Interprofessional Education for Collaborative Patient-Centred Practice

Research Synthesis Paper

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Introduction

The 2003 First Ministers' Health Accord on Health Care Renewal noted that appropriate planning and management of health human resources (HHR) is key to ensuring that Canadians have access to the health care providers they need, now and in the future. This commitment builds upon the important work of Senator Michael Kirby, Q.C. Commissioner Roy Romanow, and several others before them. Strengthening the evidence base for national HHR planning, improving recruitment and retention, and promoting interprofessional education for collaborative patient-centred practice are fundamental to securing and maintaining a stable and optimal workforce in Canada. They will support health care renewal and increase the capacity of the health system to meet new and emerging health issues and crises.

Changing the way health providers are educated is key to achieving system change. Commissioner Romanow stressed this point in his final report of the Commission on the Future of Health Care in Canada, stating that "the direction of our health care system must be shaped around health needs of individual patients, their families and communities" (p. 50). He emphasized the need to develop new models of care and new training approaches to reflect the differing methods of delivering health care services, stating "in view of . . . changing trends, corresponding changes must be made in the way health care providers are educated and trained. If health care providers are expected to work together and share expertise in a team environment, it makes sense that their education and training should prepare them for this type of working arrangement" (p. 109). The 2003 Federal Budget supports these statements: "ongoing changes in the delivery of health care services, particularly the trend towards multidisciplinary, team-based approaches in primary care, mean that the roles and responsibilities of various health care providers are evolving" (p. 78).

Collaborative patient-centred practice is a practice orientation, a way of health care professionals working together and with their patients. It involves the continuous interaction of two or more professions or disciplines, organized into a common effort, to solve or explore common issues with the best possible participation of the patient. Collaborative patient-centred practice is designed to promote the active participation of each discipline in patient care. It enhances patient and family-centred goals and values, provides mechanisms for continuous communication among caregivers, optimizes staff participation in clinical decision-making within and across disciplines, and fosters respect for the disciplinary contributions of all professionals.

The interprofessional education for collaborative patient-centred practice (IECPCP) initiative will facilitate and support the implementation of an approach to interprofessional education (IE) for collaborative patient-centred practice across all health care sectors. The overall goals of the initiative are to contribute to improved patient satisfaction, increased patient and provider satisfaction and, ultimately, improved patient outcomes.

The specific objectives of the initiative are to:

- promote and demonstrate the benefits of interprofessional education for collaborative patient-centred practice;
- increase the number of health professionals trained for patient-centred interprofessional team practice at the level of entry-to-practice, graduate education and continuing education; and
- stimulate networking and sharing of best educational practices for collaborative patient-centred practice.

Phase one of the initiative (2003-2004) is intended to provide the background for the initiative in terms of knowledge development and research. The two major research and knowledge development activities undertaken during this first phase included:
i. an extensive literature review and environmental scan concerning IECPCP; and
ii. a series of discussion papers focusing on specific themes related to IECPCP.

Evidence-based decision-making has become a growing expectation in our health system and, in particular, for health policy formulation (Shamian, Skelton-Green & Villeneuve, 2002). Policy development is based on the sound application of evidence to practice. Health policy has been defined as "the principles, plans and strategies for action guiding the behavior of organizations, institutions and professions involved in the field of health, as well as their consequences for the health-care system" (West & Scott, 2000, p. 818.). Figure 1 provides an overview of a conceptual model for public policy development and implementation. Adapted from Tarlov (1999), "The Policy Cycle" identifies the key steps in policy formulation, development and implementation:
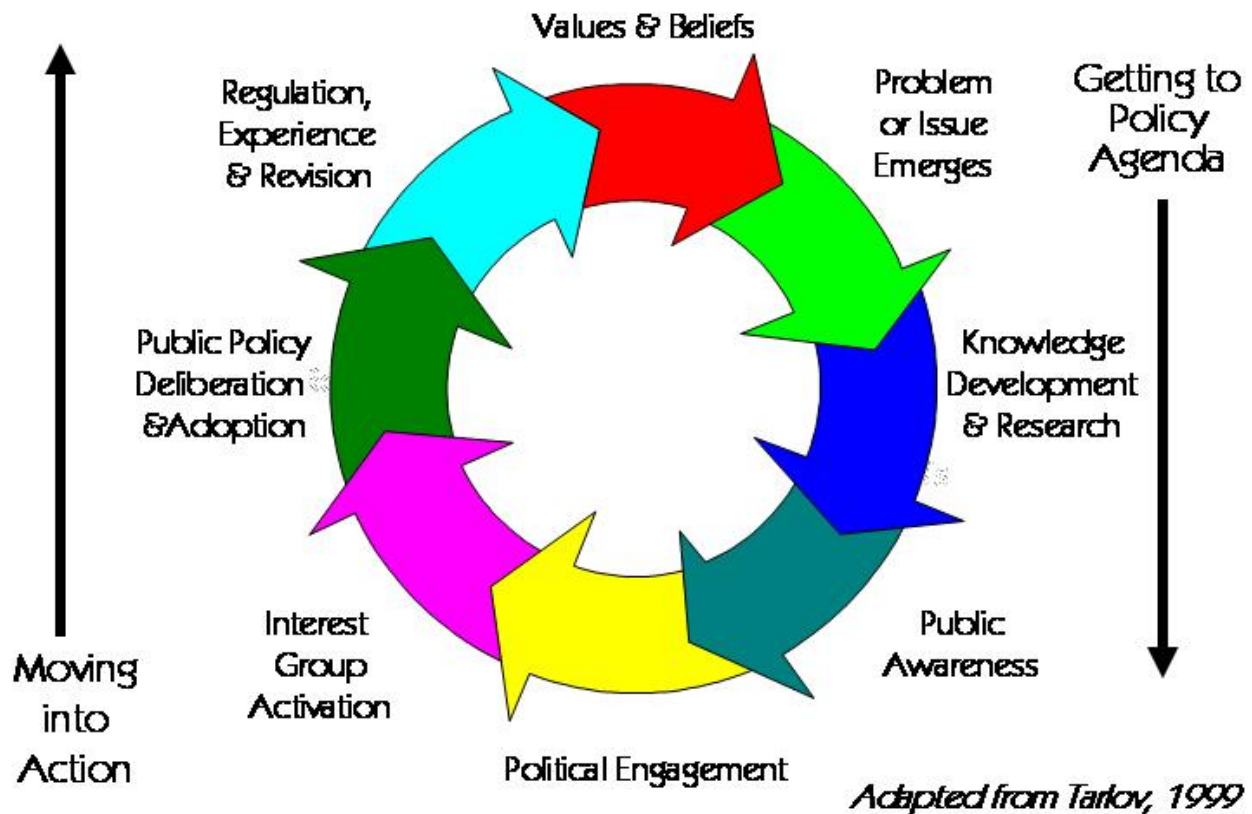1. values and cultural beliefs;
2. emergence of problems or issues;
3. knowledge and development of research;
4. public awareness;
5. political engagement;
6. interest group activation;
7. public policy deliberation and adoption; and
8. regulation, experience, and revision.

The policy cycle is also based on two distinct phases, each of which is anchored by a particular step in the cycle (Shamian et al., 2002). The first phase, *Getting to the Policy Agenda*, is anchored by beliefs and values. "If society and its representative structures do not value and believe in the issues that are put forth in the policy arena, the issues will have no oxygen to feed them and will die on the floor" (Shamian et al., 2002, p. 91). The second half of the cycle, *Moving into Action*, is anchored by political engagement. "To advance an issue to policy and then to action, political engagement is required" (p. 91).

A key stage in the policy development cycle is *Knowledge Development & Research*. Effective policy is best linked with research findings. The first phase of the IECPCP initiative is intended to form the basis for such policy formulation and development. The research findings summarized in this synthesis paper and described in greater detail in the research reports and discussion papers published to date are intended to inform policy development and implementation surrounding the IECPCP initiative. This synthesis paper is intended to provide a

Figure 1: The Policy Cycle

The Policy Cycle

Values & Beliefs

Regulation, Experience & Revision

Problem or Issue Emerges

Getting to Policy Agenda

Public Policy Deliberation & Adoption

Knowledge Development & Research

Interest Group Activation

Public Awareness

Moving into Action

Political Engagement

Adapted from Tarlov, 1999

broad overview of the main themes emerging from the research conducted during this first phase of the IECPCP initiative. This paper is an overview and as such readers are advised to consult and review each specific paper or report referenced in this paper for more detailed and specific research findings or discussion.

It is important to highlight the significance of "language" as we examine the area of interprofessional education and collaborative patient-centred practice. A number of the researchers and authors involved in the preparation of IECPCP reports or discussion papers identified the importance of "reaching agreement" and "consensus" on the use of language, as well as the differences and similarities between terminologies to describe and discuss interdisciplinary/interprofessional education and collaboration (Oandasan et al., 2004; Gilbert, 2004; Steinert, 2004; Cook, 2004). In their research report, Oandasan et al. (2004) make it clear that there is a need for common terminology in using the words "interprofessional" or "interdisciplinary" education for collaborative practice amongst providers and users of the health care system. Therefore, in order to add clarity to the language and to the concepts being discussed and described, this paper draws on the following definitions provided by Oandasan et al. (2004) in their research report:

Interprofessional/Interdisciplinary Education: *"occasions when two or more professions learn from and about each other to improve collaboration and the quality of care." (CAIPE, 1997 revised)*

Collaboration: *"an interprofessional process of communication and decision making that enables the separate and shared knowledge and skills of health care providers to synergistically influence the client/patient care provided." (Way & Jones, 2000)*

Collaborative Patient-Centred Practice: *"is designed to promote the active participation of each discipline in patient care. It enhances patient and family centred goals and values, provides mechanisms for continuous communication among care givers, optimizes staff participation in clinical decision making within and across disciplines and fosters respect for disciplinary contributions all professionals." (Health Canada, 2003)*

For the purposes of this paper the term interprofessional and interdisciplinary will be used interchangeably and are intended to imply the same purpose and/or meaning as described in the previous definitions. In most instances, the usage of these terms in this paper will reflect the actual usage of the terms by the authors of the various research reports and discussion papers.

Literature Review and Environmental Scan

The first major piece of research work informing the IECPCP initiative was an extensive literature review and environmental scan undertaken by a multidisciplinary group of researchers led by Dr. Ivy Oandasan, MD, CCFP, MHSc of the University of Toronto. The literature review and environmental scan were conducted from December 2003 to January 2004. The environmental scan included both an on-line survey and in-depth interviews with key informants. The team of researchers included:

- Ivy Oandasan, MD, CCFP, MHSc
- Danielle D'Amour, RN, PhD
- Merrick Zwarenstein, M.B., B.Ch., M.Sc., M.Sc (Med.)
- Keegan Barker, BA, M.Ed
- Margaret Purden, R.N., Ph.D.
- Marie-Dominique Beaulieu, MD, MSc, CCMF
- Scott Reeves, BSc, MSc, PGCE
- Louise Nasmith, MDCM, MEd, CCFP, FCFP
- Carmela Bosco
- Liane Ginsburg, PhD
- Deborah Tregunno, RN, PhD

The research team prepared a comprehensive research report detailing the results of the literature review, surveys and interviews which were conducted. The report prepared by the research team contained the following objectives to:

- deliver a clear understanding of the evidence of interdisciplinary care and interdisciplinary education as it relates to improved patient outcomes;
- identify policies and infrastructure that both help and hinder implementation and sustenance of interdisciplinary education and practice;
- identify and understand the educational processes that foster and aid the development of interdisciplinary patient care for health care providers at all levels of the system as lifelong learners; and
- understand and identify how to foster networks that will promote collaborative knowledge sharing and resource development.

Discussion Papers

A series of discussion papers were also commissioned by Health Canada. The purpose of these discussion papers is to examine in greater detail specific themes related to interprofessional education and collaborative patient-centred practice. A number of these themes were identified as important issues by the IECPCP National Expert Committee (NEC). These discussion papers were intended to complement the literature review and environmental scan research by providing specific and focused examination on key elements and issues related to IECPCP. Table 1 provides an overview of the discussion paper topics, authors and descriptions of the content of each paper.

Table 1	Interprofessional Education for Collaborative Patient-Centred Practice Discussion Papers	
Topic	**Author**	**Description**
Interdisciplinary Learning and Higher Education Structural Barriers	John Gilbert, PhD	The purpose of this paper is to: • identify and describe characteristics of curriculum structures of Canadian health professional education programs which act as barriers; • identify and describe characteristics of administrative structures of Canadian health professional education programs which act as barriers (scheduling, academic policies, grading, etc); and • identify and discuss recommendations, means and strategies for addressing and overcoming these barriers.
Interdisciplinary Learning and Academia: Attitudes Towards Interdisciplinary Learning Among Canadian Schools of Health Professional Education	Vernon Curran, PhD	The purpose of this paper is to: • design and construct a questionnaire survey of attitudes towards interdisciplinary learning, perceived barriers and challenges, and academic administrator needs; • conduct a questionnaire survey of senior health professional education administrators across Canada using this survey; and • identify attitudes towards interdisciplinary

		learning among Canadian health professional education administrators.
Interdisciplinary Learning: Principles and Methods	Marcel F. D'Eon, PhD	The purpose of this is to: • explore theories and principles of learning and the relevance and implications to the design and facilitation of interdisciplinary learning; • identify, discuss and describe key learning methods which would be effective in facilitating interdisciplinary learning; and • identify, discuss and describe learning approaches which would be effective in facilitating interdisciplinary learning.
Models of Interdisciplinary Learning	David Cook, PhD	The purpose of this paper is to: • identify and describe the specific characteristics of models of interdisciplinary learning programs in Canada throughout the health professional education continuum (undergraduate, postgraduate, and continuing professional education); • each model should include a detailed description of the design of the respective interdisciplinary learning program.
Interdisciplinary Learning and Faculty Development	Yvonne Steinert, PhD	The purpose of this paper is to: • identify and discuss approaches to faculty development which may address these barriers and challenges and foster positive attitudes towards interdisciplinary learning; and • discuss and describe faculty development approaches for raising awareness and fostering competencies in interdisciplinary learning design and facilitation.
Interdisciplinary Teamwork: Professional Cultures as Barriers	Pippa Hall, MD, CCFP	The purpose of this paper is to: • describe the similarities and differences between the philosophical approaches, value and belief systems of physicians and other allied health care professionals as they relate to patient care; and • identify and discuss the nature and characteristics of professional socialization which health professional students from various health professions are exposed to during their education and training.
Regulatory Barriers to Interdisciplinary	William Lahey, LLB	The purpose of this paper is to: • identify, describe and discuss regulatory,

Teamwork	Robert Currie, LLB	scope-of-practice and medico-legal issues which are potential barriers to collaborative, interdisciplinary health care practice in Canada; and • identify, describe and discuss means for addressing and overcoming these regulatory, scope of practice and medico-legal issues to foster greater collaborative, interdisciplinary health care practice in Canada.
Patient-Centred Collaborative Care Practices	Judith Belle Brown, MD, CCFP	The purpose of this paper is to: • define and describe key characteristics of a patient-centred approach to collaborative health care delivery; • identify and describe a conceptual model(s) of patient-centred collaborative care; identify, define and describe key competencies (knowledge, skills and attitudes) expected of a health professional using a patient-centred collaborative approach; and • identify key aspects and issues of "diversity" (ethnic, cultural, age, gender) which should be addressed through teaching and learning focusing on patient-centred collaborative care.

(Note: all further references to work by Gilbert, Curran, D'Eon, Cook, Steinert, Hall, Lahey and Currie, and Brown refer to the above 2004 discussion papers unless otherwise indicated.)
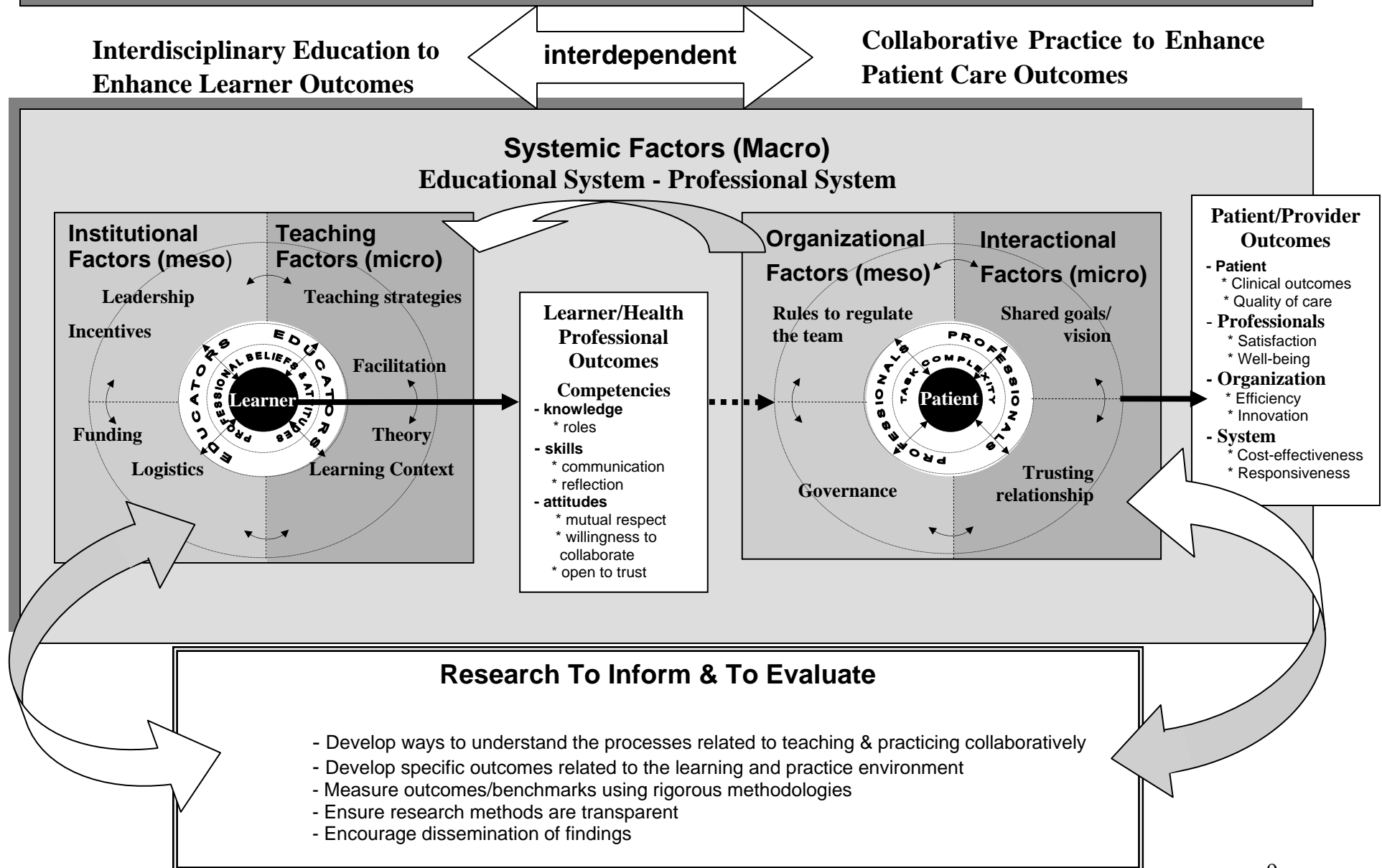
IECPCP Synthesis Framework

In their research report, D'Amour and Oandasan (2004) propose a conceptual framework for describing the various factors, determinants and elements underlying and influencing IECPCP. The authors use micro, meso and macro conceptual levels as major organizing themes within the framework. (Note: all further references to D'Amour and Oandasan are for this 2004 conceptual framework unless otherwise indicated.)The main factors, determinants and elements influencing IECPCP are described in relation to these levels. A key aspect of the framework is that it highlights the interdependent nature of interdisciplinary education and collaborative practice. Both interdisciplinary education processes and collaborative patient-centred practice are represented as separate components within the framework (Figure 2), however there is a significant level of interdependency between both components. At the pre-licensure (undergraduate) level of training, there must be opportunities for interdisciplinary education to be facilitated in settings in which collaborative practice is modeled by health professionals. Accordingly, there is a need to foster those collaborative practice settings and assist practitioners in developing both competence and willingness to work collaboratively.

The first component of the framework *Interdisciplinary Education to Enhance Learner Outcomes* describes the factors, determinants and elements influencing interdisciplinary education processes. The learner is placed at the centre of this component and a variety of factors directly and indirectly influence the learner's ability to develop collaborative patient-centred practice competencies. According to Oandasan et al., "learners are central to the interdisciplinary educational processes as depicted in the square." The nature of these various elements and determinants will be discussed later. The second component of the framework *Collaborative Practice to Enhance Patient Care Outcomes* describes those factors, determinants and elements which influence collaborative patient-centred practice. In this component, the patient is the central focus as his/her health care outcomes are affected by the collaborative, interdisciplinary team processes.

The *micro* and *meso* level elements of interdisciplinary education and collaborative patient-centred practice are interactional, depicted in each of the components by the bi-directional arrows. According to D'Amour and Oandasan, these determinants "influence and inform each other . . . one may be catalyst or another barrier . . . . .the relationship is dynamic." At an overarching level, D'Amour and Oandasan's framework identifies a number of broad *macro* systemic structures which influence IECPCP. These include the educational and professional systems, as well as government policies (federal/provincial/regional) and social and cultural values. Decisions made by government (in the areas of education, health and social policies) as well as profession-specific policies (like those from regulatory bodies) all influence IECPCP. Professional and societal cultural values can also influence IECPCP. If IECPCP is to be promoted and fostered, Oandasan et al. suggest that collaboration between educators, practitioners, researchers and policy-makers will be required.

Underlying the interaction between the two key components of *Interdisciplinary Education* and *Collaborative Practice* is "research to inform and to evaluate." D'Amour and Oandasan suggest that "as a field of practice" there is still much to be learned about both interdisciplinary education and collaborative practice. They highlight the importance of both quantitative and qualitative research domains in this regard, and research into both the learning and practice environments. The large arrows in the framework describe the iterative feedback loop that crosses all micro-meso and macro levels. The arrows also suggest that research in interdisciplinary education and collaborative practice can inform each other.

Figure 2 A Conceptual Model of Interdisciplinary Education for Collaborative Patient-Centred Care

Interdisciplinary Education to Enhance Learner Outcomes

interdependent

Collaborative Practice to Enhance Patient Care Outcomes

Systemic Factors (Macro)
Educational System - Professional System

Institutional Factors (meso)
Leadership
Incentives
Funding
Logistics

Teaching Factors (micro)
Teaching strategies
Facilitation
Theory
Learning Context

Learner

Learner/Health Professional Outcomes

Competencies
- **knowledge**
  * roles
- **skills**
  * communication
  * reflection
- **attitudes**
  * mutual respect
  * willingness to collaborate
  * open to trust

Organizational Factors (meso)
Rules to regulate the team
Governance

Interactional Factors (micro)
Shared goals/ vision
Trusting relationship

Patient

Patient/Provider Outcomes
- **Patient**
  * Clinical outcomes
  * Quality of care
- **Professionals**
  * Satisfaction
  * Well-being
- **Organization**
  * Efficiency
  * Innovation
- **System**
  * Cost-effectiveness
  * Responsiveness

Research To Inform & To Evaluate

- Develop ways to understand the processes related to teaching & practicing collaboratively
- Develop specific outcomes related to the learning and practice environment
- Measure outcomes/benchmarks using rigorous methodologies
- Ensure research methods are transparent
- Encourage dissemination of findings

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D'Amour & Oandasan, 2004

Interdisciplinary Education to Enhance Learner Outcomes

Interdisciplinary Education to Enhance Learner Outcomes	
Teaching Factors (Micro Level)	**Institutional Factors (Meso Level)**
• Teaching Strategies	• Leadership
• Facilitation	• Incentives
• Theory	• Funding
• Learning Context	• Logistics

According to Parsell & Bligh (1999), interdisciplinary education:
- promotes interprofessional collaboration;
- involves interactive learning between professional groups;
- develops knowledge and understanding of other professions;
- encourages professionals to learn with, from and about one another; and
- respects the integrity and contribution of others.

Interdisciplinary education is not an end in itself, but a means of preparing different types of health personnel to work together. Interaction is an important element of interdisciplinary education ─ interaction with learners from other health professions. According to D'Amour and Oandasan's framework, "learners" are at the centre of the interdisciplinary educational process. The learner's readiness for collaborative patient-centred practice is influenced by the development of certain competencies. In Table 2, Barr (1998) describes interdisciplinary education competencies which encompass the domains of knowledge, skills and attitudes. Oandasan et al. suggest that if the goal of interdisciplinary education "is to teach collaborative practice [then] the content must be on *interdisciplinary* knowledge, skills and attitudes."

Table 2   Collaborative Competencies – Summarized (Barr, 1998: 181)
1. Describe one's roles and responsibilities clearly to other professions.
2. Recognize and observe the constraints of one's role, responsibilities and competence, yet perceive needs of patients/clients in a wider framework.
3. Recognize and respect the roles, responsibilities and competence of other professions in relation to one's own.
4. Work with other professions to effect change and resolve conflict in the provision of care and treatment.
5. Work with others to assess, plan, provide and review care for individual patients.
6. Tolerate differences, misunderstandings and shortcomings in other professions.
7. Facilitate interprofessional case conferences, team meetings, etc.
8. Enter into interdependent relationships with other professions.

Interdisciplinary education should assist learners to develop enhanced communication skills, capabilities and readiness to handle conflict situations, an aptitude for group work, critical thinking, analysis, creativity and self-learning. It is important to develop collaborative teamwork skills first (e.g. crossdisciplinary communication, teamwork, conflict resolution). These are essential skills which learners need for the interpersonal dynamics required in an interdisciplinary health care approach. Cook reports that any interdisciplinary education

experience should be based on two clear goals:

1. the students will learn about the roles of the other professions, and how it interfaces with their own role; and
2. the students will learn key behaviors to make the health team functional.

The structure, knowledge and skill-based content of interdisciplinary education should rest on the following principles:

Goal-directedness. It is important that the underlying curriculum of shared learning initiatives be focused on some form of "idea dominance", that is, a clear and recognizable idea which can serve as a central focus for the work which is embodied in a concept or model transcending disciplinary boundaries.

Disciplinary Articulation. In order to function effectively as an interdisciplinary learning team, participants must understand each other's roles.

Communication. Communication must be geared towards helping team members from other disciplines arrive at an understanding of the "cognitive structure governing each discipline" (i.e., the cognitive map). Effective communication enables members to recognize the importance of other perspectives on the problem and to incorporate them into their own recommendations for a solution (Clark, 1991).

Flexibility. Flexibility encompasses a range of essential attributes:
- open-mindedness;
- tolerance;
- willingness to experience new modes of interaction;
- acceptance of changes in authority and status; and
- a desire for challenge.

Conflict Resolution. Interdisciplinary education should develop the communication skills, capabilities and readiness of students to handle conflict situations that arise in the course of teamwork.

Group Skills. Learners need to be aware of the different stages of team development and educators should assist students to identify these various stages during the process of interdisciplinary education.

Leadership Skills. Leadership for different tasks may rotate among team members as the need and focus changes. Learners should be prepared to undertake this leadership role in interdisciplinary teams.

The development of these knowledge, skills and attitudes is influenced by the beliefs and attitudes which learners develop towards interprofessional collaboration. Educators play a key role in modeling and influencing the development of professional beliefs and attitudes during the educational process. Beliefs and attitudes are often acculturated during the socialization process of professional education (Hall; Gilbert; D'Amour and Oandasan). The beliefs and attitudes, as

well as the value system in which learners are socialized can influence attitudes towards collaboration. Professional identity is often shaped by the role modeling exemplified by educators and mentors. Therefore, the professional beliefs and attitudes of educators related to collaborative practice are critical.

Parsell & Bligh (1999) have categorized the various barriers to interdisciplinary education into the following categories:

Structural. This includes:
- time-tabling difficulties;
- requirements of professional bodies (graduation, accreditation);
- practical difficulties (professional schools located in different buildings);
- time (for course planners to meet); and
- financial constraints.

Attitudes. This includes:
- lack of senior management support;
- lack of commitment; and
- unwillingness to change attitudes.

Curriculum/Teaching. This includes:
- curriculum structures and design;
- single subject approach to teaching;
- need for new forms of teaching and learning; and
- training teachers for different roles.

Professional/Disciplinary. This includes:
- lack of knowledge and understanding of other professions;
- redrawing of professional boundaries; and
- separate professional languages and concepts.

The following sections describe the various factors, determinants and elements of interprofessional education at the micro and meso levels as depicted by D'Amour and Oandasan's framework.

Teaching Factors (Micro)

Pomeroy and Philip (1994) have identified a number of components related to successful curriculum design, structure and content for interprofessional education:
- teaching material needs to be experiential, clinically based and address real-life issues;
- an interdisciplinary teaching team is important;
- educational experiences are more effective if they are provided over the span of professional training; and
- timing of the training needs to be responsive to differences in undergraduate programs, including the amount of clinical experience, depth of knowledge in different areas and

flexibility of curriculum time-tabling.

Oandasan et al. suggest that a variety of teaching factors and associated teaching elements influence the interdisciplinary education process.

Teaching Strategies

D'Eon suggests that "learning in teams" is best facilitated by the progressive mastery of more and more complex situations in several domains of learning, while at the same time incorporating the best practice principles of cooperative and experiential learning processes. Learning to become a member of an interprofessional team is an experiential process and interactive approaches to learning are a recommended approach to interprofessional education. These approaches should draw upon real-life clinical problems to stimulate interprofessional problem-solving and should incorporate small group, experiential methods of learning.

Cooperative learning (CL) strategies are especially useful for learning to work in teams (D'Eon). The five critical features of cooperative learning include: positive interdependence, face-to-face promotive interaction, individual accountability, interpersonal and small group skills, and group processing (D'Eon). Positive interdependence means that the students strive together to reach a goal that to some extent they share. Face-to-face promotive interaction means purposeful activity such as discussion, debate, and joint decision-making. Individual accountability means that each individual is held responsible for contributing a fair share to the success of the group. The element of interpersonal and small group skills involves teaching members the team skills needed to succeed. Finally, group processing is reflecting on the actions (both group and individuals) that contribute (or not) to the effectiveness of the group process. The CL model is a very good match to actual teamwork that can simulate and train functional, real-life interdisciplinary teams.

Small group learning methods are identified as key strategies for facilitating interprofessional education. Several of the researchers identified case-based learning (CBL) and problem-based learning (PBL) methods as useful instructional strategies for facilitating interprofessional education (Oandasan et al.; D'Eon; Steinert). The nature and characteristics of small group learning strategies provide optimum processes for interprofessional education experiences. Oandasan et al. identify several key factors which need to be considered in the organization and design of small group learning: group balance; group mix; and group stability. It is important to ensure that there is an equal mix of learners from each profession in small group learning as it promotes good interprofessional interaction. According Oandasan et al., if the group is skewed in favor of one profession it may inhibit interaction. Group size should also be kept in mind, as large groups can influence interaction. An optimal group size is around 8 to 10 members. The stability of group members is also important as high turnover can impact the quality of the learning experience.

A highly regarded method for facilitating interprofessional education is problem-based learning. PBL techniques encourage discussion and critical thinking, and enable the integration of theory with clinical components. The PBL approach helps learners to listen to each other and to collaborate as they work to resolve the problems. Case-based learning is a variation of PBL and

both methods are based on principles of cooperative and constructivist learning. Cook identifies case-based learning as the most popular learning method for facilitating interprofessional education at the undergraduate or pre-licensure level among Canadian institutions of higher education. According to D/Eon, learners must be able to transfer what they have learned to the real-world and the use of cases is useful in establishing a real-world context in which the new learning is to be used. Working with cases "exposes students to problematic, real-world situations and challenges them to apply course knowledge to analyze the issues and formulate workable solutions".

Oandasan et al. stress the importance of experiential learning experiences in practice settings in which successful collaborative practices are modeled and learners have the opportunity to observe collaboration in action. Oandasan et al. report that a large number of the interdisciplinary education initiatives reported in the literature are based on experiential "clinical" learning experiences in which learners are immersed in a collaborative practice setting. The incorporation of teaching methods which involve clinical placement, the use of a simulated clinical environment or going to meet and talk to service users about their health needs are recommended.

Another approach for facilitating interprofessional education is based on service learning models. Service learning is an experiential learning strategy in which learners provide direct community service while attempting to make a linkage between the service and their academic coursework (Oandasan et al.; D'Eon). Learners participating in service-learning activities are expected not only to provide direct community service, but also to learn about the context in which the service is provided, and to understand the connection between the service and their academic course work. A central theme of this learning is that it is based on the community's identified needs, issues, and problems. Its success depends on a true partnership in the development and implementation of a program, with equal involvement by learners, faculty, administrators and community participants.

The following are critical elements of service-learning:
• development in collaboration with the community;
• enhancement of the standard curriculum by extending learning beyond the classroom;
• fostering of civic and social responsibility and caring for others by the learner;
• application of what is learned by learners to real-world situations;
• provision of time for reflection, discussion, and leadership development; and
• identification and meeting of community needs and assets.

Service learning combines the preparation of learners to work in interprofessional teams or collaborative settings with the need for them to experience community-based learning opportunities. The placement of the health professional learner into the community shifts the power to the individual in his or her social context. In entering the patient's community, the learner is forced to broaden his or her scope of understanding of the "problem". Learners working in community settings are more likely to discover a broader base of overlap among the different professions they represent. As well, faculty members are more likely to adopt the role of "facilitator" helping students to see a much broadened basis for health in the "real world".

Other important teaching considerations relate to the status of the interprofessional education initiative. What are the perceptions of the initiative among the learners? Perception can be influenced by the mandatory or elective nature of the interprofessional education program. Cook found that "mandatory" participation in interprofessional education was the norm across institutions of higher education in Canada offering these programs. As well, whether the program is evaluated or not and whether learners are assessed in some way can also influence perception. Gilbert suggests that interprofessional education *must* be seen as part of the evaluated curriculum within a discipline, otherwise it has "no currency and no uptake."

Interprofessional education must also be relevant and contain appropriate content. Learners may find little value in general theoretical presentations that are not specifically tied to their own interests and needs. Therefore, applied, how-to materials that guide participants through processes of team development and trouble-shooting conflict are important. Typical, priority health problems that require interprofessional approaches for their solution should be used for training (WHO, 1988). These problems and tasks should require or benefit from team action and be capable of being solved or greatly reduced by teamwork.

Oandasan et al. report that there is little in the literature concerning methods for assessing collaborative practice competencies. A large number of the evaluation studies reviewed only reported use of attitudinal instruments for assessment. Such measures do not evaluate changes in knowledge or skill domains related to interdisciplinary competencies. One interesting approach to assessment has been reported by the University of Alberta. A Team Oral Structured Clinical Examination or (TOSCE) was developed and used to assess collaborative practice knowledge and skills. Innovative approaches to assessment of interdisciplinary competencies are required.

Educational theory

A number of the researchers identified the importance of adult learning theory and principles of adult learning in informing the design and teaching strategies of interprofessional education (Oandasan et al.; D'Eon; Cook; Steinert). Among the key principles identified by Oandasan et al. are the importance of creating non-threatening learning environments and providing opportunities for learners to develop skills as reflective collaborative practitioners. The use of journals and small group discussion activities are suggested as possible means for fostering the skills of reflective practice. Constructivist and collaborative learning theories also have important implications for the design of interprofessional education, particularly for those educational strategies which focus upon small group learning strategies.

Learning Context

The issue of "timing" for introducing interprofessional education is open to debate. There appears to be no clear evidence for supporting either view. Some have made the recommendation for interprofessional education in the early phases or stages of education. It is believed that early opportunities in undergraduate education for students to learn together will have a positive influence on attitudes and negative stereotyping, as well as teamwork and collaborative skills. The experience of shared learning at an early stage may facilitate better interdisciplinary collaboration. Others have argued that interprofessional education needs to take

place later in people's training. Proponents of this approach feel that individuals must first be secure in their professional roles before they can function effectively as team members (Oandasan et al.). Thorough knowledge of one's own discipline is essential to understand contributions to the team effort, therefore interdisciplinary education initiatives should be started at the senior student or postgraduate level. According to D'Eon, the element of mutual interdependence seems to suggest that students first need to have some training in their own disciplines before coming together to learn in interdisciplinary teams. However, D'Eon recommends that interaction among disciplines should not be left too late. Social identity theory suggests that the more people identify with their own group the less accommodating they will be to other groups. D'Eon suggests that health profession students should begin working together at least in limited ways as early as possible in their training.

Another camp believes that a continuous, early-to-late approach is necessary (Areskog, 1988). These individuals believe that regular reinforcement of knowledge and skills is necessary, as enthusiasm for teamwork diminishes over time unless learning is regularly enforced. The knowledge and skills learned during interprofessional training will likely erode without continued support and reinforcement through regular practical experience (Parsell & Bligh, 1999). Using interprofessional education throughout the curriculum ensures continuity and gradual progression from simple to more complex problems and skills (WHO, 1988). In order to achieve the "best effect", formal interprofessional education should be introduced early in basic or undergraduate curriculum, continued throughout that curriculum and then reinforced through postgraduate and continuing education. The use of interprofessional education throughout a curriculum ensures:

- continuity;
- gradual progression from simple to more complex problems and skills;
- acquisition of the habit of using an interdisciplinary approach; and
- the value of interprofessional education and interdisciplinary teamwork is appreciated more.

Facilitation

The training of teachers and tutors who lack interprofessional education experience is essential. The quality of teaching and supervision is of crucial importance to student learning. Educators must be capable of acting as role models, therefore faculty development is necessary to prepare faculty for their role as facilitators of shared learning. According to Gilbert, it is clear that academics who have been educated in close disciplinary bounds frequently display attitudes that are not commensurate with an interprofessional view.

Oandasan et al. suggest that the role of teacher in interdisciplinary education needs to be replaced with that of "facilitator" or "coach." Educators or interdisciplinary education facilitators need to be familiar with the underlying principles and concepts of interdisciplinary teamwork, as well as how to facilitate small group learning if that is the instructional method being used.

Steinert focuses on the role of "faculty development" in fostering the development and facilitation of interprofessional education. Faculty development refers to that broad range of activities institutions use to renew or assist faculty in their multiple roles. The goal of faculty development is to teach faculty members the skills relevant to their institutional and faculty

position. A review of the literature conducted by Steinert revealed very little concerning faculty development and interprofessional education. A number of authors have highlighted the need for faculty development in this area and the WHO Study Group acknowledged the relative absence of structured teacher training programs in the area of interprofessional education.

Steinert suggests that there is a need to provide teachers, in both the clinical and the classroom setting, with the knowledge, skills and attitudes to foster interprofessional learning. In particular, faculty development needs to encompass a focus on attitudinal change, increased understanding of the roles and responsibilities of other health care professionals, and skill acquisition in the areas being taught to students. Steinert recommends that faculty development programs include four key aspects: 1) personal development; 2) instructional development; 3) leadership development; and 4) organizational development. At the individual level, faculty development should:

- address attitudes and beliefs that impede successful interdisciplinary education and collaborative practice;
- transmit knowledge about interdisciplinary learning, practice and teaching; and
- develop skills in teaching, curriculum design and interdisciplinary work.

At the organizational level, faculty development should help to:

- create opportunities for learning together;
- empower teams and reward collaborative practices; and
- address systems issues that can impede interprofessional education.

Steinert recommends that faculty development initiatives should target the following actors: curriculum planners responsible for the design and delivery of interprofessional education programs; administrators responsible for education and practice; all health care professionals involved in teaching and learning; and the organizations in which interprofessional education and collaborative patient-centred practice occurs. Faculty development initiatives should address three main content areas: 1) Interdisciplinary Education and Collaborative Patient-Centred Practice; 2) Teaching and Learning; and 3) Leadership and Organizational Change. Steinert recommends that faculty development should take place where interdisciplinary collaborative patient-centred practice occurs. Thus, diverse programs and activities should move out of the university setting into the hospital and the community. Suggested formats for faculty for interdisciplinary education include:

- workshop, seminars and short courses;
- integrated longitudinal programs;
- peer coaching;
- self-directed learning;
- web-based learning; and
- clinical teaching rounds.

Steinert also suggests that these interdisciplinary faculty development programs should also model what we are trying to promote. In that sense, faculty development activities should be developed — and delivered — by individuals coming from different health care professions.

Institutional Factors (Meso)

A number of barriers to the successful implementation of interprofessional education have been identified. Barriers related to the perceived loss of professional and disciplinary status, curricular and scheduling challenges, and lack of familiarity and comfort with interdisciplinary education among universities and departments have been described. In some instances, there may also be an a certain level of "unwillingness" on the part of both students and teachers alike to experiment with new ways of learning and teaching, or with the use of different learning and teaching materials (WHO, 1988). According to Oandasan et al., the institution (higher education or hospital) plays a key role in controlling what is taught to learners. Gilbert believes that faculties as governance and management entities, faculty members, external associations, the diverse nature of academic programs, and the fragmentation of health and human service programs are some of the many potential barriers that effect change within the universities.

Curran conducted a survey of senior administrators of health professional education programs in Canada in which respondents were asked to identify the perceived barriers to interprofessional education. The top four barriers identified by respondents were: 1) problems with schedule/calendar (84.7%); 2) rigid curriculum (73.0%); 3) lack of financial resources (69.2%); and 4) lack of perceived value (67.3%). Respondents were also asked to identify other barriers that they felt impeded interprofessional education efforts. Some of the "other" barriers included:
- lack of resources or interest;
- lack of faculty interest;
- lack of understanding;
- concern over consequences of blending knowledge and diluting professional roles for the future;
- lack of time to coordinate;
- accreditation requirements;
- inequality of disciplines' status within the health care system;
- geographical distance between teaching environment;
- not high on agenda of leadership;
- limitations from professional bodies;
- perceived hierarchy among health disciplines;
- domination by one of the other disciplines; and
- very little collaboration between different health care disciplines.

Oandasan et al. also surveyed key informants on self-reported enablers and barriers to interprofessional education programs:

Enablers and Barriers to interdisciplinary education programs	
Enablers	**Barriers**
• Sound program logistics & administration • Balanced participation from different professional/discipline groups • Programmatic and financial sponsorship • Organizational support • Critical mass of learners	• Regarded as non-typical experience • Lack of one's own role understanding • Timing (lack of time, scheduling) • Lack of organizational-culture

• Participant compensation	support
• Quality improvement paradigm	• Curriculum leaders failed to introduce course material

Leadership

There must be overt support for interprofessional learning at the most senior levels. Changes to course structures and organization are required if interprofessional learning is to occur, therefore institutional support from senior management is key. Attitudinal factors have been identified as having major influences on the development and implementation of interprofessional learning (Parsell & Bligh, 1999; Glasby and Lester, 2004). In particular, the attitudes of senior administrators have been identified as a major influence on interdisciplinary efforts in academic settings (Bernstein, 1996; Moore, 2000). In one study, Gardner et al. (2002) surveyed deans from professional schools of medicine, nursing, and pharmacy in a total of 184 academic health centres in the United States about their attitudes towards interdisciplinary education, barriers to its implementation, and courses that could provide opportunities for its introduction to the curriculum. They concluded that, "it may be possible to overcome potential barriers to interdisciplinary education, because the environment on academic health center campuses from all three disciplines is generally positive." (Gardner et al., 2002, pp. 189) Curran's survey of academic administrators in Canada also demonstrated a high level of support for interdisciplinary health care teamwork and interdisciplinary education.

Incentives

There must be incentives to encourage institutions to develop and implement interprofessional education initiatives. The nature of incentives may differ for higher education institutions and hospitals, health care boards or health care authorities. According to Gilbert, when disciplinary programs are asked to participate in planning or developing an interdisciplinary curriculum, either through faculty support or by curricular materials, barriers become evident. Gilbert believes a key structural barrier which must be overcome is the university's lack of recognition (faculties and departments) that teaching interdisciplinary courses is a necessary form of academic activity.

Funding

Gilbert suggests that a major barrier to developing interdisciplinary education activities within a faculty is a reluctance to channel dollars to service curricula shared with other faculties. Funding to support the development, implementation and evaluation of interdisciplinary education programs is a major enabler.

Logistics

Parsell & Bligh (1998) identify a number of barriers that must be overcome if interprofessional education is to be advanced. Among these are:
• single subject approach to teaching;

- curriculum structures and design;
- timetabling difficulties;
- time, e.g., for course planners to meet;
- lack of senior management support;
- practical difficulties, e.g., separate buildings;
- lack of commitment;
- lack of knowledge and understanding of other professions;
- redrawing of professional boundaries;
- need for new forms of teaching and learning;
- training teachers for a different teaching role;
- unwillingness to change attitudes;
- requirements of professional bodies;
- separate professional "languages" and concepts; and
- financial constraints.

One of the most significant challenges for higher education institutions is "logistics". Issues surrounding time-tabling and differences between the course characteristics of different health professional curricula pose significant challenges. Each discipline may have the core areas of learning and clinical experience at different levels in the courses. As a result, there can be difficulties in coordinating the curricula of different professional groups so that the demands of interdisciplinary learning can be met. Variations in the duration of courses and in the educational backgrounds of the students can also make it difficult to prepare common core curricula.

Collaborative Practice to Enhance Patient Outcomes

Collaborative Practice to Enhance Patient Outcomes	
Interactional Factors (Micro Level)	**Organizational Factors (Meso Level)**
Shared goals/vision	Rules to regulate the team
Trusting relationships	Governance

According to Gilbert, it is important to highlight the differences between different terminologies in order to provide clarity to the notion of collaborative patient-centred practice. Gilbert suggests that a distinction and differentiation must be made between "multidisciplinary" and "interdisciplinary." Table 3 provides an overview of the main distinguishing features of different team types as identified by Drinka (1996).

The central feature of the second component of D'Amour and Oandasan's framework is the patient. According to D'Amour and Oandasan, patients are "at the center of collaborative care since they are the very reason behind the interdependency of the professionals." At the same time, patients also need to be active members of an interdisciplinary team. Brown presents a theoretical model of a patient-centered clinical method and approach in her discussion paper (Figure 3). According to Brown, the patient-centred clinical method is the basis of many educational curricula around the world and is an approach which has broad relevance across all health professional groups. Research has demonstrated that the patient-centred method enhances

Table 3   Types of Health Care Teams (Drinka, 1996)

Type	Description	Advantages	Disadvantages
Ad hoc group	One or many discipline/department Group elects a leader Rules established by the group Solves a problem and disbands	Focus on one issue No elaborate rules Quick and dirty Captures enthusiasm	Solutions may lack duty/breath Some fear expressing views
Formal work group (unidisciplinary, e.g. MDs from multiple specialties)	One discipline/department Report to group Individual identities more important than team identity Don't work on team problems Leadership by election or rank Independent therapeutic interventions	Speak same language Quick decisions by leader Ongoing Some rules established Security of one discipline	Some resent leader's decision Solutions may lack breadth/depth May miss important problems Little interactive problem-solving
Formal work group (multidisciplinary, e.g., MD, RN, SW, OT)	More than one discipline/department Report to group Individual identities more important than team identity Don't work on team problems Leadership by election or rank Independent therapeutic interventions	Final decisions by leader Some openness Information from many perspectives	Some resent leader's decision Speak different languages Solutions may lack depth/breadth Disciplines have different cultures Little interactive problem-solving
Interactive team (unidisciplinary, e.g., MDs from multiple specialties)	One discipline/department Team goals Discuss/collaborate Interdependent	Speak same language Share responsibility for leadership More openness	Initial decisions take more time Solutions may lack breadth May miss important problems

	Work on team problems Leadership appropriate to issue/expertise	Solutions have depth Members feel empowered	Need time and space to discuss values, negotiate roles, leadership, conflict
Interactive team (interdisciplinary, e.g., MD, RN, SW, OT)	More than one discipline/department Team goals Discuss/collaborate Interdependent Work on team problems Leadership appropriate to issue/expertise	Integrate many perspectives Share responsibility for leadership Solutions address complex problems Solutions have depth and breadth Members feel empowered Team culture encourages solutions to difficult problems	Initial decisions take more time Members must learn different languages/terms Effort to maintain the team Need time and space to clarify values; negotiate roles, leadership, conflict

Figure 3
The Patient-Centred Clinical Method
Six Interactive Components
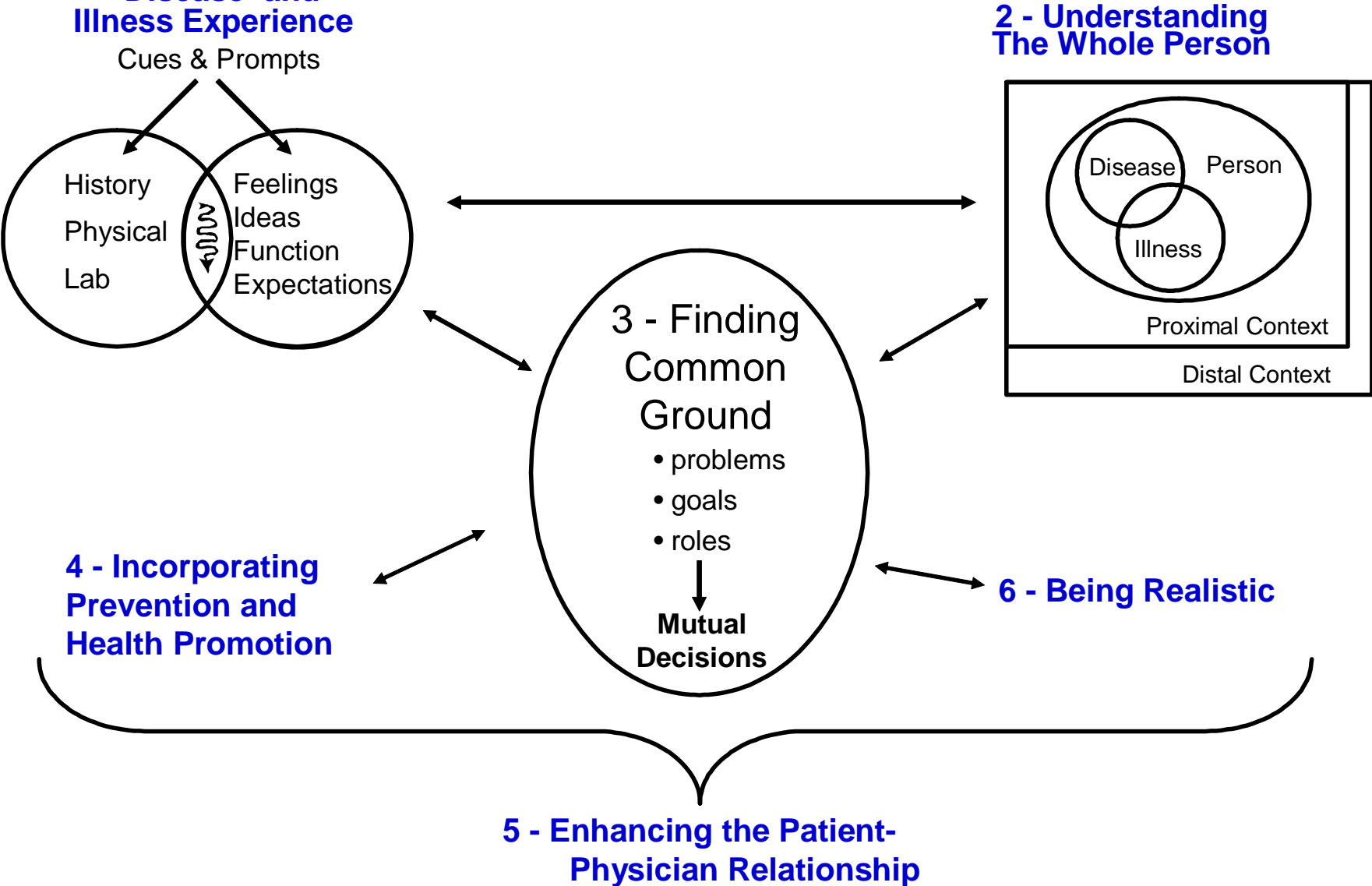
patient satisfaction, patient outcomes and has a positive impact on health care utilization costs. Evidence also exists to support findings that patient-centred visits are associated with positive benefits for clinicians, such as fewer malpractice claims and greater physician satisfaction.

Brown provides the following definition in her paper:

> *"Patients want patient-centred care which: (a) explores the patients' main reason for the visit, concerns, and need for information; (b) seeks an integrated understanding of the patients' world — that is, their whole person, emotional needs, and life issues; (c) finds common ground on what the problem is and mutually agrees on management; (d) enhances prevention and health promotion; and (e) enhances the continuing relationship between the patient and the doctor" (Stewart, 2001, p 445).*

Figure 3 illustrates the main features and components of the patient-centred approach.

The first component of the patient-centred clinical method involves the assessment of both disease and illness. Effective patient care requires attending as much to patients' personal experiences of illness as to their disease. Disease is diagnosed by using the conventional medical model, whereas illness focuses on patients' personal and subjective experience of sickness. The four dimensions of illness described by Brown include: 1) patients' feelings, especially their fears about their problems; 2) their ideas about what is wrong; 3) the effect of the illness on their functioning; and 4) their expectations of the health care practitioner.

The second component is the integration of these concepts of disease and illness with an understanding of the whole person. Disease and illness also need to be understood in relation to: an individual's personality; human development and the individual's life cycle; life history, current behaviors and responses to illness and care; spirituality; and family history and family dynamics. Consideration of family is important as is the impact of illness upon the family and family system. Attention also needs to be given to the effect of culture on attitudes towards illness and health.

The third component focuses on the notion of "finding common ground" between patient and clinician. This concept includes three key areas: 1) defining the problem; 2) establishing the goals of treatment and/or management; and 3) identifying the roles to be assumed by patient and clinician. Health care practitioners need to engage in a dialogue with the patient on treatment and/or management options and the pros and cons of different approaches. The patient's questions and concerns also need to be addressed in an empathetic manner so s/he feels heard and understood.

The fourth component stresses the importance of health promotion and disease prevention. Health promotion has been defined (WHO, 1986) as "the process of enabling people to take control over and to improve their health." Disease prevention is aimed at reducing the risk of acquiring a disease and disease prevention strategies may be categorized according to four categories: 1) risk avoidance (primary prevention); 2) risk reduction (secondary prevention); 3) early identification; and 4) complication reduction (tertiary prevention). The patient-centred approach to health promotion and disease prevention focuses on six aspects of the patient's world and his/her: 1) experience of the broader determinants of health over his/her life course; 2) potential for health; 3) present and potential disease; 4) experience of health and illness; 5) the context of the patient; and 6) relationship with the health care practitioner.

The fifth component emphasizes the significance of the patient-health care practitioner relationship. Brown describes the patient-health care practitioner relationship as the "bedrock of the patient-centred clinical method." Specific aspects of the patient-health care practitioner relationship include: caring and compassion; power; constancy; healing; and self-awareness.

In the sixth component of the patient-centred clinical method — being realistic — the following issues are addressed: time and timing; and teamwork and teambuilding of collaborative interdisciplinary patient-centred teams. Brown notes that research has demonstrated that patient-centred consultations do not result in longer office visits. As a result, health care practitioners must take the time to follow the patient centred method while also being attentive to patients who require more time. In essence, the patient-centred model and clinical method provide interdisciplinary teams with a theoretical framework for practice and a common language for communicating.

The Patient-Centred Clinical Method (Brown, 2004)
Six Interactive Components

1. Exploring both the disease and the illness experience:
   • history, physical, lab;
   • dimensions of illness (feelings, ideas, effects on function and expectations).

2. Understanding the whole person:
   • the person (e.g. life history, personal and developmental issues);
   • the proximal context (e.g. family, employment, social support); and
   • the distal context (e.g. culture, community, ecosystem).

3. Finding common ground:
   • problems and priorities;
   • goals of treatment and/or management; and
   • roles of patient and doctor.

4. Incorporating prevention and health promotion:
   • health enhancement;
   • risk avoidance;
   • risk reduction;
   • early identification; and
   • complication reduction.

5. Enhancing the patient-doctor relationship:
   • compassion;
   • power;
   • healing; and
   • self-awareness.

6. Being realistic:

- time and timing; and
- teambuilding and teamwork

Oandasan et al. identify the following key ingredients of a collaborative patient-centred approach:
- the sharing of power between partners;
- the pursuit of goals that are the result of discussion and negotiation; and
- active participation and involvement of the partners in the process of working together.

According to Drinka (1996), an interdisciplinary health care team is a group of health professionals from different disciplines who engage in planned, interdependent collaboration. An effective interdisciplinary health care team is one with competence, mutual trust, shared goals, defined roles, methods for resolving conflict, active listening, and a free exchange of ideas with clear communication between team members (Drinka, 1996). The most important aspect of teamwork is that members must work together in a coordinated manner to address the problem(s) at hand (Tsukuda, 1990). Liedtka (1998) defines collaboration as a process of joint decision-making among interdependent parties involving joint ownership of decisions and collective responsibility for outcomes. According to Tsukuda (1990), collaboration is based on several assumptions:
- the problem is big and/or complex enough to require more than one set of skills or knowledge;
- the amount of relevant knowledge or skills is so great that one person cannot possess them all;
- assembling a group or team of professionals with more than one set of knowledge or skills will enhance the solution to the problem;
- in the solution of such a problem, the possessors of the relevant skills or knowledge are considered to be equal or equally important; and
- all of the involved professionals are working for a common goal for which they are willing to sacrifice some professional scrutiny.

Oandasan et al. (2004) describe the concepts of "collaboration" and "team" in their report. They identify the key characteristics of collaboration as:

Sharing. This includes:
- shared responsibilities;
- shared decision-making;
- shared health care philosophy;
- shared planning and intervention; and
- sharing of different professional perspectives.

Partnership. This includes:
- two or more actors join in a collaborative undertaking;
- collegial-like relationship;
- open and honest communication;
- mutual trust and respect;
- each partner is aware of and values the work and perspectives of others;
- partners pursue a common goal; and
- a set of shared goals or specific outcomes.

Interdependency. This includes:
- mutual dependency;
- interdependent rather than autonomous;
- individual contribution is maximized; and
- output of the whole becomes much larger than the sum of the inputs of the parts.

Power. This includes:
- shared between team members; and
- simultaneous empowerment of each participant whose power is recognized by all.

D'Amour and Oandasan's framework highlights the importance of both micro and meso factors at the interactional and organizational levels respectively. They describe these factors as encompassing those elements which influence the "development and subsequent strengthening of collaboration within health care teams." The macro-factors arise from conditions outside the organization as well as factors resulting from conditions in the midst of an organization. The micro-factors are dependent on the interpersonal relationships between team members.

Interactional Factors (Micro)

Several interactional factors can affect the level of collaboration within the team, including:
- willingness to collaborate;
- trust;
- communication; and
- mutual respect.

According to Oandasan et al., an "awareness by team members of these interactional factors such as a sense of bonding with one another and willingness to work together, contributes to building a sense of mutual trust amongst health professionals who are working within teams." Effective interdisciplinary health care teams must understand the ways in which team members from other disciplines frame and solve problems. It is imperative that team members develop an understanding of other professions as this has a direct influence on the ability to develop cross-functional skills and knowledge. Exposure to the unique values and problem-solving styles of other health care disciplines is also an important component of the knowledge-base for members of interprofessional health care teams. Clark (1995) believes that interdisciplinary team members must acquire a basic understanding of the cognitive maps of other disciplines on the team. By the term "cognitive map" Clark refers to the: 1) conceptual frameworks; 2) modes of inquiry and understanding; 3) problem definitions; and 4) observational, representational and explanatory methods of other disciplines.

Among team members, there must also be a basic level of understanding and acceptance of each other's disciplines and roles. There must also be a sense of respect and recognition for each individual's knowledge and judgement. Interdisciplinary teamwork is based on collaboration which occurs between two or more people, therefore it requires respect for the opinions and needs of others. Lowe & Herranen (1981) acknowledge that it is up to the individual team members to define for the team their specific expertise and how this is useful in the assessment and treatment of the patient. As a result, other professionals can clarify their respective thinking, become aware of each other's roles and responsibilities,

and develop collegial respect.

Organizational Factors (Meso)

According to Oandasan et al., "it is important to recognize that collaboration exists not only within a team, but in the context of a larger organizational setting that influences it in a significant way." D'Amour and Oandasan's framework identifies two key meso-level factors which influence collaboration: 1) rules to regulate the team; and 2) governance. It is important that the team is recognized by the organization and its function is integrated within the organization's functional system. The rules which are in place to regulate the functioning of the team must be accepted and agreed to by the organization, as well as the team and individual team members. Organizational setting is a key determinant of collaboration as are a number of organizational determinants that define the work environment of the team, its structure and philosophy, the team resources and administrative support as well as communication and coordination mechanisms. Oandasan et al. identify the following elements as key determinants of effective team functioning:

Organizational structure. The organizational structure has a strong influence on the development of collaborative practice in health care teams. Successful collaboration between health care professionals requires a shift from hierarchical traditional structures toward more horizontal structures.

Organization's philosophy. The organization's philosophy must support collaborative practice among professionals.

Administrative support. The team must be supported in the coordination of teamwork.

Team resources. It is essential that the organization consider time and space sharing opportunities for professionals working in the same team.

Coordination and communication mechanisms. Interprofessional collaboration can benefit, in particular, from the availability of standards, policies, and interdisciplinary protocols, unified and standardized documentation and of sessions, forums or formal meetings.

Heinemann and Zeiss (2002) have conducted an extensive review of the literature surrounding interdisciplinary teamwork in health care. Based on this work they have developed a framework of domains, dimensions and elements which influence team performance (Figure 4).

<u>Structure</u>

The structure of an organization or a team refers to its organizing framework or how its various parts fit together and are expected to function. The structure of an organization creates the foundation for the system in which its teams and work groups are embedded.

Organization Structure. The structure of an organization can benefit or create barriers to a team's or work group's ability to function. Some health care organizations have structures that support the team approach and others do not. In a supportive structure, the team approach is understood, appreciated, and utilized throughout various levels of the organization, and management supports teams with resources and rewards

Figure 4 TEAM PERFORMANCE: DOMAINS, DIMENSIONS, & ELEMENTS							
Structure		Context		Process		Productivity	
Organizational	Team	Organizational	Team	Interdependence	Growth / Development	Strategies	Accomplishments
- Mission, goals & direction - Performance standards - Norms, values & expectations - Regulations, procedures, and planning - Team fit within organization - Allocation of authority/ responsibility to teams - Availability and adequacy of resources - Assignment of competent employees & leaders - Provision of education & training - Mechanisms for communication & decision-making - Reporting system/ channels of accountability - Appraisal/reward system - Objective recognition and rewards for team-work and to teams	- Mission, purpose & direction - Goals, objectives & priorities - Fit between organizational, team & individual goals - Consistency between purpose/ goals & processes/ activities - Roles & responsibilities - Norm, values, expectations & standards - Order, rules & procedures - Boundaries & permeability - Organization of space	- Managerial modeling of& support for the team approach - Career development & employee assistance - Change, flexibility & innovation - Issues about time & cost constraints - Trust, confidence, respect & value - Commitment, cohesion & loyalty - Motivation & - Relations across teams & stakeholders - Team's reputation within organization - Satisfaction/ security with job & working relationships - Organizational impact on field/ marketplace	- Attitudes toward teams & teamwork - Cautious, tentative, overly polite climate - Being oneself & getting to know others - Congenial, sociable climate - Caring, warm, accepting climate - Trust, confidence, respect & value - Relaxed, comfortable vs.tense, hostile climate - Climate permits free expression - Feeling pressure & stress - Support & encouragement - Commitment to team, members & teamwork - Cohesion, unity & team identity - Team spirit, morale, energy & enthusiasm - Work viewed as interesting, challenging & important - Satisfaction with colleagues, team & teamwork	- Utilization of resources & team members - Participation & workload sharing - Communication - Giving & receiving feedback - Collaboration - Cooperation, coordination & efficiency - Power & leadership-sharing - Utilization of leadership skills - Decision-making - Problem-solving - Conflict management - Utilization of appro-priate team processes - Task orientation & effective task imple-mentation - Balance between task & process activities	- Skills mastery, maintenance & application - Informal learning & improving - Utilization of feedback/learning from mistakes - Preventing insulation - Role bending & cross-training - Flexibility - Creativity, uniqueness, innovation & risk-taking	- Action plans - Patient care plans - Individual development plans - Use of technology - Information management - Marketing - Time management - Self-monitoring & evaluation - Education, training & consultation - Incentives, rewards, & celebrations	- Achievement of goals / successful completion of tasks - Effective meetings - Effective leadership / self-management - Effective team functioning - Effective customer relations - Positive outcomes related to patients & trainees - Impact on organization

for effectiveness and productivity.

Team Structure. The structure within a team or work group also influences how well it performs. A team is unable to function well if: 1) its mission is not clear to all members; 2) members' role and responsibilities are not well defined and understood; and 3) its culture (i.e., norms and values, rules and procedures for operating) is not well developed.

Context

Context is the social-psychological atmosphere, environment, milieu, or climate of the organization and the team. Context is important because it directly influences the quality of processes and tasks carried out in the organization and the team. When the context is perceived positively, employees and teams are more likely to thrive and be productive. When it is perceived negatively, frustration, dissatisfaction, and low productivity result.

Organizational Context. Organizational context refers to the emotional climate in which teams and natural work groups are embedded and carry out their work activities. Managers and supervisors influence this climate through the various leadership styles they adopt and the level of resources and support they provide to employees.

Team Context. Team context refers to the climate within the team. It influences and is influenced by attitudes toward teams, how well members know one another, how comfortable they feel being themselves in the team, and the quality of their relationships with one another. Team context also includes the social-psychological climate of the team (e.g., relaxed and comfortable, tentative, tense, or hostile).

Team Process

Process refers to a series of progressive and increasingly integrative activities used by teams to accomplish their tasks and achieve their goals. Team process has two dimensions: 1) activities of members demonstrating increased interdependence; and 2) growth and development of both members and the team itself as skills, abilities, and team functioning improve.

Interdependence. Interdependence is key to interprofessional and interdisciplinary teamwork. Making effective use of the team's resources and team members' skills and abilities, communicating and problem-solving effectively, and working together to accomplish tasks and share the workload are major components of this concept. In well functioning teams, members learn to work interdependently with one another, and the team itself learns to work interdependently with other teams, work groups, and units within or across the organization.

Growth and Development. The ability to grow and mature applies to both team members and the team itself. Organizational management can influence this growth and development based on its willingness to provide education and training for teams and team members.

Team Productivity

Productivity includes both the strategies teams use to achieve their goals and fulfill their mission and their

accomplishments.

Strategies. In order to be productive, teams utilize many strategies. These strategies include formal planning involving various levels within the organization, the appropriate use of new technologies, and information management. Additionally, marketing team care and services to appropriate patient/client populations, time management, education and training, and self-monitoring and evaluation contribute to successful accomplishments. Finally, incentives, rewards, and celebrations within the team can set expectations for and reinforce high quality accomplishments among members of a team.

Accomplishments. A team's accomplishments are the achievement of goals and successful completion of tasks related to its mission and goals. Short-term accomplishments include meeting effectiveness, the effectiveness of the team's leadership, and improved quality of relationships. Long-term accomplishments include such things as positive patient outcomes and positive impact on the larger organization.

Systemic Factors – Macro Level

D'Amour and Oandasan's framework also illustrates systemic factors at the macro level which influence interdisciplinary education for collaborative patient-centred practice. The main factors identified include: educational system; professional system; government policies; and social and cultural values. Each of these factors will be discussed in the following sections.

Educational System

Oandasan et al. suggest that the educational system is a main determinant of interprofessional collaborative practice as it controls "fostering" of collaborative values promotion among future health care professionals. The current structures of the educational system vary from province to province and within the academic and university setting funding for professional education is "siloed". As a result, universities are structured on a disciplinary basis and this fosters a climate of "segregation between disciplines". At present, education programs are not structured in a way that fosters interprofessional learning. Health professionals continue to be socialized within their own profession's value system. In many instances, this socialization maintains a very limited knowledge of other professionals. This means that very little is learned of the practices, expertise, responsibilities, skills, values and theoretical perspectives of other professions.

Gilbert reports that the organization of curricula, the examination of students, and the assignment of instructional responsibilities are within the domain of university departments (i.e., faculties or schools). It is a challenge to cross departmental boundaries and to foster greater collaboration among these units in relation to curricula as there are large budgetary implications. Gilbert suggests that "a major barrier to implementing interprofessional education is that faculty structures in the health and human services are modeled on the organization and management of traditional faculties of Arts and Sciences, which do not have to contend with patient-centred learning." Departments and schools also base faculty reward systems on disciplinary as opposed to interdisciplinary scholarship and teaching. This reward system can be a disincentive to interdisciplinary education.

Oandasan et al. note that professional programs are subject to accreditation requirements and professional

accrediting authorities are in a position to influence what should or should not be included in professional education curricula. Therefore, the inclusion of interprofessional education in accreditation standards or criteria is one strategy for fostering this form of learning in professional education programs. Licensing legislation also provides an opportunity for encouraging interprofessional education. Such legislation could be modified to recognize the role of interdisciplinary education.

Cultural Diversity in IECPCP. According to Oandasan et al., collaborative patient-centred practice in culturally diverse settings requires that paraprofessionals, health care providers and/or other key community workers who have not traditionally been part of the health care team need to be included. The promotion of cultural competency in practice necessitates interprofessional education opportunities in which health professionals and health care providers (traditional/non-traditional) are brought together to explore collaborative practice. Other factors influencing the provision of collaborative patient-centred care in aboriginal communities include understanding and respecting the culture and securing the support of the community. It is important that health professionals attempt to network with advocacy organizations in the community and work with community-based organizations on culturally appropriate prevention and public health programs. Knowledge of culture is also a major factor influencing health care delivery in aboriginal communities. However, cultural competence is not a formal part of the curricula of many health professional education programs. Oandasan et al. recommend that health professional schools include clinical experiences where students from the different professions work collaboratively in teams providing care to culturally diverse populations.

Professional System

The professional system has a strong influence on the development of collaborative practice. At present, professional practices work against the integration of services. The professional system is based on separate "silos" of professional practice which acts as a barrier in different ways to collaborative practice (Gilbert; Hall; Lahey and Currie). The very notion and history of the "professions" is based on connotations of autonomy, hierarchy, and control. Lahey and Currie suggest that self-regulating professions "have a tendency to place their own professional interest in control of a scope of occupational turf ahead of their obligation to serve the broader public interest." Students are immersed in philosophies, values and basic theoretical perspectives inherent to each profession during their entire professional socialization phase of learning. In most health professional education programs, the value system is assumed rather than explored, inculcated rather than examined. This may be an effective way to indoctrinate students, but may prove detrimental later in their professional lives when their values are called into question. Students quickly learn that the process of professional acculturation is important to their doing well in their studies. Teaching and learning experiences often reinforce the solitary nature of learning, with few courses emphasizing the importance of teamwork or working in small groups. In many ways, this works against notions of collaboration.

According to Oandasan et al., professional associations seek autonomy and respect for their members. This influences "full" acknowledgement of the role and place of other health professions in the health care system. Oandasan et al. suggest that professional associations will have a significant influence over whether interdisciplinary education and patient-centred collaborative care becomes reality. The professional associations are responsible for advocating standards of practice within a profession, identifying ethical standards and establishing practice competencies. Through provincial legislation, the professional system in Canada is responsible for regulating and defining scope of practices (Lahey and

Currie). "Current regulatory models determine the legal effect of each scope of practice on the ability of other providers to fully apply their competency to the benefit of patients and the system" (Lahey and Currie). As a result, the regulatory bodies within the professional system have a strong influence concerning the advancement IECPCP. Lahey and Currie recommend that there is a need for "cultural transformation at the regulatory level that parallels the cultural transformation that interdisciplinary practice is said to demand at the level of clinical practice." Lahey and Currie suggest that the adoption of self-regulatory models which replicate the controlled acts regulatory framework of Ontario and other provinces may offer one possible strategy for fostering greater flexibility and change in scope of practice regulation across Canada.

Government Policies

According to Oandasan et al., governments should be exploring legislative and regulatory reforms in keeping with changing trends in interprofessional education and collaborative practice environments. Legislative and regulatory reforms need to keep up with changes and trends in the practice environment.

Legislative/Regulatory. Our current legislative and regulatory framework is inconsistent across Canada with respect to scope of practices across the health professions (Oandasan et al.). Each provincial regulatory body issues their own legislation and regulations that define scope-of-practice (Lahey and Currie), educational standards (Cook; Gilbert), ethics and competencies in practice (Hall), and systems of accountability (Lahey and Currie). A national regulatory framework has not been developed to provide a process to define and operationalize scope-of-practices amongst health care professionals in Canada (Lahey and Currie). Oandasan et al. believe that such a framework would be helpful in advancing the IECPCP agenda.

Economic. According to Gilbert, the salary differentials which exist amongst the professions works to foster a "class differentiation, which itself becomes a barrier to practice and education." Oandasan et al. suggest that financial competition, especially within the fee-for-service environment is also a barrier to collaborative practice. They advocate the consideration of creative approaches to reimbursement mechanisms.

Medico-Legal Liability. There are medico-legal issues which arise with new, innovative and evolving models for collaborative practice (Lahey and Currie). A great deal of ambivalence and uncertainty surrounds "legal liability" in the face of expanded and cross-functional scopes of practice and responsibilities. One real concern is that not all health care professionals carry liability insurance. Another concern has to do with liability for adverse patient care outcomes. Lahey and Currie suggest that under the current legal system, negligence and liability is assessed and determined by the courts on an individual level. One of the essential elements of negligence is standard of care and whether or not a provider has lived up to the standard of care under the particular circumstances. At present, it is likely that the courts will continue to respond to malpractice cases involving collaborative practice by applying the conventional legal framework which assesses negligence on the basis of the individual provider's standard of care. As a result, during the short term and during a transition period there is potential for more liability for particular individual providers. Lahey and Currie suggest that a strategy for addressing this must include "education of the courts" concerning the notion of interdisciplinary teamwork as a key element of practice.

Social and Cultural Values

The importance of IECPCP needs to be promoted and accepted as an integral part of the socio-cultural values of health care providers, patient population groups and the population at large. Conflict within teams is largely influenced by the values that team members hold (Hill, 1998). Values in particular are a major source of conflicting and competing communication patterns among health professionals who are educated and trained in very different models and methods of practice. According to Clark (1994), values define and guide the practice of health care professionals. Glenn (1999) defines values as the preferred events that people seek and an enduring belief that a certain behavior or a certain condition of life is desirable. Values give our personal, professional and collective lives structure, direction and meaning. The value of individualism explains the mode of practice based on unidisciplinary professional tenets. Oandasan et al. suggest that social values and/or societal pressures can drive innovative ways of working and can compel professionals to be open to new orientations and new ways to practice. Policy and regulatory change can foster this by removing obstacles such as the lack of collaborative care incentives.

Summary

This purpose of this paper is to summarize the main themes emerging from the research report and discussion papers which have been commissioned to date as part of the IECPCP initiative. The 2004 literature review and environmental scan report prepared by Oandasan et al., as well as the discussion papers prepared by Brown, Cook, Curran, D'Eon, Gilbert, Hall, Lahey and Currie, and Steinert (2004) were reviewed in preparing this synthesis paper. The organization of the paper is based upon D'Amour and Oandasan's Conceptual Model of Interdisciplinary Education for Collaborative Patient-Centred Care (Figure 2). The key factors, determinants and elements which emerged from the review of the research report and discussion papers were presented and discussed in relation to this framework. As an overview of these key themes, Table 4 presents the main factors, determinants and elements as they relate to the micro, meso and macro levels identified by D'Amour and Oandasan's framework. Each of these themes was discussed in turn in previous sections of the synthesis paper. Readers are advised to consult the specific report or discussion paper for further elaboration and description.

Table 4 Main Components, Determinants. Factors and Elements of IECPCP			
Components	**Determinants**	**Micro Level Factors**	**Meso Level factors**
Interdisciplinary Education to Enhance Learner Outcomes	Professional beliefs and attitudes Educators	Teaching Factors • Teaching strategies • Facilitation • Theory • Learning Context	Institutional Factors • Leadership • Incentives • Funding • Logistics
Collaborative Practice to Enhance Patient Care Outcomes	Task complexity Professionals	Interactional Factors • Shared goals/vision • Trusting relationship	Organizational Factors • Rules to regulate the team • Governance
Macro Level Systemic Factors			
Educational System Professional System			

<center>Government Policies</center>
<center>Social & Cultural Values</center>

Research to Inform & Evaluate

Learner/Health Professional Outcomes	**Patient/Provider Outcomes**

Competencies

	Patient
Knowledge	Clinical outcomes
Roles	Quality of care
Skills	**Professionals**
Communication	Satisfaction
Reflection	Well-being
Attitudes	**Organization**
Mutual respect	Efficiency
Willingness to collaborate	Innovation
Open to trust	
	System
	Cost-effectiveness
	Responsiveness

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