

**Patient-Centred Interprofessional Training Experience:
An application by a collaborative led by the University of Saskatchewan
for a grant from Health Canada
for an Interprofessional Education Collaborative for Patient-Centred Practice
December 13, 2004**

The structure of this proposal follows the structure laid out in the application guide.

1. Lead organization

Primary applicant organization

The University of Saskatchewan, founded in 1907 by legislation of the Province of Saskatchewan, and currently operating under authority of the University of Saskatchewan Act, 1995, Province of Saskatchewan.

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Project lead

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2. Project summary

Saskatchewan is ready to move. For seven years, leaders in the education and health services system have laid the groundwork to support interprofessional patient-centred training of health providers. Provincially, we have conducted a number of innovative pilots, and have built strong province-wide collaborative networks. We are on the same page, we have some experience under our belts, and we are ready to move forward. This project, the Patient-Centred Interprofessional Training Experience, with support from Health Canada under the IECPCP program, will be the catalyst that moves us to the next step – full-scale, province wide implementation of this education model.

At the same time as the groundwork has been laid in postsecondary education, the health system, with Government of Saskatchewan support, has been rebuilding its service delivery around regionally integrated health systems. Health regions are rebuilding their health services on the foundation of an interprofessional, team-based, patient-centred primary health care system. The health system is now looking for health professionals trained to work within these new models.

This proposal, for a Patient-Centred Interprofessional Team Experiences (P-CITE), proposes to invest \$1.3 million dollars over three years in:

- innovative interprofessional clinical placements in four settings where patient-centred team-based care should contribute to better quality care: child and youth mental health, chronic illness care in middle age, elders in the transition from hospital to community, and community health in Aboriginal communities;
- interprofessional curriculum support and development;

- a strong evaluation design; and
- knowledge exchange of learning.

The distinguishing features of this program that will contribute to its success include:

- a province-wide partnership among service providers, education programs, and government;
- close integration of this project with other provincial initiatives towards interprofessional, patient-centred care;
- substantive involvement of learners and patients;
- involvement of a full range of health professional training programs, including non-traditional programs such as educational psychology;
- innovative clinical placement settings where team-based care should make the most difference; and
- a close fit to Health Canada priorities such as First Nations communities, rural and northern settings, children, seniors, and primary health care.

The goal of P-CITE is that by the end of the project, using Health Canada resources combined with ongoing program funding, every one of the approximately 2500 health professional students in Saskatchewan will have had an interprofessional classroom instruction. We aim for one tenth, 250, to have had an interprofessional clinical experience by the time she or he graduates. The long-term goal is that within ten years, health professional training will be completely transformed. Our goal is systematic, structural change in health service delivery and in health professional education. That is why this proposal is a province-wide one, and why it includes all health professions, rather than the minimum requirement for three.

Appendix D provides a short overview of the P-CITE project.

3. Overview of the applicant organization

Mission

The mission of the University of Saskatchewan is “The University of Saskatchewan belongs to the people of Saskatchewan. As an academic community, our mission is to achieve excellence in the scholarly activities of teaching, discovering, preserving, and applying knowledge.”

Vision

The University of Saskatchewan is committed to evolving as the needs of the society it serves evolve, and specifically to developing interdisciplinary approaches. Excerpts from the vision of the University of Saskatchewan relevant to this application include:

“The University's graduates will be adaptable to rapid change and competitive with their peers around the world. The University of Saskatchewan will initiate further interdisciplinary approaches to issues facing society. We look forward to developing additional collaborative relationships with other educational institutions and to extending university programs to the broader community. . .

We recognize that, as the needs of Saskatchewan continue to change, creative ways to balance new initiatives with current activities will be required.”

Goals and objectives

In *A Framework for Action: University of Saskatchewan Strategic Plan 2003-2007*, the University signaled its intention to support interdisciplinary programming. The strategic plan states that

“Broadly, our goals in the area of health are to:

- a) establish and build a stronger interdisciplinary awareness of health and health care issues among the student population; . . .
- c) become a leader in interprofessional health care education;
- d) build critical mass in innovative undergraduate education programs;
- e) take full advantage of interdisciplinary opportunities available through new and planned facilities;
- f) capitalize on opportunities for innovative graduate programs bringing together students and faculty from across the health sciences; and
- g) draw on the full range of expertise across the campus”

The strategic plan gives high priority to creating an Interprofessional Health Sciences Council, with staff capable of leading the process of curriculum reform across colleges. The strategic plan further commits the University to create a common health sciences curriculum. The strategic plan states that the University of Saskatchewan must:

“develop and offer a magnet program in the health sciences with a common curriculum for the first two years of study to give students greater choice but also to use our existing resources more effectively. Planning, development, and delivery of this curriculum should be a matter of priority for all of the professional colleges in the health area. . . . The Interprofessional Health Sciences Committee could take the lead in the development of this common curriculum, which should be approved for implementation by July 1, 2006 at the latest.”

Development of interprofessional competencies

The University began its development of an interprofessional approach to health sciences education seven years ago. In June 1998, a President’s Task Force on Health Sciences Education produced a comprehensive report on what was need to update health sciences education. The report listed twelve global competencies for health sciences graduates from the University of Saskatchewan. Included in that list were to collaborate to provide integrated patient-centred health services. The report further stated that health science graduates should be able to provide patient-centred health services that are needs-based, cost effective and integrated within a continuing care process.

The Health Science Deans’ Committee (HSDC)

To implement its vision and strategic plan in interdisciplinary patient-centred education, the University next created the Health Science Deans Committee (HSDC). The Health

Science Deans Committee comprises the deans or directors from each of the University's nine health science programs: Clinical Psychology, Dentistry, Kinesiology, Medicine, Nursing, Pharmacy and Nutrition, Physical Therapy, Veterinary Medicine, and Toxicology. It also includes representatives from University of Saskatchewan Health Research Services, the Saskatchewan Academic Health Sciences Network and the Saskatoon Health Region.

Goals of the HSDC include:

- “to promote interprofessional education opportunities ensuring health science students are prepared for the intersectoral working environment;”
- “to offer a curriculum that supports the primary health care vision of Saskatchewan and Canada and fosters partnerships with the public, health regions and community based organizations;” and
- “to offer a curriculum that promotes social accountability.”

The Health Science Deans are committed to advancing interprofessional interaction and learning among health science students, faculty and health professionals. Health science programs at the University of Saskatchewan work closely with a range of health and health-related service facilities and programs in the province. Nationally, the report of the Romanow Commission (2002), and the antecedent report from Saskatchewan's Fyke Commission (2001), commissioned by Romanow as premier, both envisioned a strong primary health care network as the foundation of health care. The Province of Saskatchewan's Action Plan for Saskatchewan Health Care (2001) sets clear direction for the development of primary health care teams and the evolution of professional health providers' roles knowledge, skills and attitudes.

The Deans are acutely aware of this changing health environment, and are committed to develop mechanisms by which interprofessional, patient-centred training contributes to the new vision of health care. The Deans have recognized that to truly bring together health science students from across the range of health professions, Saskatchewan's approach must go beyond health sciences at the University of Saskatchewan. This proposal therefore includes the University of Regina (Social Work), the First Nations University of Canada (Indian Social Work and Nursing) and the Saskatchewan Institute for Applied Science and Technology (Nursing) in a province-wide partnership to deliver interprofessional patient-centred education. Long-term sustainability of the model we are developing will require resource reallocation to support new models of education across these programs and institutions. We are committed to develop, implement, and evaluate such strategies to support a new integrated vision of health care built on primary health care.

The University of Saskatchewan Health Science Deans Committee has established four interprofessional subcommittees to develop plans for interprofessional undergraduate and graduate, clinical, Aboriginal and continuing education programs. The vision of the Interprofessional Health Education Subcommittee for undergraduate education is “All health program students will learn to be effective members of an interprofessional team in delivering client-centered care.”

In May 2004, the Interprofessional Health Education Subcommittee of the Health Science Deans produced a consensus expert opinion-based list of interprofessional core

competencies for health science students. Health Canada's commissioned work on interprofessional education shows that there is yet no gold standard for interprofessional competencies based on evidence of improved patient care. The committee therefore considered, debated, and developed an initial list to guide interprofessional work. This will guide further implementation of interprofessional education, and will be subject to ongoing evaluation, including within this proposal. The list of interprofessional core competencies includes:

- the ability to deliver high quality, seamless patient-centred care;
- a commitment to the principles of primary health care and application through a team;
- awareness and ability to identify the combined skill of the team members, appreciate one's own role and recognize one's limits;
- to recognize and be able to adapt to the reality of overlapping scopes of practice; and
- to be adaptable to working in a variety of team and patient settings, as part of a coordinated, interdisciplinary team.

The Saskatchewan Academic Health Sciences Network

The Saskatchewan Academic Health Sciences Network (SAHSN) brings together the Universities of Regina and Saskatchewan, Saskatchewan Institute of Applied Science and Technology, the Saskatchewan Ministries of Health and Learning, the Saskatoon and Regina Qu'Appelle Health Regions, and a representative of rural health regions. Established under a framework agreement in January 2002, and the funded by the Province of Saskatchewan, the vision of SAHSN is "through collaboration, Saskatchewan health partner organizations will achieve excellence in the education of health professionals, in health research and in the provision of health care services to residents of Saskatchewan."

Goals of the SAHSN relevant to this application include:

- "Under a broad definition of health, promote and advocate the development of excellence and interdependence in clinical services, health research and education of health professionals for the benefit of residents of Saskatchewan;" and
- "Promote the optimum use of skills of health professionals consistent with high quality and professional standards, encouraging where appropriate the use of interdisciplinary approaches and teamwork in clinical services, research and education."

In January 2003, the SAHSN released a strategy document, *Our Journey to Better Health: the Vision and Strategic Directions for Academic Health Sciences for the University of Saskatchewan and its partners*. This document frames a provincial vision for interprofessional patient-centred education. It states the goal that "programs will develop competent, contextually sensitive health and health care professionals with evidence-based practice skills and the ability to function effectively as members of health care interdisciplinary teams. Programs will also "hone leadership, administrative and community development skills." The conceptual framework is that undergraduate programs (on which this application focusses) will provide the foundation for interprofessional patient-centred health care training, with graduate and continuing education and research building on that foundation.

The IECPCP proposal development process

The development process for the IECPCP proposal has further strengthened the relationships in the partnership. Starting in May 2004, a proposal steering committee has met monthly to develop this proposal. It has brought together representatives of the University of Saskatchewan Health Science Deans and Provost's Office, Saskatchewan Institute for Applied Science and Technology Nursing Division, the University of Regina, First Nations University of Canada, Prince Albert Early Childhood Development Program, the Regina Qu'Appelle, Saskatoon, and Prince Albert Parkland Health Regions, Saskatchewan Health's Primary Health Services Branch, Saskatchewan Learning, health sciences students, the Northern Health Strategy, and the Battlefords Tribal Council Health Services.

Suitability of the University of Saskatchewan to undertake this project

The application will build on a set of strengths and features which together are unique to Saskatchewan and to the University of Saskatchewan. These features include a full range of community settings: rural, urban (both suburban and inner city), northern and remote, a diverse mix of people: first peoples and multiple generations of immigrant populations, from first to fifth generation.

Nine health science colleges, schools, and programs at the University of Saskatchewan, already collaborate in an integrated structure. Health services are delivered by twelve comprehensive health regions, which integrate the full range of care settings, from community to acute tertiary care.

A number of existing initiatives in interdisciplinary education including have already been undertaken. A recent inventory by the Health Science Deans lists thirty existing interprofessional education experiences in health sciences at the University of Saskatchewan. Three examples that show the range of these experiences are the International Interdisciplinary Community University Student Partnership (IICUSP), the Parkridge Interdisciplinary Practicum Program (PIPP), and the Medicine / Physiotherapy joint problem-based learning classroom sessions.

IICUSP is an initiative jointly undertaken by a number of health science faculties and four community based organizations to provide knowledge, skills and experience for students to work effectively with core communities in a primary health care setting and in international settings.

PIPP is an interprofessional practicum that provides an interdisciplinary experience in an in-patient rehabilitation and medically complex long-term care setting. Initiated by the health providers in the care setting, PIPP's goal is to increase quality resident care in a holistic interprofessional environment. An interprofessional student team follows the five residents, with preceptor supervision. The team assesses each resident and develops care goals and treatment plan drawing on the skills and knowledge of each profession.

For several years, physiotherapy and medicine students at the University of Saskatchewan have conducted problem-based learning exercises in joint, interprofessional classes.

Saskatchewan has established other organizational networks to facilitate collaboration. Beyond the Saskatchewan Academic Health Sciences Network and the Health Science Deans Committee already described, these organizational mechanisms include the Primary

Health Care Network, regional intersectoral planning committees, and a network of the 29 health professional associations in Saskatchewan. The Primary Health Care Network supported by the Ministry of Health, now extends to 28 active primary health care sites across the province. Each of these sites includes support for continuing education for interprofessional, patient-centred team development. The regional intersectoral planning committees link health, social, and justice services in regular regional planning meetings to coordinate services. The health professional associations regularly meet around primary health care development.

Saskatchewan has long been marked by a practical, can-do culture that facilitates communication, cooperation and change. Saskatchewan's population is also relatively small and stable. This means that many of our health and education leaders have been in leadership roles in their organizations for one or two decades. We know each other well, and we know how to cooperate to get things done. It is straightforward to communicate and to implement changes.

With the highest proportion of Aboriginal people in its population of any province (fifteen per cent), Saskatchewan has strong Aboriginal communities and province-wide structures. First Nations-led structures deliver community health services, including primary care, in much of the province. Saskatchewan has a twenty-five year history of First Nations-led postsecondary education, now the province's third university, the First Nations University of Canada. The Northern Health Strategy coordinates health services across the northern, mainly Aboriginal population half of Saskatchewan. The Battlefords Tribal Council Health Services delivers health services in rural and urban west central Saskatchewan. These organizations are involved in this proposal.

Finally, the lead organization has effective administrative systems in place; the University of Saskatchewan currently administers over \$100 million in external grants and awards per year.

Related applications, contracts or grants

One existing grant is relevant to this application:

Title: Issues of Quality and Continuing Professional Development: Maintenance of Competence;

Number: 6799-15-2003/6070002;

Name and funding Agency: Health Canada;

Amount Received - \$985,000 (The U of S is a co-applicant with 17 other Medical schools and has received \$13,000);

Duration: 11/2003-3/2006.

4. Partner organizations

Description of the partnership

The partnership involves the following programs and organizations:

University of Saskatchewan

- College of Nursing
- School of Physical Therapy

- College of Medicine
 - College of Pharmacy and Nutrition
 - College of Education, Department of Educational Psychology
Saskatchewan Institute of Applied Science and Technology
 - Nursing Division, Nursing Education Program of Saskatchewan
University of Regina
 - Clinical Psychology, Department of Psychology, Faculty of Arts and Sciences
 - Faculty of Social Work
First Nations University of Canada
 - Environmental Studies
 - Undergraduate Nursing program, Nursing Education Program of Saskatchewan
Health service agencies
 - Saskatoon Health Region
 - Regina Qu'Appelle Health Region
 - Prince Albert Parkland Health Region
 - Prince Albert Early Childhood Education Program
 - Northern Health Strategy*
 - Battlefords Tribal Council Health Services
 - Student Wellness Initiative Toward Community Health (SWITCH)
Government of Saskatchewan
 - Primary Health Services Branch, Saskatchewan Health (ministry of health)
 - Saskatchewan Learning (ministry of education)
- * The Northern Health Strategy has indicated support for the project, but since it involves clinical placements, asked us to approach each member health agency directly. We are in the process of doing that, and have had a positive response, but due to short timelines, were unable to have written letters of support with this proposal.

Executive endorsements from the organizations listed above are included in Appendix C. Letters of support are attached to this proposal.

The nature of the partnership

The partnership builds on existing relationships among Saskatchewan's four major postsecondary education institutions and the twelve regional health authorities. Several existing structures facilitate these relationships:

In addition to the Saskatchewan Academic Health Sciences Network which provides the broad provincial framework for collaboration, and the Health Science Deans at the University of Saskatchewan, two other networks are significant.

The Nursing Education Program of Saskatchewan (NEPS) is a combined, province-wide nursing education program supported by a partnership of SIAST, the University of Saskatchewan, and the First Nations University of Canada. It has operated successfully since 1996, with the first graduates in 2000. The First Nations University joined the NEPS academic partnership in 2003.

The Child and Youth Development Institute at the College of Education, University of Saskatchewan, has been established to provide interdisciplinary training of undergraduate and graduate students, interdisciplinary assessment and intervention services, interdisciplinary professional development, and interprofessional research. It is a collaboration involving relationships with Medicine (Departments of Pediatrics and Psychiatry, and the School of Physical Therapy), Nursing, Pharmacy and Nutrition, Kinesiology, Clinical Psychology, and Services for Students with Disabilities, all at the University of Saskatchewan. The creation of the Child and Youth Development Institute responds to the University of Saskatchewan's College of Education's call for increased multidisciplinary collaboration between the College of Education and the health science colleges.

The University of Saskatchewan will serve as the lead organization. SIAST, the University of Regina, and First Nations University of Canada will all participate in both interprofessional curriculum and clinical placements. Regional health authorities and First Nations health agencies will support and provide settings for clinical placements. All partners will participate in the governing structures and work together to develop the overall design and implementation of the P-CITE project.

Group cohesiveness and trust has already been built, through the last few years of interprofessional development work and collaborative structures described above. These structures and relationships are strong and working well. Communication is also flowing well through regular meetings at various leadership levels of the partners involved. We anticipate that will continue. The partnership has already had to resolve initially differing visions of how this project might unfold, and has successfully and positively done so. We do not anticipate any serious conflicts over the term of this project, but if so, good precedents have been set for problem solving. Ultimately, one senior officer is responsible for this project, the Provost and Academic Vice-president of the University of Saskatchewan, and if necessary he can take the lead to resolve conflicts. The University will also be responsible for financial administration; it has a strong record of effective financial administration, and we anticipate no problems on that front.

5. Involvement of patients and learners

Public, patient and learner representatives will sit on the Steering Committee. It is our experience, however, that the role of patients and learners must be strengthened and facilitated. True patient and learners involvement requires a qualitatively different way of participating. Sitting as one of one or two representatives on a steering committee dominated by health education and service leaders can be intimidating and difficult to

engage in. To strengthen the involvement of the public, patient organizations and learners, we will create advisory committees of each to act as support systems.

The Steering Committee will create a patient advisory committee of nine members, made up of two nominees from significant provincial organizations active in each of the four theme areas of the project and a representative from the Consumers Association of Canada. Similarly, the Steering Committee will create a learner advisory group made up of students from each of the major programs involved in the project, including a postgraduate medical resident, and a representative of the Student Wellness Initiative Towards Community Health (SWITCH) program.

This student-led collaboration will be an important contributor to the P-CITE project across all its clinical themes. Inspired by a similar project in Vancouver, a group of health professional students now numbering 150 proposes to open an interprofessional after-hours primary health care clinic and training centre with interprofessional faculty supervision. SWITCH is evidence of the enthusiasm and commitment of students across the University of Saskatchewan's health programs. While SWITCH was inspired by a Vancouver model, it has evolved beyond that model of student urgent care in a high needs and under service neighbourhood. The Saskatoon model is for primary health care chronic care, prevention and promotion, again, student-provided and in a high-need, under-served neighbourhood.

6. Organizational structure

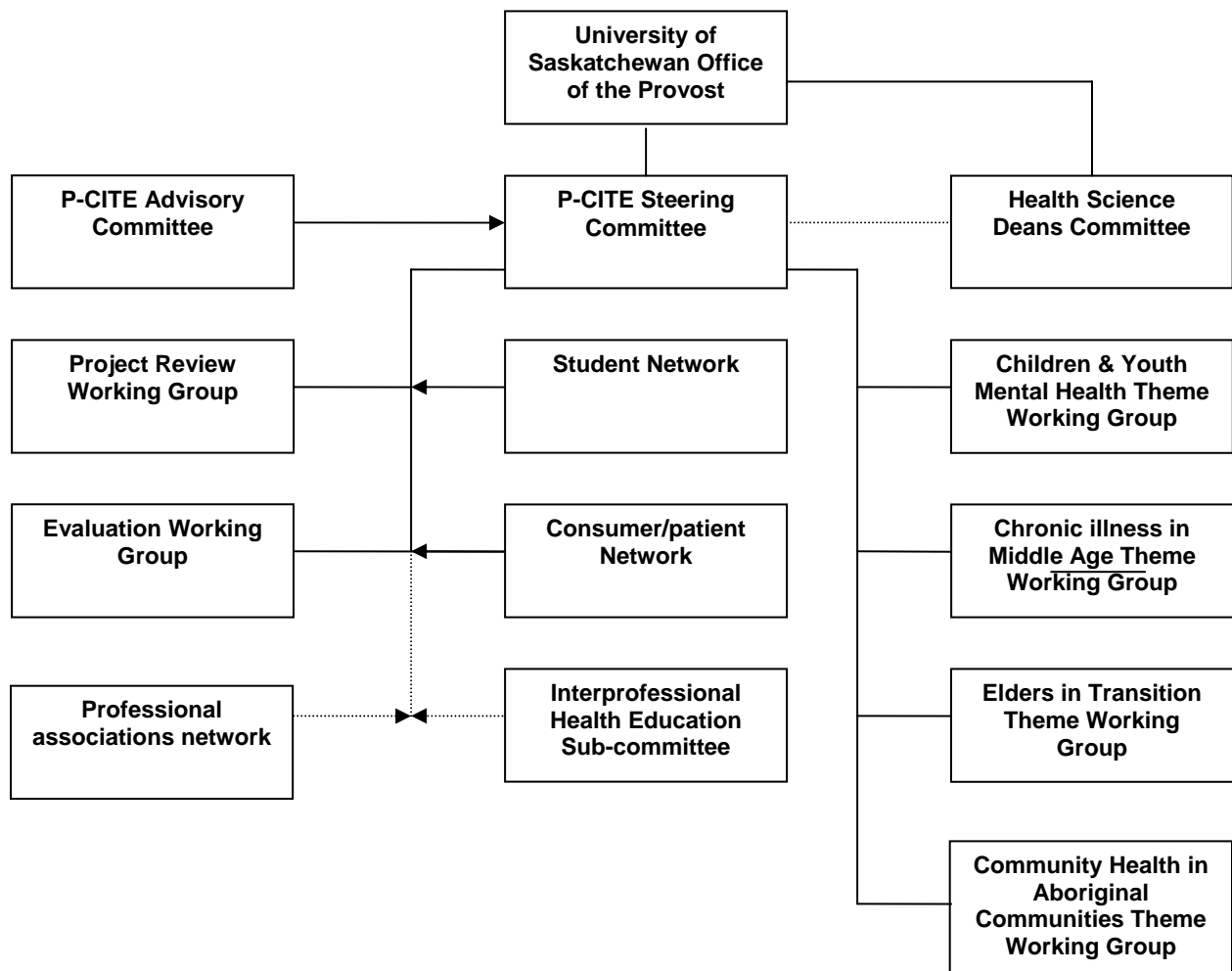
Steering committee

The Steering Committee will meet every two months to set project policy, coordinate relationships among the partners, approve programs within the project, and make budget allocations. The Provost of the University of Saskatchewan will appoint the Steering Committee on the advice of the University of Saskatchewan Health Science Deans Committee. It will not exceed twelve members, and one member may fulfill several roles. It will include representation from:

- students (from among the students in the student advisory group)
- consumers (at least one from among the members of the consumer/patient advisory group)
- First Nations University of Canada
- a health region
- the College of Medicine
- the College of Nursing
- primary health care service organizations

It will also include the co-chairs of the project and representatives of each of the four theme working groups and the committees on evaluation and project review.

Figure 2. Saskatchewan IECPCP governing and coordinating structure



The co-chairs will form a Project Management Committee, accountable to the Steering Committee. The Project Management Committee will supervise week-to-week operation of the project. The Project Management Committee will meet regularly as necessary, likely every two weeks, especially during the start-up phase.

An Advisory Committee composed of representatives of all partners will advise the Steering Committee. The Advisory Committee will meet semi-annually, provide advice to the project Steering Committee, facilitate communication of project activities and results, act as a sounding board for the Steering Committee, and recommend representatives to the Steering Committee.

The project will be closely linked with the activities of existing Health Sciences Deans sub-committees. The Steering Committee will ensure that each clinical placement and interprofessional curriculum proposal is reviewed and supported by the appropriate Health Science Deans sub-committee before approval. The Interprofessional Health Education

Sub-committee of the Health Science Deans will be responsible for the curriculum development component of the project. The project will also receive support from the existing Special Project Manager of the Health Sciences Dean Committee. Because the project relies on capable existing administrative support, and strong existing leadership, collaboration, and communication structures, very little of the budget will be allocated to central administration and coordination. Most of the budget will go directly into curriculum development and clinical placements.

Co-chairs

The co-chairs of the project will be Dr. Elizabeth Harrison, Associate Dean Interprofessional Health Sciences, College of Medicine, and Director of the School of Physiotherapy, University of Saskatchewan, and Sheila Achilles, General Manager of Primary Health Care, Saskatoon Health Region. (Dr. William Albritton, Dean of the College of Medicine, will act briefly in the place of Dr. Harrison during her administrative leave that will end in June 2005, during start-up of the project.)

Summary of co-chairs experience

Sheila Achilles, General Manager, Primary Health, Saskatoon Health Region

Sheila Achilles has worked within the community for more than twenty-five years, both as a care provider and an administrator. As a professional Registered Nurse, she has participated in interdisciplinary team functions and client-centred conferencing. Capacity building within the community has required innovative intersectoral partnerships as well as ongoing role clarification. This work led to her writing a Masters thesis titled, "Diffusion of the Primary Health Care Concept within an Interdisciplinary Team".

Currently, Sheila Achilles is General Manager of Primary Health for the Saskatoon Health Region. This role requires a comprehensive understanding of the principles of primary health care, as defined by the World Health Organization (Alma Ata 1978). As primary care reform evolves across the country, the Saskatoon Health Region has a strategic vision of collaborative interdisciplinary team networks within the community. This vision will offer many opportunities to enhance interprofessional education and patient centred practice.

Ms. Achilles states that she is committed to the advancement of interprofessional education for all professions, and looks forward to the success of the above project. She appreciates this opportunity to participate in a new and evolving role of the health professional.

Dr. Elizabeth Harrison, Associate Dean Interprofessional Health Sciences, College of Medicine, and Director of the School of Physiotherapy, University of Saskatchewan

For over 25 years, Liz Harrison has worked in a variety of clinical and educational settings that have included collaborative patient-centred practice. In her early days as a physical therapy clinician, she worked in both acute and long-term care environments that evolved from traditional hierarchical medical models to environments that began to value the collaboration between health professionals. She has seen the benefits of being a member of a team – maximizing patient outcomes and improving satisfaction as a health professional. She has worked in rehabilitation settings that provided excellent opportunities for patient-centered care and team practices for both students and professionals. Her involvement with complex neurological, medical and musculo-skeletal patient populations have facilitated

her close working relationship with occupational therapists, physical therapists, speech language pathologists, physicians (including a variety of specialties), nurses, psychologists, prosthetists, chaplains, respiratory therapists, pharmacists, and dietitians. Within these settings, she has gained significant experiences related to engaging the patient and their families actively in their health care.

For the past 20 years, Liz Harrison's teaching and clinical focus has been in the area of sport physical therapy. The health care needs of athletes have allowed her to work in truly interprofessional settings where athletes and health professionals come together in a variety of community settings. Through these clinical experiences, she has collaborated with a variety of colleagues in many health professions – including a variety of traditional and alternative health care providers. In addition to working within a variety of teams to provide emergency and primary health care, Dr. Harrison had extensive experience related to education of patients, coaches, parents, and teachers. She has led the development of sports medicine teams within the community and worked as part of multi-disciplinary health care teams in a variety of countries. These settings are truly representative of the collaborative possibilities for health professionals.

Most recently, Dr. Harrison has worked closely with colleagues in the clinical and academic communities to develop opportunities for students to engage in a variety of intersectoral and multi-disciplinary clinical opportunities. She has participated in student sessions on primary health and international health. Her teaching background involves significant experience with case-based approaches, which have been ideal for developing interprofessional content. This past year she led the development of a web-based course on evidence-based practice intended as a continuing education course for health professionals. One other innovative program that has affected her interprofessional background over the past year has been her participation as a researcher in the Aging Research Team on campus. This group is made up of a variety of health professionals, basic scientists and social scientists involved in research and teaching. One of the major focusses of this group is to provide interdisciplinary training opportunities for students from various disciplines in the area of aging.

Through her activities as Associate Dean Interprofessional Health Sciences, College of Medicine, she has worked with faculty members who are involved in development of interprofessional courses, including an innovative community program developed to bring a variety of health science students together with community leaders to work together on complex community/primary health problems. As a member of the Health Science Dean's Committee, she is committed to expanding the range of activities for students to work together. She has supported funding for faculty members and staff to participate in a range of educational and clinical activities, and has attended interprofessional workshops and conferences and presented some of the work of groups at the University of Saskatchewan.

Over the years, Dr. Harrison has also been involved as a health professional with patient and professional organizations. Most recently, she has worked closely with the Arthritis Society in development of educational materials for patients delivered via web-based media. This activity engaged a variety of patient populations, including youth, and involved collaboration of health professionals with educators.

7. Project description

Project title

Patient-Centered Interprofessional Team Experiences (P-CITE).

Overview

The proposal development team has developed multidimensional conceptual model for P-CITE. P-CITE will be fundamentally patient-centred in its design, multi-dimensional, and comprehensive of the education process. Because the proposal is fundamentally patient-centred, the project will build its interdisciplinary teaching in both clinical and classroom settings around on the health issues of four patient/client populations. These are mental health in children and youth, chronic illness in middle-aged adults, the transition from hospital to community among elders, and community health in Aboriginal communities. Selection of these P-CITE theme areas are strongly influenced by two factors. The first is that we want to start clinical education from patient populations; we want to focus education on frequently encountered, real world situations where interprofessional collaboration can make a difference in patient outcomes. Secondly, we have been strongly influenced by the primary health care model, and the growing need of Saskatchewan's health system for health professionals trained to work in that model. In all four theme areas, we will be following patients, in teams, longitudinally, over time, rather than focusing on team-based care solely in episodic care. Four theme working groups will develop an interdisciplinary clinical education program focused on each of these four patient populations.

The project will also be multi-dimensional. We will define each particular activity by how it encompasses the following dimensions:

- care goals (preventive, supportive, curative, palliative)
- care settings (institutional, community, primary care (outpatient clinic-based), and home-based)
- geographic settings (rural, northern and remote, urban);
- inter-professional engagement (at least two health professions involved in each program, at least one of which are physicians or nurses)
- care approaches (building capacity and resiliency, short-term episodic care, long-term care supported self-care)

See Table 1 below for an overview of the dimensions.

Program stream/patient population	Focus	Care goal	Care setting	Geographic setting	Possible health professional engagement	Care approach
Children and youth	mental health and development	preventive	community, primary care	rural, urban, north	child psychologists, pharmacists, physicians, nurses, families	building capacity and resiliency
Middle-aged adults	chronic illness	preventive	primary care	rural, urban	patients, physicians, pharmacists, nurses	long-term supported self-care

Elders	integration of acute, community, and home care settings	curative, supportive	all	urban	patients & families nurses, physiotherapists, pharmacists, physicians	short-term episodic care (focusing on hospital discharge)
Aboriginal communities	community health and development	preventive	community, primary care	northern, urban	patients, community leaders, nurses, physicians	building capacity and resiliency

8. Description of theme areas for clinical placements

Overall organization

Responsibilities

For each theme area, the Steering Committee, in consultation with the Health Science Deans Committee, will form a theme working group comprised of all health profession programs interested in placing students in practicums and internships in that theme, service agency partners, representative of patients involved in such programs or with chronic illness conditions, and of students. This working group will plan and supervise the development of the interprofessional program in this theme area.

Activities

Each theme working group will identify one or more inter-professional clinical education activities. These activities may be defined by sites or involvement in health service programs, and will vary across the dimensions listed above. Each activity must differ from all others by at least one of these dimensions, to ensure variability for evaluation purposes. A Review Committee, responsible to the Steering Committee, will review allocation of funds to specific clinical and classroom activities, and ensure a full range of activities across the different dimensions.

P-CITE will be comprehensive of the education process. While focusing on undergraduate education, each project will address undergraduate, graduate, and continuing education, and will include interdisciplinary involvement, communication, decision-making, and education among students, professional practitioners, faculty supervisors, and patients and caregivers.

Participation

Any health professional training program, with the agreement of the Steering Committee, will have the opportunity to participate in any of the four themes or curriculum options. Professional education programs will contribute faculty to supervise and participate in a faculty team, and interdisciplinary education support, such as existing classes or educational settings, in proportion to the students engaged in the interprofessional components of this project. Each health professional training program will determine how to credit their students for the interprofessional experiences.

Theme 1. Children and youth mental health

The children and youth mental health theme will be built around the Child and Youth Development Institute. A program outside the traditional orbit of health sciences

education, Educational Psychology, is leading this innovative approach to interdisciplinary education.

Saskatchewan leads in the area of innovation in children and youth mental health. The Province has a Children's Advocate, reporting directly to the Legislative Assembly. This officer has played a leading role in advocating for improved approaches to children's services. In the spring of 2004, she released a comprehensive report, *It's time for a plan for children's mental health*, which laid out a blueprint for improving the delivery of children's mental health services. The report called for improved collaboration across sectors, evidence-based practice, and applying multiple strategies to increase coordination of mental health services to children and adolescents. The Child and Youth Development Institute is a response to the Children's Advocate's call.

This theme will build on existing initiatives. The Nursing Education Program of Saskatchewan has an existing fourth-year integrated practicums in Prince Albert community schools, hosted by the Prince Albert Early Childhood Development Program. These practicums have led to demand from school boards and the Saskatchewan Ministry of Learning for further sites to be added. Pharmacy students will be included in this practicum in the new year. Expansion of this practicum is limited only by the availability of faculty to supervise. The College of Nursing also has nursing only senior practicums in mental health at the Saskatchewan Youth Farm and the Nutana Collegiate school-linked services program in Saskatoon. The College of Nursing believes these practicums could be enhanced by including other disciplines.

Objectives

To foster interdisciplinary understanding, communication, and exchange of frameworks and skills among health and education profession students and faculty engaged in children and youth health care and education. The learning opportunities will focus around a framework for encouraging and supporting developmental wellness and resiliency.

Activities

The children and youth mental health theme will provide practicum and internship sites or settings for undergraduate and graduate students from education and health sciences. These sites or settings will include faculty interaction and collaboration across disciplines, and continuing education interventions with existing service providers, such as those listed above.

The Alvin Buckwold Child Development Program in the Saskatoon Health Region has indicated its support and willingness to participate in a consumer/patient advisory network.

Completion date

This theme area is ready to start and will run for the full three years of the project.

Responsibility

An existing network, the Child and Youth Development Institute will form the basis of an interdisciplinary working group from among all health profession programs interested in placing students in practicums and internships, organizations representing client's families, and health service provider organizations. This working group will plan and supervise the development of the interprofessional program in this theme area.

Outcomes

Students and faculty will demonstrate increased awareness and appreciation of the knowledge, skills, and frameworks used in other health and education disciplines to understand children's mental health issues. Clients and their families will report increased satisfaction in their interaction with health care and education professionals in children and mental health services. Service agencies will recognize the value of interprofessional cooperation in delivering children's mental health services and will start to modify their existing service delivery models to accommodate this cooperation.

We plan to engage six teams of eight students each per year in clinical experiences in the children and youth mental health theme.

Chronic illness in middle age

This theme will be built around existing or planned interprofessional experiences. These include SWITCH (described earlier in this proposal), Saskatchewan's primary health care sites, the First Step program, and the Saskatoon Health Region's Client and Patient Access Service (CPAS), City Centre Family Physician Project, and the Prince Albert Diabetes Management Project.

Saskatchewan has 28 primary health care sites. One existing site in southeast Saskatoon now supports about 20 nursing clinical placements a year, and could support interprofessional placements. A second, major new site is about to open in west Saskatoon. The Westwinds Primary Health Care Centre will host more than 100 staff of a mix of professions. The Department of Family Medicine of the University of Saskatchewan will relocate there and provide direct service and residency training. This centre would welcome interprofessional student practicums, and could become a main site for primary health care related practicums in Saskatoon. Chronic illness care would be a natural focus.

The First Step program provides care and support for self-care for chronic illness, mostly in group settings. The program is a partnership between the Saskatoon Health Region and the City of Saskatoon. Begun as a cardiac rehabilitation program, it has since expanded. First Step helps patients with a variety of chronic conditions (cardio-vascular diseases, diabetes, obesity, arthritis, and Parkinson's disease) and provides them with assessment and supportive care focussed on maximizing function, increasing physical activity and providing health education. This program is an ideal opportunity for interprofessional clinical experience for students from kinesiology, medicine, nutrition, nursing, physical therapy, pharmacy, and psychology.

The City Centre Family Physician Project in Saskatoon has collaborated with a ten-physician group practice that provides medical care for a predominantly late middle-aged and elderly patient population with Saskatoon Health Region's Client Patient Access Service (CPAS). CPAS coordinates assessment and home care services directly within the practice. CPAS works directly on a daily basis with the physicians to provide assessment and support services to community-living people at high risk of hospitalization or nursing home admission.

The General Manager for Chronic Disease Management in Saskatoon Health Region has also indicated her support for the P-CITE initiative, and would be willing to assist in setting up interprofessional clinical placements in the Region.

The Heart and Stroke Foundation of Saskatchewan has stated its support for interprofessional education for chronic care, and that it will participate in a patient/consumer network for P-CITE.

Objectives

To foster interdisciplinary understanding, communication, and exchange of frameworks and skills among health profession students and faculty engaged in care for chronic illness and support for self-care in middle age. The learning opportunities will focus around how to improve patient quality of life and outcomes in community and primary health care settings.

Activities

The chronic illness in middle age theme will provide practicum and internship sites or settings for undergraduate and graduate students from medicine, nursing, pharmacy, physiotherapy, nutrition, kinesiology and other interested health sciences. Sites or settings will include faculty interaction and collaboration across disciplines, and continuing education interventions with existing service providers.

Completion date

This theme area will run for all three years of the project.

Outcomes

Students and faculty will demonstrate increased awareness and appreciation of the knowledge, skills, and frameworks used in chronic illness supported self-care in middle age. Patients will report increased satisfaction in their interaction with health care professionals in these communities.

Elders in the transition from acute to community care

This theme area addresses an important area where research has shown poor outcomes amenable to improvement with simple interventions. Research demonstrates that poor communication and poor interprofessional collaboration lead to adverse health outcomes such as death and hospital readmission, and that simple follow-up, effective communication, and interprofessional collaboration can lead to dramatically improved outcomes. The transition from hospital discharge to community support and follow up is a hand off fraught with adverse events, and charged with opportunity for improvement. This theme area will also address the challenge of interprofessional collaboration in the acute care setting, the setting where most health professionals continue to work.

In the Saskatoon Health Region, Client/Patient Access Services coordinates entry into and discharge from acute care services. The manager of this service is strongly interested in using the service as a setting for interprofessional education. A similar service in Regina Qu'Appelle Health Region, the System-Wide Admission and Discharge Unit, would be another setting that could provide valuable learning to students.

Saskatoon Health Region's Client Patient Access Services provides single entry access to community services including home care services and community therapies, to all long-term care services, including nursing homes, a quick response program in three emergency departments to divert hospital admission with home services, and discharge planning and

case management from acute care to community care. The program currently hosts clinical placements for nurses, and has indicated its strong support for interprofessional clinical placements.

Palliative care in Saskatoon has long been established as an integrated care service across acute care and home care. Clients move across those boundaries as needed during a palliative care episode. Interprofessional collaboration across care sites is well established through case conferencing. This setting would also provide a valuable setting for a successfully integrated interprofessional training setting.

Objectives

To foster interdisciplinary understanding, communication, and exchange of frameworks and skills among health and education profession students and faculty engaged in the transition process of elders' discharge from hospital into community follow-up, such as home care and primary health care. The learning opportunities will focus around how to improve collaboration and communication across that boundary.

Activities

The elders in the transition from acute to community care theme will provide practicum and internship sites or settings for undergraduate and graduate students from medicine, nursing, pharmacy, physiotherapy, and other interested health sciences. Sites or settings will include faculty interaction and collaboration across disciplines, and continuing education interventions with existing service providers.

Completion date

This theme area will require some development. The first year will be a development year, and the practicum settings will run for the second and third years of the project.

Outcomes

Students and faculty will demonstrate increased awareness and appreciation of the knowledge, skills, and frameworks used in other health disciplines to understand elders' transition from acute to community care. Clients and their families will report increased satisfaction in their interaction with health care professionals in upon hospital discharge. Service agencies will recognize the value of interprofessional cooperation in coordinating hospital discharge with community follow-up, and will start to modify their existing service delivery models to accommodate this cooperation.

Health in Aboriginal Communities

Fifteen per cent of Saskatchewan's population is Aboriginal, and ten per cent of Saskatchewan's population is First Nations. This proportion is growing. About half of Aboriginal people live in the major cities, and half live in rural communities, many of them remote communities in the north. Many of these communities have taken over administration of their own primary health care services, and are developing integrated, interprofessional approaches to community health care, built on an understanding of the determinants of health and a community development model. They are an ideal setting for health students to learn about interprofessional collaboration to improve community health.

Both Battlefords Tribal Council Health Services and Mamewetan Churchill Health Region have indicated their support and interest in hosting interprofessional practicums. Mamewetan Churchill Health Region serves north eastern Saskatchewan with community services for non-First Nations people, and acute and medical care services for the entire population.

Objectives

To foster interdisciplinary understanding, communication, and exchange of frameworks and skills among health profession students and faculty engaged in health service and community development in Aboriginal communities.

Activities

The health in Aboriginal communities theme will provide practicum and internship sites or settings for undergraduate and graduate students from medicine, nursing, pharmacy, physiotherapy, nutrition, and other interested health sciences. Sites or settings will include faculty interaction and collaboration across disciplines, and continuing education support for existing service providers.

Completion date

This theme area will run for all three years of the project.

Responsible

The Steering Committee will form a theme working group comprised of all health profession programs interested in placing students in practicums and internships, and Aboriginal communities and health systems. This working group will plan and supervise the development of the interprofessional program in this theme area.

Outcomes

Students and faculty will demonstrate increased awareness and appreciation of the knowledge, skills, and frameworks used in improving health in Aboriginal communities. Communities will report increased satisfaction in their interaction with health care professionals in these communities.

Conceptual framework and link to evidence base

The development work done to date at the University of Saskatchewan has been based on literature reviews conducted by faculty, interviews and focus groups with faculty to assess opportunities and barriers, and educational theory introduced by the Education Support and Development unit of the College of Medicine.

The Oandasan report on interdisciplinary education prepared by Health Canada and presented at a spring 2004 conference concluded that we cannot move forward in interprofessional education without recognizing the interdependence of interprofessional education and collaborative practice. It further concluded that a collaborative approach to interprofessional education by educators, researchers, practitioners and their leaders is necessary. The conceptual model Oandasan and colleagues presented is based on the interdependence of interprofessional education to enhance learner outcomes and collaborative practice to enhance patient care outcomes.

This project is firmly founded on that fundamental conceptual framework. The P-CITE project itself is a strong, province-wide partnership of education institutions and health service organizations that has been years in the making. The project will contribute to a broader, province-wide initiative to transform health care and health care education together to become more interprofessional and patient-centred. The two sides of the equation are moving forward together, and synergistically.

Curriculum development will be based on a set of key ideas and frameworks of adult learning. These were summarized by University of Saskatchewan College of Medicine Director of Education Support and Development Marcel D'Eon at Health Canada's spring 2004 conference. They are outlined in this proposal in the section on teaching methods and tools.

Context

The drivers of this project are multiple. Within the university community there has been work to develop interprofessional, patient-centred education for the past seven years. Under senior university leadership, structures have been built to support this work. Planning for a new health sciences building at the university, to which the Province has committed, is leading to innovative thinking about how faculty and students can work together more closely. Within each faculty, early adopters of innovative interprofessional, patient-centred education have been steadily working on pilot projects, and are now approaching critical mass. Province-wide, Saskatchewan Health has committed to building a new model of health delivery, and has been supporting it through its primary health care initiative. Among students, there has been growing enthusiasm for interprofessional collaboration, as evidenced in the student-led SWITCH initiative. Among providers, collaborative interprofessional projects have appeared not only in the 28 primary health care sites across the province, but in provider-initiated projects like the PIPP.

Opportunities for interprofessional, patient-centred health education abound. A strong network to support such initiatives has been built around the Saskatchewan Academic Health Sciences Network, and the Health Sciences Deans Committee. Regional Health Authorities want providers trained interprofessionally. Saskatchewan's Action Plan for Health and the Primary Health Care initiative that springs from it have set the strategic direction for transforming health care delivery. Approximately thirty existing interprofessional education settings already exist. Students are calling for interprofessional, patient-centred experiences through their initiative to form SWITCH. The new Child and Youth Development Institute has brought Educational Psychology into the interprofessional education mix. Saskatchewan has a strong First Nations postsecondary education institution, and strong First Nations health service delivery networks organized by tribal councils, both of which are on board to facilitate interprofessional clinical placements. Saskatchewan's health professional organizations meet regularly to discuss interprofessional cooperation in primary health care.

Contribution to changing culture

P-CITE will contribute to changing the culture of health service delivery in several ways. First, and most important, by the end of the project, it will expose all health professional students to interprofessional, patient-centred concepts in their curriculum, and it will expose ten per cent, approximately 250 students, to interprofessional clinical settings by

graduation. It will provide ongoing engagement of current health service providers in P-CITE clinical settings in interprofessional, patient-centred continuing education. Discussions have already been held about combining the service provider and P-CITE continuing education activities and budgets at one large primary care site. P-CITE will also engage Saskatchewan's professional associations, through knowledge exchange activities. Finally, P-CITE will engage existing faculty in health professional programs in these concepts, through curriculum development and participation in clinical sites.

Barriers and challenges

Barriers and challenges to the implementation of interprofessional, patient-centred education are many; if there were none, it would already be thriving. Challenges include faculty inertia and resistance. Although there are ginger groups of early adopter faculty in each program, university reward structures, the slow and deliberate pace of curriculum change, and the massive logistics of scheduling across different programs each with differing daily, weekly, and semester course schedules are daunting. Implementation of P-CITE will require attention to faculty development, and ultimately, will require faculty buy-in. This process is already underway, and shows promising progress. We will address this challenge by freeing faculty time for development work, and by faculty leadership placing high priority on interprofessional, patient-centred curriculum development work for workload assignments.

A second challenge is the disproportionate number of students across programs. Student numbers in each program range from a handful of students in some programs, to several hundred in many professional programs, to well over one thousand in nursing. Creating interprofessional experiences will require engaging students on a large scale, and finding many experience settings, especially for nursing. However, nursing already has to find large numbers of clinical placements, and has staff dedicated to this function. The resources are there, but will require a change in focus.

A third challenge is that few existing practice settings are interprofessional and patient-centred. That, of course, is the reason for this project. This is a concern because it may be counter-productive to place students into settings that are less advanced than their educational training is preparing them for. We will address this by selecting more advanced settings for our clinical placements, and by including a continuing education component for service providers in the clinical settings we use.

Finally, developing new curriculum and new interprofessional clinical settings is time-intensive. Funding for this project will serve as a catalyst to allow this investment in change to occur. Once the investment is made, it will be sustainable with existing resources and curriculum and clinical placement structures and support systems.

Target audiences

The target audiences for the P-CITE initiatives will be many. In order for cultural change to occur, we must address multiple audiences in various ways. The focus audiences for this proposal will be undergraduate students. However, in some disciplines, such as medicine and clinical and educational psychology, most clinical work is done at the graduate level. In these programs, we will also aim to engage graduate students. Faculty will be another important audience for continuing professional development, as will health system service

providers in the clinical settings we use. We will devote some resources to supporting continuing education for both these groups. Finally, patients and consumers will be an important audience. We will engage our consumer/patient organization partners for education efforts to their audiences about trends to interprofessional, patient-centred care and its implications for quality of care and communication with patients.

Integration of learning

We estimate that at present, about two percent of our students are exposed to education in interprofessional settings. We aim to expand this exposure by steadily expanding the integration of interprofessional patient-centred education into regular curriculum into both classroom and clinical settings. Starting out as pilot projects in some programs, or within some student groups in programs, classroom introductions to interprofessional, patient-centred concepts and frameworks will be extended to all health professional students by the end of the P-CITE project. Problem-based learning in classroom settings around interprofessional patient-centred teams will be available to half our students by the end of the project. Interprofessional patient-centred clinical experiences will be available to one tenth of our students (250) by the end of the P-CITE project. We think these are realistic and achievable goals.

Classroom teaching and clinical experience will be linked using the four themes of P-CITE: mental health in children and youth, chronic illness in middle age, transitions from hospital to community for elders, and community health in Aboriginal communities. We will use these four themes to select case-based problems for increasingly complex classroom learning, and for clinical experiences that build on and add to this classroom learning.

Finally, integration of learning will occur across educational and service delivery sites by several mechanisms: interaction through student and faculty clinical experiences, continuing education for service providers in clinical sites, and interaction with professional associations for knowledge exchange as the project progresses.

9. Project objectives

Overall goal

The goal of the P-CITE Program is to improve the health of communities, families and individuals across the province through engagement of communities and academic institutions in implementing and evaluating interprofessional teams for patient-centered health care.

Specific objectives

The program will have three specific objectives.

- 1. Develop innovative interprofessional patient-centred education programs and settings and evaluate their benefits*

The project will develop innovative interprofessional education in a variety of settings, and evaluate the benefits of inter-professional education for collaborative patient-centred practice experientially (through the participation experience of students, faculty, and professional staff) and through both formative and summative evaluations.

2. *Stimulate spread of best approaches to interprofessional patient-centred education*

The project will stimulate networking and sharing of best approaches to inter-professional education for collaborative patient-centred practice through the inter-professional program planning process, and through presentations and workshops both within and across professions, including with administrators.

3. *Increase health professionals exposure to interprofessional patient-centred education*

The project will increase the number of health professionals trained and with experience in collaborative patient-centred practice. By the end of the 33-month P-CITE project, our goal is that all health professional students will have both exposure to interprofessional classroom experiences and ten per cent will have exposure to interprofessional practice in a clinical setting. We will use the inter-professional education settings as models to spread the concept of interdisciplinary, team-based health care to providers already practicing in the health system, and to demonstrate its advantages in patient care and improving outcomes of quality of care and patient safety. This educational initiative will run in parallel with initiatives in the health care service delivery system, such as the Province of Saskatchewan’s Primary Health Care Initiative. Together, they will contribute to a transformation of the province’s health care delivery.

Relation of project objectives to initiative objectives

These specific project objectives relate directly to the three mandatory objectives of the IECPCP initiative.

Work plan and timelines

Activities, timelines, and responsibilities, expected outcomes, and evaluation have all been described in the appropriate sections of this proposal. For a summary, see the project work plan.

Activity	2005				2006				2007		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Program coordination											
establish coordinating structures											
finalize program design											
Curriculum development											
instructional development & support											
educator / practitioner education											
Clinical placement development											
children & youth mental health											
chronic illness in middle age											
elders in care transition											
health in Aboriginal communities											
Knowledge exchange											
Evaluation and research											
develop detailed evaluation design											

implement data collection											
evaluation reporting											

Note: Program coordination, curriculum development, and clinical placement development will be ongoing in the health professional programs. The work plan above describes only work plan for activities funded through P-CITE.

Teaching methods and tools

The P-CITE project will use two main tools for developing interprofessional skills and experience among students: classroom education built around interprofessional problem solving exercises, staged from simple basic skills to complex problem solving, and interprofessional clinical experiences. These strategies will include a formal critical process of including the patient as the locus of control. We will organize interprofessional clinical experiences around interprofessional, patient-centred problem solving within four population-based themes:

- children and youth mental health (the problem of how to build resiliency in families and communities);
- chronic illness in middle age (the problem of how to support long-term self care);
- the transition from acute to community care for elders (the problem of effective discharge planning and communication across care settings); and
- community health in Aboriginal communities (the problems of how to carry out integrated health promotion, public health, community health, primary health care, and community development activities).

We have described each of these four theme areas for clinical placements in more detail in a previous section.

Saskatchewan has the advantage of building on several existing initiatives. The Health Sciences Deans have already established an Interdisciplinary Health Education Sub-committee. This sub-committee commissioned a report on interdisciplinary undergraduate education in 2002 (the Proctor report), which laid out a framework for progress which the sub-committee has been following.

The starting point for curriculum development is that interprofessional patient-centred care is based on competencies that can be taught and evaluated. Saskatchewan has the advantage that the Interprofessional Health Education Sub-committee of the Health Science Deans has already developed and defined a list of core competencies across health disciplines (see previous description). We will use these as the basis for further curriculum development.

In developing interprofessional curriculum, we will phase interdisciplinary education by the student's stage of education and experience with interprofessional education:

- At the introductory stage, we will introduce students to the theory, concepts, and skills of interprofessional collaboration: team work, communication skills, and implementation of patient-centred focus;
- in the middle stage, we will move to simpler team-based exercises in interprofessional small groups; and

- in the advanced stage, we will use more complex team-based clinical exercises in interprofessional groups linked directly to interprofessional clinical experiences.

Curriculum development will be based on a set of key ideas and frameworks of adult learning. These were summarized by University of Saskatchewan College of Medicine Director of Education Support and Development Marcel D'Eon at Health Canada's spring 2004 conference. The key principles are:

- Students will be challenged with progressively more complex learning tasks.
- Learning tasks will be based in the current and future reality in which the students will be working.
- Interprofessional learning groups will be structured using five elements of best-practice cooperative learning: mutual interdependence, face-to-face interaction, individual accountability, development of interpersonal and small group skills, and group processing.
- The learning process will be approached using an experiential learning framework of planning, doing, observing, and reflecting.

Examples of all of these teaching principles exist in the current curriculum in Medicine and Physiotherapy.

A challenge for this program is the use of preceptors and cooperative learning in practice settings that usually not interprofessional in nature, where the students in this program may be ahead of the providers in the practice setting in knowledge of and interest in interprofessional education. For this project to succeed, we will need to work with preceptors to support patient-centred teamwork. We will address this by having criteria for selection, a selection process, and training for preceptors, and by setting cooperative learning experiences in advanced sites where interprofessional cooperation already exists. We will also use the P-CITE program as a catalyst for and demonstration of interprofessional practice, helping to engage and bring along practice settings.

We will need to work to facilitate patient-centred interprofessional classroom teaching by overcoming logistical barriers. The goal should be to have common timetable slots available across programs. This will enable us to get different groups of students from different programs in the same room at the same time - currently a huge problem because of the different scheduling in each program. IHEC will play the role of a coordinating structure to accomplish this. We will build from current designated courses, and work to link them in time and place. We have some limited experience with this now, with Medicine and Physiotherapy combining classes for interdisciplinary classroom experiences.

Deans and heads of health professional training programs are committed to participating in meaningful interprofessional curriculum and establishing interprofessional clinical placements as a priority. They will encourage and support their faculty to implement it. This will require Deans' and program heads commitments to develop delivery models for interprofessional education to enhance the experiences. This will also require continuing education of faculty and administrators. All of this is consistent with the University Integrated Plan.

One strategy we will use to both support change in both the practice setting and encourage change in the education setting is to use mentors and champions from best practice service sites that have already implemented interprofessional patient-centred care in the education process, including in the classroom. A number of such best practice sites already exist in Saskatchewan, particularly in primary health care delivery, but also in other settings.

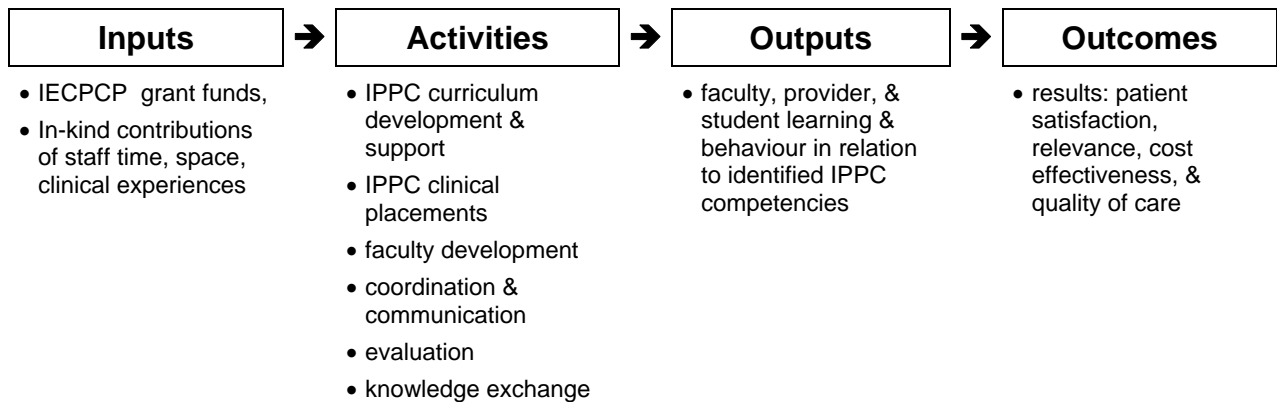
10. Evaluation plan

Evaluation design

We will design the evaluation around an outcomes-based program logic model, linked to an evaluation model (See Figure 2.)

Figure 1. Program logic and evaluation model for P-CITE

Program logic model



Evaluation model (quasi-experimental design)

Resource use	Reactions	Learning, behaviour	Results
<ul style="list-style-type: none"> • Dollar, staff-time inputs • financial accountability 	<ul style="list-style-type: none"> • Quantitative measures of activities: numbers of students, faculty, and providers exposed • reaction measures (are activities immediately effective?) 	<ul style="list-style-type: none"> • pre-post learning assessments: surveys of student, faculty, and provider knowledge, attitudes • instructor assessments of student behaviour change • qualitative measures of student, faculty & provider behaviour change 	<ul style="list-style-type: none"> • patient experience surveys • cost-effectiveness and quality measures where feasible

IPPC: interprofessional patient-centred

The evaluation process will collect ongoing data on each of the outcomes outlines above, through knowledge attitude and practice surveys of students, faculty and service providers before and after the interprofessional education intervention occurs. Similar data will be

collected in comparable control settings among students, faculty, and providers who do not participate in the activities of this theme.

An Evaluation Committee will lead the evaluation process. This committee will bring together evaluation expertise from University faculty, and including teaching faculty, service provider, patient, and student representatives. Faculty members from with evaluation expertise from Educational Psychology, Community Health and Epidemiology, and the Dean's Office in the College of Medicine have indicated their willingness to participate in developing an evaluation design and to lead the evaluation process. These faculty members bring expertise in evaluation design, measurement and indicator development. Two other faculty members have conducted a literature review on measures of student attitude change, on which we will draw. The Dean's Office of the College of Medicine has also recruited an evaluation specialist to start in January 2005, whom we will add to the team.

Principles that will guide the evaluation process include:

- The basic outcome (summative) evaluation design will be a quasi-experimental (pre-post, intervention compared to control), which is the strongest non-experimental design.
- Ongoing process (formative) evaluation will shape the program as it develops, this will include quantitative process indicators, such as those obtained from student and faculty surveys of knowledge, attitudes and behaviours, and qualitative data from interviews with faculty, students, and service providers.
- The evaluation will select training outcomes that are potentially linked by research evidence, where available, or by expert opinion where not, to achievement of desired health system outcomes. Desired health system outcomes include including relevance of services, cost effectiveness, and quality (including patient safety).
- Evaluation strategies will be developed to integrate the patient's view of their experience; we will explore building on province-wide quality data currently being collected by Saskatchewan's Health Quality Council on the patient experience in health care.
- We will finalize the evaluation design and select evaluation tools before implementation begins so that data collection will proceed as part of implementation.
- Data collection will be integrated into the program wherever as possible, to reduce data collection costs. For example, faculty will administer pre-post student surveys.
- Wherever possible, evaluation will use standard measures comparable with other sites.

To facilitate cross-site comparisons and reduce duplication of efforts in evaluation design, we have had discussions on collaboration with IECPCP proposal teams originating out of the University of British Columbia and the University of Manitoba. Along with these other potential sites, P-CITE is committed to fostering a network across the western provinces (British Columbia, Alberta, Saskatchewan and Manitoba) in the following key areas:

- to explore potential linkages regarding curricula for pre-licensure and post-licensure;
- to advance exchange of knowledge across our respective projects; and,

- to discuss evaluation approaches and explore opportunities for common measurement tools that would be used across projects. This will ensure comparability of evaluations, and provide efficiencies in evaluation design.

IECPCP application teams from Saskatchewan, British Columbia, and Manitoba, held an initial teleconference November 10, 2004, during which we agreed to cooperate on the three points listed above. We also see the potential to collaborate amongst successful western Canada proposals on faculty development and research projects built on the evaluation data. A face-to-face meeting to explore further linkages among the four provinces is planned for February 2005.

Overall plan for evaluation

While is premature to present a detailed evaluation plan, our commitment of thirteen per cent of our budget to evaluation, plus further funds to support research, indicates our commitment to this aspect of the project. Full development work will be undertaken as soon as funding is received. In the short time available to develop this proposal, we have assembled a skilled interprofessional evaluation team, developed an evaluation structure, and agreed on a framework and principles to guide the evaluation.

Specific evaluation design, such methods, measurement tools, and detailed data collection processes are time-intensive and require external funding. The development of a detailed evaluation design will start up as soon as funding is received, to ensure that data collection will occur alongside program implementation.

In general, the evaluation will use a four-level Kirkpatrick model for assessing training effectiveness. (See Kirkpatrick DL (1994). *Evaluating training programs: the four levels*. San Francisco, CA: Berrett-Koehler.) These four levels of training are reactions, learning, behaviour, and results. Each builds on the previous level. To map these to a program logic model, reactions and learning are process or activity measures, behaviour is an output measure, and results are an outcome measure. Reactions, learning, and behaviour measures will form the basis of ongoing formative evaluation, while results measures will be the foundation of an outcomes evaluation.

The primary indicators of success will be that student attitudes, knowledge and behaviour change as a result of their interprofessional experiences towards demonstrating interprofessional competencies. Secondly, faculty and health service providers will show similar shifts. While we will attempt to measure changes in the quality, relevance, and cost effectiveness of patient care, we recognize it may not be possible to reach definitive conclusions with non-experimental design and the short time frame to measure changes in such outcomes. We will however, make the attempt.

Formative evaluation will be a key component of the evaluation design. Formative evaluation results (measures of activity and process indicators) will be regularly fed back to the steering committee.

Partners will play a role in the evaluation by facilitating surveys of health service providers in the settings where interprofessional health education is occurring, and by, where feasible, facilitating or providing access to existing surveys of patient experience. Partners will also facilitate access to survey providers in control settings where interdisciplinary education is not occurring.

11. Knowledge exchange plan

Within Saskatchewan, most knowledge exchange will be built right into the P-CITE project, because of the broad range of participants, by geography, institution, professional program, and role (service provider, educator, student and future professional, government policy maker, health system manager, educational leader). The structure of the project (steering committee, working groups, and advisory groups) will facilitate this knowledge exchange. Beyond this serendipitous but facilitated knowledge exchange, we plan to support the following:

- interprovincial collaboration to share faculty development and learning from the formative and summative evaluations of the P-CITE project.
- as the project progresses, consultation with and presentations to Saskatchewan professional organizations, collectively and individually; here we will draw on faculty members and service providers to link with and present to their own professional associations;
- Canada-wide knowledge exchange forums created by Health Canada or others;
- faculty presentations at academic conferences and professional meetings outside Saskatchewan;
- published evaluation reports and peer-reviewed research on components of the project.

All of these are supported by allocations in the project budget.

12. Sustainability plan

Our description of the background and structure of this project indicates the scope of this project, the commitment to it by a broad range of actors in education, health services, and government in Saskatchewan, and the years of development of interprofessional education upon which this particular project has been built. This sturdy foundation is the greatest strength of this project for its long-run sustainability. Health Canada's funding for P-CITE, which forms one, catalytic, component of a long-term development plan will help move the process forward more quickly.

The broadly based, consensus-oriented governance and coordinating structure is symbolic of the strength of this project. At first glance, the governance and coordinating structure, with its many partners and working groups, seems cumbersome and unwieldy for decision-making. But it works, because of the commitment of the partners, the trust between them, and the culture of making things happen together that exists in this province. When a coalition such as that represented by the structure of this project gets moving, it is difficult to derail and its momentum is unstoppable. Ultimately, to ensure financial accountability and the ability to break through any potential decision-making logjam down the road, the project is accountable to one officer of the University – the Provost.

Health Canada's contribution will play a key role in getting momentum going for interprofessional education. Development of new curriculum and clinical placements is resource intensive – it takes time for experienced faculty to develop curriculum or do the patient networking and development work required for new clinical placements. But once such development work is completed, the new curriculum or clinical placement settings

can easily be supported using existing, ongoing resources. Health Canada’ contribution will give the process a kick start.

The evaluation results – both formative and summative – will also assist in maintaining momentum. If we demonstrate the increased acceptability of new models to students, providers, and patients, and if we can link the knowledge, attitude, and behaviour changes that are the output of the new models to improvements in the effectiveness and acceptability of health care services, that will provide strong support for continuing the process of change in the future, well after Health Canada’s three-year contribution is finished.

13. Project budget

We have summarized the project budget in two ways: by themes and activities (Table 2) and by expenditure category (Appendix A).

Looking at the budget by expenditure category, most of the budget will go to personnel costs. These cost will include both costs of replacing or relieving the workload of faculty to devote time to curriculum or clinical placement development, and costs of hiring additional personnel for specific tasks. Within each theme, budgets have deliberately been left flexible. We anticipate each theme area will develop somewhat differently. An approval process by the Steering committee, two strong co-chairs, and effective financial management provided by the University will all ensure strong financial control.

Partners and the University will make in-kind contributions of personnel time, rent and utilities for office space, and provision of services and equipment. These are conservatively estimated to total \$145,000. This estimate does not include the large personnel costs of parallel interprofessional education developments not part of this proposal, nor the costs of sustaining new interprofessional curriculum and clinical placements once developed and piloted by P-CITE. These costs will be absorbed into regular operating budgets.

Looking at the budget by themes and activities (Table 2), most of the budget will go directly into programming. Because of the strong existing coordinating structures, less than eight per cent (\$100,000) of the budget is allocated to coordination. Evaluation is budgeted at 13 per cent of total cost, above the application guideline of ten per cent, because of the importance we attach to this activity. Similarly, research and development, instructional support, and educator and practitioner training are allocated \$200,000, because of the importance we attach to these activities. Knowledge transfer is budgeted at \$50,000, mainly for travel, communication, and materials, as personnel costs will be absorbed by departmental budgets.

Table 2. Allocation of budget across P-CITE themes and activities

Budget category	Amount (\$000s)	Description
Evaluation	150	Detailed evaluation design, development of data collection instruments and systems, ongoing data collection and reporting throughout the project, analysis, and evaluation report.
Clinical placement programs	800 (200 each)	salary for time release of educators and practitioners for development of innovative clinical placements, communications and meetings, office equipment, material, and supply costs,

Research and development, instructional support, and educator and practitioner training	200	research costs for developing new instructional models, instructional support, training sessions, conference and training session attendance; research support for analyzing evaluation data in special projects
Knowledge transfer	50	support for workshops, presentations within work settings, within Saskatchewan, and conference presentations
Coordination	100	administrative coordination, sharing of lessons across programs, support for overall planning and development costs, ensuring standardization of data collection
Total	<u>1,300</u>	

14. Ethics review

Ethics review will be conducted according to the policies and procedures of the University of Saskatchewan for ethics review. The University of Saskatchewan follows policies consistent with the Tri-Council Guidelines on Ethical Conduct for Research Involving Humans

15. Provincial support

See Appendix E for evidence of provincial support.

16. Conflict of Interest

See Appendix F.