of collaborative health-care delivery and IPE offers real advantages.

More research is necessary to understand the contextual complexities of CP, and its country and regional variations.

International comparative studies that are asset-based can improve the understanding of the achievements in different regions with different resource allocations. Comparative research studies with a more targeted selection of comparable cases in similar contexts will be very useful.

Evaluation research in IPE and CP is needed urgently. Ongoing evaluation can exceed the current confines of knowledge and identify more effective and efficient approaches for achieving CP. The findings of these case studies demonstrate insufficient support for and evaluation of existing interprofessional collaborative projects. In order to determine whether things went as planned, and whether specific efforts achieved their desired results, ongoing evaluation must be incorporated into all the initiatives and activities. The results will inform policy-makers, health practitioners, leaders and managers in all sectors. Additionally, such evaluation will inform educators in their efforts to identify the principles and pedagogical strategies necessary for successful IPE initiatives.

Methodologically, when conducting international research, this study highlighted the fact that all key concepts in survey instruments need to be clearly defined in order to ensure consistency in responses and to avoid missing data. This will allow better comparisons to be made, and common themes identified. Alternatively, a multi-step process in which the initial case study findings are received and reviewed and then additional questions asked may improve the consistency of the findings within categories.

The growing importance of IPE and CP for successful PHC, as a means of strengthening health systems and improving health outcomes, necessitates further research.

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Interprofessional education and collaborative practice can play a significant role in mitigating many challenges faced by health systems around the world. As professionals, nurses' and midwives' work is largely directed towards care. To be effective, teamwork is critical. A greater understanding of the barriers and possible solutions for interprofessional education and collaborative practice is essential. This document discusses collaborative practice through the lens of primary health care. The document begins by outlining what the literature reveals and presents six case studies which show that there is growing importance of interprofessional education and collaborative practice as a means of strengthening health care provision. However, to adequately demonstrate its effectiveness further research is required.

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