



Queen's University Inter-Professional Patient-centred Education Direction
(QUIPPED)

The Goal of the QUIPPED project is to create an inter-professional educational environment at Queen's University that enhances the ability of learners and faculty to provide patient-centred care, which recognizes the contribution of the health care team within a respectful and collaborative framework

Web pages are at <http://meds.queensu.ca/quipped>

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1.0 OVERVIEW OF ORGANIZATION, MISSION, GOALS AND OBJECTIVES

1.1 The Mission, goals and objectives of the Faculty of Health Sciences at Queen's University is to “educate health professionals and students in the biomedical sciences by conducting research, by generating a spirit of enquiry, and by serving the health needs of the people of south eastern Ontario, drawing on Queen's learning environment to enable our graduates to become the leading health professionals for Canada's rural, northern, and urban communities and to provide researchers and educators for the nation's future.” The goals and objectives are: to advance our research strategy; to expand, restructure and distribute professional education in the 3 schools while enhancing quality and to innovate informatics and pedagogical excellence.

The Faculty of Health Sciences (FHS) is comprised of three schools: Medicine, Nursing, and Rehabilitation Therapy. In 2004 there are 1,662 health professional students at the undergraduate, graduate, postgraduate level in the Faculty. In this context, the enhancement of the quality of our programs with education technology, regional dissemination, social accountability and collaborative education are fundamental components.

1.2 Queen's University is capable of leadership in inter-professional education and is ideally positioned to undertake the proposed project. Although, one of the major barriers to interdisciplinary initiatives in Canada has been the variance in methods of remuneration, this is already remedied at Queen's. Medical faculty are all on an alternative funding plan (AFP) thus automatically eliminating a key barrier perceived to impede inter-professional collaborative patient centred models of care. A commitment to interdisciplinary education has been demonstrated in the past few years as formal and informal groups have spontaneously formed to develop strategies to align educational goals; identified an overlap of courses, particularly in areas related to ethics, professional practice and core competencies that result in redundancies. As a strategic direction, the Faculty is developing collaborative models of education which enhance teaching parsimony while ensuring students develop an appreciation of the health care team. The new models of education will provide the forum to develop collaborative research initiatives. **Queen's University Inter Professional Patient-centred Education Direction (QUIPPED)** at Queen's is therefore unique: it has an established three-school Faculty that already functions in governance and funding at an integrated level and reputable, time-honoured programs that are either planning or developing inter-professional curricular advancements.

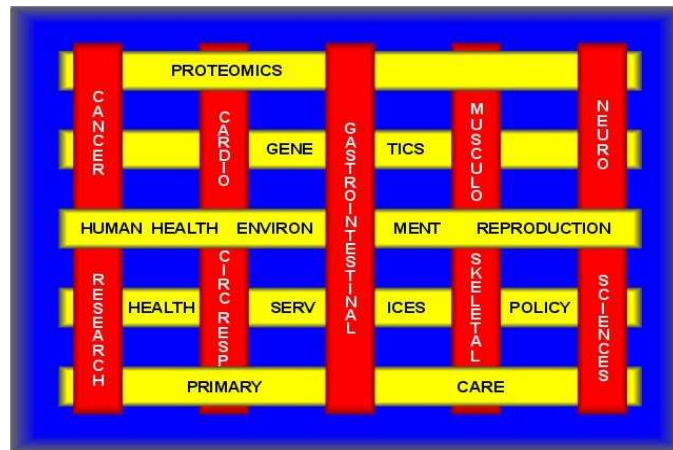
The Goal of the QUIPPED project is to create an inter-professional educational environment at Queen's University that enhances the ability of learners and faculty to provide patient-centred care, while recognizing the contribution of the health care team within a respectful and collaborative framework. This educational environment will mirror the research environment already in existence at Queen's University.

The main outcomes for sustainability will be established teams; strong facilitators and a cohort of clinical and educator experts to form an academy of inter-professionalism which would exist in perpetuity, become self sustaining and result in internal and external rejuvenation. We predict that this will enhance health system efficiency by producing clinicians dedicated to renewal, safety and excellent patient care.

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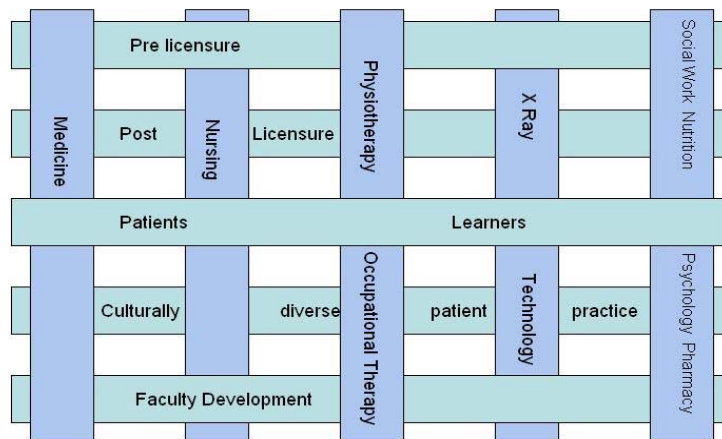
1.3 Team Development: In response to the IECPCP Call, planning meetings have been held biweekly for four months in order to develop this **QUIPPED** proposal involving all partners. These have led to a fruitful basis for collaboration and provided a forum for discussion of issues related to ownership, leadership and communication. Transparency has been established about resources and funding. Bi-weekly meetings are chaired by a rotating system of the partners to ensure no single professional group has final authority over all discussion. In particular, personal and pedagogical trust have been established between the project leaders. All parties have coalesced to form as Steering Committee, which is being co-chaired by a member from the School of Rehabilitation Therapy (Dr Krupa) and from the School of Nursing (Dr Lamb) and will be described in detail below. The mission of the Faculty of Health Sciences Research Programme at Queen’s University is represented in the following matrix:

Figure 1



An equivalent matrix has been developed to illustrate the health disciplines in the **QUIPPED** project. The collaborative interaction between disciplines is represented by the vertical lines woven with horizontal lines as follows:

Figure 2



1.4 Other applications, grants and contracts that relate to QUIPPED

Table 1: Other related applications, grants and contracts

Title of project	Name of funding agency	Amount Requested or received	Duration of funding	Information of overlap with QUIPPED
CPDiQ Project	PHCTF Health Canada	\$13,125 at Queen’s University	Five years	No overlap
PCIP (Palliative Care Integration Project)	CIHR	\$1.5 million	Five years	No overlap
EFPPEC (Educating Future Physicians in Palliative and End-of-Life Care)	Association Canadian of Medical Colleges - Health Canada	\$600 start up \$1,200 for this year	Five years then self sustaining	No overlap
Interdisciplinary Falls and the Elderly Project	PHCTF	\$282,876	2 years	No overlap
The Team Survey	Queen’s University Policy Studies	\$5,000	1 year	No overlap
IPEP (Interprofessional Education Program)	NOMECC	No external funding	On going	No overlap
Remote Northern Satellite Dialysis	SSHRC	\$39,812 applied	2 year	No overlap
ICACBR (International centre for the advancement of community based Rehabilitation)	SSHRC	\$40,000 applied	2 year	No overlap

2.0 PARTNER ORGANIZATIONS

2.1 Project Partners: The **QUIPPED** project is a partnership between three schools and one programme in the Faculty of Health Sciences at Queen’s University. The three schools are: Medicine, Nursing, Rehabilitation Therapy (Occupational Therapy and Physical Therapy). The programme is the Bachelor of Science (Life Sciences) with a diploma in X-Ray Technology offered in conjunction with the Eastern Ontario School of X-Ray Technology (EOSXT) based at Kingston General Hospital. The clinical partners are the member organizations of the Southeastern Health Sciences Centre (SEOHSC): Kingston General Hospital, Hotel Dieu Hospital, Providence Continuing Care, Kingston, Frontenac, and Lennox & Addington Health Unit and the Kingston, Frontenac, and Lennox & Addington Community Care Access Centre. In addition there are many other community agencies that provide learning opportunities within Kingston and the region with whom Queen’s has affiliations as educational and clinical sites.

The **QUIPPED** project is being co-led by Dr Sarita Verma, a physician, Dr Margo Paterson, an occupational therapist and Dr Jennifer Medves, a registered nurse. This project has been initiated by

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all three equally as they formed a research group to enhance collaborative team approaches for delivery of care. For the purpose of correspondence Dr Medves will act as the contact person, but this is a true collaborative initiative with all three taking responsibility to facilitate, disseminate, and sustain the project. As indicated earlier, group trust and cohesiveness and conflict resolution processes are already in place.

Faculty members also have responsibility for teaching learners in other disciplines. Table 2 outlines the faculty responsibility for learner education and the disciplines involved in culturally diverse programmes. All these disciplines would potentially benefit from the **QUIPPED** project.

Table 2: Health Sciences Learners at Queen’s

Pre licensure Programmes at Queen’s University	Post licensure Programmes
Medicine	Medicine
Nursing	Nursing
Occupational Therapy	Occupational Therapy
Psychology	Psychology
Physical Therapy	Physical Therapy
Medical Radiation Technology	Social Work/Psychology
	Dietetics
	Pharmacy
	Ethics

2.2 Endorsements from the Principal of the University and the Dean of the Faculty of Health Sciences are appended in Appendix C.

2.3 Letters of Support from all Partner Organizations are appended in Appendix C.

3.0 PATIENTS AND LEARNERS

Patients and Learners are key members of the project team. The term ‘patients’ is used throughout the document and is meant to refer to “patients, clients, communities/populations, and consumers and their families.” The term ‘learners’ is used to include: pre-licensure students and post-graduate learners, plus residents, interns and graduate students.

3.1 Patients: Queen’s Glaxo-Wellcome Clinical Education Centre (CEC) Volunteer Patient Program provides hands-on learning for future doctors, nurses, occupational and physical therapy students. Since its inception in 1972 as the Clinical Learning Centre, Kingston community volunteers of all ages have been helping to teach health science students. Currently there are over 600 volunteers registered with the CEC who are available to assist medical, nursing and rehabilitation therapy students in their learning. The use of the CEC in our **QUIPPED** programme is fundamental to the integrative aspect of the project. In addition there are plans underway to build on the existing skills programs in all three schools with the enhancement of the faculty with a surgical/technical skills simulation laboratory. D. Docherty and K. Spring are the principal patient and consumer members of the **QUIPPED** team. They have been identified through our partnership with volunteers at the Glaxo-Wellcome Clinical Education Centre.

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3.2 Learners are represented by pre-licensure students and post licensure students, through their respective Student Societies. Learners have been active participants in the development of the proposal and will continue to be key informants in developing evaluation processes as well as assisting and developing learning packages for other learners, community partners, and patients. Thus far they have identified three key strategic directions: use of simulation and simulators to develop teams in delivery of clinical skills, conducting projects jointly developed by members of all schools, and developing and offering courses in alternative therapies. Learners are already involved in QPID (Queen’s Project on International Development) and other related projects. The learners will examine ways to engage more health science students in the activities. The students who have participated in the preparation of this **QUIPPED** proposal are listed by discipline: A. Harris and F. Seaton (nursing); J. Martin (X Ray); D. Mueller and K. van Diepen (physiotherapy); E. Lawson, D. Barrett, and C. Kolewaski (occupational therapy) and D. Rootman, B. Munn, and D. Dagnone (medicine). These individuals have indicated they are committed to **QUIPPED** project and since they are mostly at a junior level they are best suited to be involved in the QUIPPED project over three years.

4.0 STEERING COMMITTEE

4.1 The Role of the Steering Committee is to:

1. Provide a strategic direction for the project to ensure the mandate of the proposed program grant is fulfilled.
2. Provide counsel to the health disciplines to ensure collaborative programming is enhanced for each programme equitably.
3. Track evaluation of strategies and recommend changes in direction as required.

4.2 Table 3: Membership of the Steering Committee

Co Chairs	T. Krupa and M. Lamb.
Patient Representatives	D. Docherty and K. Spring
Pre licensure students	D. Rootman, B. Munn, E. Lawson, D. Mueller, A. Harris, J. Martin
Post Licensure	C. Kolewski, F. Seaton, D. Barrett, D. Dagnone
Faculty Members	C. Pulling, C. Baker, D. Holland, L. Flynn, M. Jamieson, L. Tata, J. McBride, L. McKinven, S. Olney , L. Tomalty
Ex Officio	J. Medves, M. Paterson, and S. Verma

4.3 The Experience of the QUIPPED Steering Committee Co-Chairs:

Dr Terry Krupa is an Associate Professor and Chair, Occupational Therapy Program, Rehabilitation Therapy, Queen’s University. She will be a co-chair of the Steering Committee. She is also cross-appointed to the Department of Psychiatry at Queen’s University. Dr. Krupa is currently appointed to the Canadian Collaborative Mental Health Initiative. In addition she has served on the following *committees*: Academic Accreditation Indicators Project, Canadian Association of Occupational Therapists, Human Resources Committee and Vocational Committee, Southeastern Ontario Mental Health Implementation Task force, Association of Canadian University Occupational Therapy Programs (ACOTUP), Ontario Council of University Programs in Rehabilitation Sciences (OCUPRS), Founding member and Honorary Board Member, Ontario Chapter, International

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Association of Psychosocial Rehabilitation Services, Advisory Committee, Psychosocial Rehabilitation, Ontario Federation of Community Mental Health and Addictions Programs, Board member, Voices, Opportunities and Choices Employment Club, Providence Continuing Care Mental Health Services. Dr. Krupa's commitment to teaching and education has been acknowledged with *teaching awards* from the University wide Queen's University Alumni Award for Excellence in Teaching in 1999 as well as five time winner of the Blue Star Award for Excellence in Teaching in the School of Rehabilitation Therapy. Dr. Krupa serves on the *editorial boards* of the Canadian Journal of Community Mental Health and the Psychiatric Rehabilitation Journal and the Canadian Journal of Occupational Therapy. She is a *grant reviewer* for the Ontario Mental Health Foundation, Canadian Occupational Therapy Foundation and the Hong Kong Health Research Council. She has received funding for a number of collaborative inter-professional research projects.

Dr Marianne Lamb, is a Professor in the School of Nursing, who has held a variety of positions both in academia and in professional organizations. She will be the other co-chair. She has been the director of two schools of nursing in Canada (Queen's University and Memorial University of Newfoundland), where her expertise in working with various collaborative partners both within the university and clinical settings have ensured collaborative partnerships to be fostered. Prior to becoming an academic she provided consultancy work for Hospital Management Research Unit, Department of Health Administration, University of Toronto, Nursing Education Department, Hospital for Sick Children and the Gallbladder Lithotripsy Review Committee, Health Planning Branch, Ontario Ministry of Health. From 1981 to 1989 she held a variety of positions at the Canadian Nurses Association where she liaised extensively with other health care disciplines, policy makers and decision makers across Canada. She has received funding for a number of collaborative inter-professional research projects. Dr. Lamb has served on the following *committees* within the last 5 years: National Steering Committee on Labour Market Study of Nursing, Royal College of Physicians & Surgeons (Education Sub-Committee, National Steering Committee on Patient Safety), Academy of Chief Executive Nurses, President of the Canadian Bioethics Society, Chair of the Canadian Association of Schools of Nursing, Vice Chair of Council of Ontario University Programs in Nursing.

Dr. Krupa and Dr. Lamb are leaders in their respective disciplines. They are both committed to inter-professional education and they will continue to commit time to ensure the QUIPPED project is completed.

5.0 PROPOSAL DESCRIPTION

5.1 Title of Project: Queen's University Inter-Professional Patient-centred Education Direction (QUIPPED)

5.2 Overview of the Project: The **QUIPPED** project, has been designed to organize and deliver a systematic approach for education, clinical practice and patient care to enhance clinical outcomes with inter-professional patient care. **QUIPPED** will take a multi-layered approach because there are different initiatives already in place, teams in collaborative practice are at diverse levels of integration, and the knowledge, attitudes and practices of key stakeholders differ in understanding and using collaborative practice.

The literature provided by the Office of Nursing Policy, Health Canada, the literature on the Health Canada web pages, Cochrane Reviews, background literature for existing and planned projects were

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reviewed and summaries are posted on the **QUIPPED** web site. Queens’ Library Scientist, Paola Durando, conducted a systematic review of all literature through Medline, CINAHL, ERIC, HealthStar, Health and Psychosocial Instruments, and PubMed and identified key articles which were reviewed by the **QUIPPED** lead team during development of the proposal, including existing programmes on the Web at the University of British Columbia, University of Alberta, Memorial University and Dalhousie University. Key terms identified in the literature that were considered in the **QUIPPED** review were: “multidisciplinary care team, patient care team, collaborative practice, patient-centred practice, evaluation that demonstrates change in knowledge, behaviours, and attitudes/beliefs/values, the importance of faculty development, opportunities for inter-professional adult learning, multi-perspective evaluation, patient safety, and the patient as teacher model.”

The most important terms upon which the consensus was reached are intended to be the foundation of the **QUIPPED** approach. They are defined below as they represent the six sequential stages towards collaborative practice:

1. Communication: ad hoc or planned sharing of information.
2. Consultation: communication in which one party seeks advice or direction from the other. Cooperation: a short-term informal relationship that exists without clearly defined mission statements, structures or plans. Providers who cooperate retain their individual authority, and resources remain separate.
3. Coordination: a more formal relationship that has a shared mission and more formal structure and planning arrangements. Providers who coordinate retain their individual professional authority but share resources to advance their mission.
4. Collaboration: a process in which those parties with a stake in the problem activity seek a mutually determined solution. Collaboration may be motivated by a desire to advance a shared vision or a need to resolve conflict. The expected outcome of collaboration may be the exchange of information or the development of a joint agreement.
5. Collaborative practice: a highly structured form of continuing collaboration among members of an interdisciplinary team for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the clinical and pedagogical outcomes.

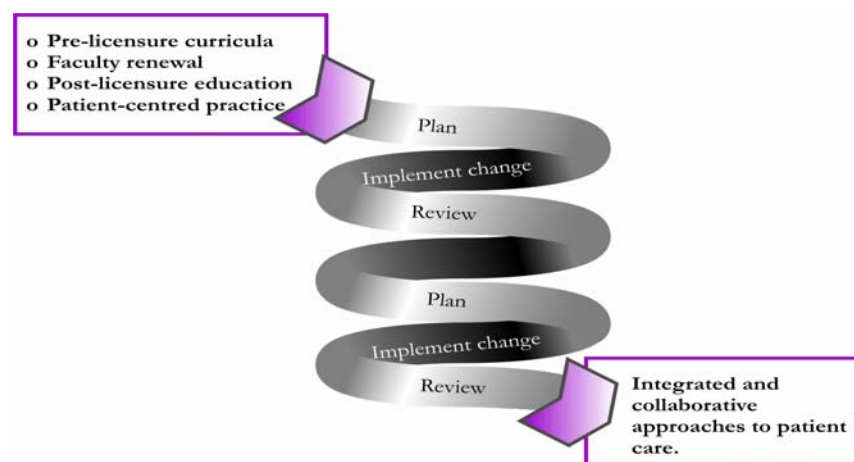
5.3 CONCEPTUAL FRAMEWORK

The **QUIPPED** project is designed to align with the existing matrix for research at Queen’s and has incorporated key concepts of IECPCP work (D’Amour & Oandasan 2004) into a similar **QUIPPED** matrix. Both of these are depicted earlier in this proposal. The primary methodology for this project will be **critical action research**. The critical action research approach includes 1) diagnostic action research where change agents intervene in an already existing situation, 2) participatory action research where the emphasis is on community determining the change required, initiating and evaluating the process, 3) empirical action research where there is an accumulation of data collected and analysed and change is initiated based on evidence gradually over time, and 4) experimental action research which is used to test specific hypotheses. (Lewin 1946). More recently Carson and colleagues (1997) reframed the taxonomies into 1) technical action research, 2) practical action research, 3) critical action research, and 4) post-structural action research. For the **QUIPPED** project we will be using a critical action research approach. This approach allows the researchers and the participants to work in an iterative partnership to explore change in a reflective cycle and to modify steps throughout the process. The approach has been used extensively in education and more recently in health care. Groups working in the UK and Australia used the

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methodology to aid in curricular development. The key attributes of critical action research are to generate knowledge to inform practice, involve participants in the process, take place in a naturalistic setting, co-create knowledge for local situations, and develop co-operative, collaborative and interactive relationships. Naturally this leads to the “flattening of hierarchies” to ensure equality of knowledge development and decision-making related to change. The ***critical action research*** approach is ideally suited to a multiple change project such as the **QUIPPED** project. This approach will facilitate the deconstruction of our current educational methods, ease the process for making changes, and then reconstruct an education programme that is more integrated, adaptable, and sustainable. Most importantly it will be patient and learner centred. The approach will allow a sequential and systematic examination of all factors and issues and will provide a framework to include all participants equally. The evaluation component of this cycle is built into **QUIPPED** as a fundamental component. Evaluation will follow in consequence to change and in sequence as each level of the **QUIPPED** project has a domino effect on the next. Changes from one level to the next will guide the mapping of the curriculum and influence learner/patient outcomes. Evaluation will be both programmatic and for research purposes. The ***critical action research cycle*** is depicted in the figure below.

Figure 3: QUIPPED Critical Action Research Cycle



5.4 Barriers and challenges

As stated previously the Queens’ Alternative Funding plan represents a solution to a major barrier. Cultural barriers are being addressed and are elaborated below.

5.5 Integration of Learning into Education and Practice

The **QUIPPED** project plans to bring together the existing initiatives and develop new approaches to deliver interdisciplinary patient-centred education. The goal of the **QUIPPED** project is to create an inter-professional educational environment at Queen’s University that enhances the ability of learners and faculty to provide patient-centred care, while recognizing the contribution of the health care team within a respectful and collaborative framework. This educational environment will mirror the research environment already in existence at Queen’s University.

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Faculty Renewal: In order to understand the knowledge, attitudes and practices of faculty to collaborative education and clinical practice, a series of workshops will be developed and delivered to enhance the capacity of faculty. The main outcomes for sustainability will be established teams; strong facilitators and a cohort of clinical and educator experts to form an academy of inter-professionalism which would exist in perpetuity, become self sustaining and result in internal and external rejuvenation.

Level I intra-professional activities will involve:

1. Systematic identification of key barriers for curricular change.
2. Workshops on the responsiveness to group processes including change theory, formative stages and team functions, and practical problem-solving methods.
3. Skill development in communicating effectively with colleagues within and across the schools
4. Skill development with multidisciplinary case conferences and health advocacy.
5. Understanding of the scope of practice, roles and responsibilities, hierarchy, uncertainty and power relationships of the health professions and their relationships to each other.

Level II inter-professional activities will involve:

1. Multilevel focus groups which enhance the skill-based activities and develop a reciprocally trusting rapport with patients and health care providers as a team.
2. Applying and integrating evidence based practices with team functioning using problem based learning methodology.
3. Skill development using technology and adult learning principles so team members acquire knowledge about the causes, the epidemiology and treatments for patient care including the use of care maps.
4. Advocacy skills in interdisciplinary assessment, intervention, evaluation and service coordination to enhance outcomes.
5. Developing education curricula to elaborate the key aspects of patient-centred care.

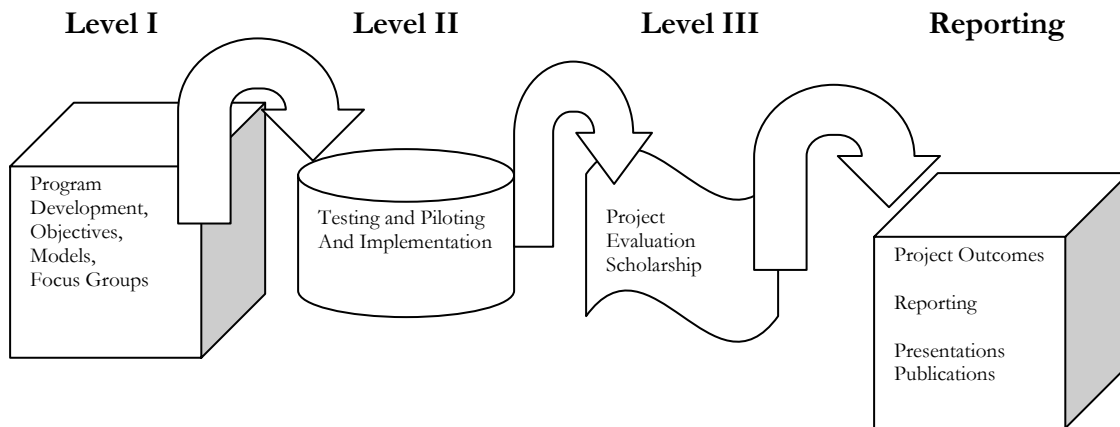
Level III events will extend to scholarship and evaluation across the University where:

1. Inter-professional learning will center focus on critical appraisal and assessment of evidence relevant to the care and safety of patients.
2. Skill development with the evaluation of the effectiveness of interventions and treatments in an interdisciplinary setting which merge medicine, nursing and rehabilitation therapy approaches to enhance patient outcomes.
3. Faculty development in inter-professional collaborative research; grants and publications.
4. Establishment of a sustainable academy of experts in interprofessional education

Evaluation of all activities will demonstrate:

1. Changes in knowledge, attitude and behaviour towards other professions in health care
2. Respect and observance of the differences and validity of team members;
3. Changes in knowledge or skill about collaboration and advocacy in favor of patients;
4. Increase in scholarly output and evidence based decision-making including improved adherence to guidelines for patient care; and
5. Learner, teacher and patient satisfaction.

Figure 4: Overview of the QUIPPED Project



5.6 Project Context:

External Drivers: In 2003, the three project leaders recognized the critical role of collaborative team building for education, clinical practice and training. External accountability measures will also require curricular changes to ensure patient care is timely, coordinated, patient centred and cost efficient. Regional distribution of education, advancing use of technology and distance learning and social responsibility of the health sciences for better patient outcomes are driving the move towards collaborative models. The alternative funding model for physicians at Queen's has launched a sophisticated accountability framework, which is likely to fit easily and meaningfully with the **QUIPPED** approach. The emergence of accountability at all levels at Queen's provides a fertile opportunity for an integrated approach for education and clinical care and to introduce models for inter-professionalism, which can influence intended outcomes.

Internal Drivers: In response to provincial government directives and the shortage of physicians in Canada, Queen's has experienced an unprecedented expansion of numbers and programs in undergraduate and postgraduate medicine. As a small medical school with a single tertiary care facility, the School of Medicine has embarked upon significant curricular renewal to incorporate distance learning and technology and to distribute our programs into the region and the North. The key objective is to maintain the high quality of our programs and to make them community based to meet the needs of society. Of note we have full approval for our **all** our UGE and PGE programs from their respective credentialing bodies. Thriving, living processes are underway in Medicine which are poised to incorporate inter-professional components aligned with **QUIPPED**. In September 2004, the School of Rehabilitation Therapy implemented pre-licensure programmes at the graduate for Masters Entry OT and PT students (Stream I). As well, in 2003 a professional Masters program (Stream II) was begun for OT and PT's with Bachelors' qualifications. Since 1990 there has been a well-established research Masters in Rehabilitation Science that has an inter-professional focus and has attracted OT's, PT's, social workers, teachers, and physicians. In 2000 a Ph.D. in Rehabilitation was added which has enrolled 17 students from approximately 5 disciplines (medicine, social work, psychology, OT, PT). The School is leading the Faculty in line with **QUIPPED**. The School of Nursing has an undergraduate programme with approximately 300 undergraduate students and 20 graduate students. The Primary Health Care Nurse Practitioner programme is offered at the undergraduate level and will be incorporated into the graduate programme in line with the other

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Ontario universities who are members of the consortium. The long-term goal of the School of Nursing faculty is to establish a Ph.D. in the Nursing programme. All these initiatives are parallel with the other two Schools.

Before the IECPCP Call, the above internal and external drivers led to the genesis of the **QUIPPED** project. Drs Medves, Paterson and Verma had begun collaborating in their review of the curricula of the three schools. The review began to explore commonalities in core competencies that evolved into the conceptual research model for **QUIPPED**. Their discovery of the overlap in core competencies formed a starting point for the development of interdisciplinary learning opportunities for learners and those already in practice. The summary of core competencies for Medicine, Nursing and Rehabilitation Therapy is shown in Appendix G.

5.7 Contribution to the Change of Culture: At Queen's University there have been efforts to integrate pre-licensure education in the past. While these initiatives were generally accepted by faculty and students, they were unsustainable for a number of reasons. The principal reason for lack of sustainability was because the three schools were autonomous with differing mission statements and visions. A key advantage to the amalgamation of the schools into one Faculty has been the development and collaboration through scholarly activity including teaching and research, and governance to guide it in one coherent mission in health sciences.

5.7.1 Existing Initiatives at Pre-Licensure Level

a) **Family Violence Workshop:** Based on the theories of interdisciplinary teaching and learning, a unique and innovative interactive workshop has been in situ since 1998. This approach more accurately models the "real life" complicated matrix of clinical/professional practice in which professionals from various agencies and clinical departments work together to assist victims of interpersonal violence.

b) **Courses in the School of Rehabilitation Therapy:** There is a long history of occupational therapy and physical therapy students learning together in mandatory Rehabilitation Science courses for example Interpreting Applied Research, Evidence-based practice, and Motor Performance courses. An example of a partnership between learners and patients is the course OT 825: *The lived experience of disability* where pairs of first year students meet with a volunteer from the Kingston community who has a disability or a health condition.

c) **Professionals in Rural Canada Course:** This newly developed course at Queen's University aims to aid in the preparation of professionals for the reality of working in rural and remote Canadian communities and will be launched in September 2005. The focus will be maintaining sustainability of professional practice while being able to live within a rural community and maintain a life outside of work.

d) **The Inter-Professional Rural Maternity Care Course:** This course is designed to introduce the student to current issues in rural maternity care through a rural clinical placement with family physicians, midwives, hospital and community nurses providing interdisciplinary maternity care

e) **Inter-professional Education Program (IPEP):** The Inter-professional Education Program offers a unique opportunity for students to learn the skills necessary to function as a member of a healthcare team while completing a fieldwork placement in Northeastern Ontario. In the School of

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Rehabilitation Therapy, the Occupational Therapy Fieldwork Coordinator and the Academic Coordinator of Clinical Education for Physical Therapy work together as faculty facilitators, organizing and leading a series of evening tutorials for a small group of OT and PT students (4-6 students) on campus, and placements occur in the north.

5.7.2 Existing Initiatives at Post-Licensure Level

a) **Inter-professional Education in Interpersonal Psychotherapy:** Representatives from Social Work, Psychology, Occupational Therapy and Psychiatry have successfully completed training in Interpersonal Psychotherapy and have continued to utilize these skills in practice as well as research protocols. The members have also developed new initiatives in the provision of related education for health care professionals in a variety of disciplines.

b) **Educating Future Physicians in Palliative and End-of-Life Care (EFPPEC)** is aimed to ensure that all undergraduate medical students and clinical postgraduate trainees in Canada receive palliative and end-of-life care education. As a guiding principle of the Project, patient-centred collaborative interdisciplinary care is required for best practice in palliative care. Consensus-based competencies have been developed and curricula structured to enable students and residents to achieve them. Locally an inter-professional curriculum change team is being established which will include members from various disciplines, such as nursing, social work, occupational therapy, physiotherapy and pharmacy, as well as members from undergraduate medical education and postgraduate clinical specialties.

c) **Clinical Practicum in Bioethics, Phil 989.** This is an inter-professional course between philosophy and health sciences or law and health sciences. Students from these disciplines experience clinical and learning opportunities with the Queen's bioethicist.

5.7.3 Existing Initiatives at the Culturally Diverse Community Level

a) **Weeneebayko Health AhutsKaywin (WHA)** and Queen's have a thirty year history of collaboration in health care and education. Learners rotate from family medicine, rehabilitation therapy and nursing to Moose Factory. Clinicians and patients travel to and from Kingston by charter for accessible health care. Several partnerships in education and research exist between the two centers. An example of this is the *Mushkegowuk Territory Community Rehabilitation Aids project*, which is a joint initiative between the School of Rehabilitation Therapy, the International Centre for the Advancement of Community Based Rehabilitation at Queen's University, the Weeneebayko Health AhutsKaywin and the Mushkegowuk Council which has trained community rehabilitation aids (CRAs) to address the needs of disabled people living in remote communities.

b) **The North Kingston Community Health Centre** cares for patients and families in a region of Kingston representing a disadvantaged population in a socioeconomic strained environment. Physicians, nurses, social workers, occupational therapists and dieticians work together to deliver community-based family oriented primary care using a collaborative team approach. Recently the Street Clinic has been relocated to the NKCHC premises. Clinical placements occur at NKCHC as well, it partners with Queen's Family Medicine Department.

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c) **The Southeastern Regional Geriatric Program (RGP)** based in Kingston is an expert, multidisciplinary resource for older people who have complex health needs and is affiliated with Queen's University and sponsored by Providence Continuing Care Centre. The program is actively involved in the education of regulated and non-regulated health care providers, communities and the general public to influence knowledge, practices and attitudes in a manner that will improve health care outcomes for older people.

d) **The International Centre for the Advancement of Community Based Rehabilitation (ICACBR)** as an affiliate of the School of Rehabilitation Therapy has worked extensively in the development of client-centred, culturally appropriate, multidisciplinary community based rehabilitation (CBR) programs in over 20 countries world wide including Canada. ICACBR offers a unique learning opportunity for students at Queen's.

5.7.4 Existing Initiatives in Research

a) **The CPDiQ project:** The CPDiQ project is a national project funded by Health Canada through the Primary Care Transition fund is intended to establish a continuing development project to answer questions about primary care reform and coordination of care. The outcomes from this project will be shared nationally to develop effective CPD activities for primary care.

b) **Palliative Care Integration Project (PCIP):** The Kingston, Frontenac, Lennox and Addington Palliative Care Integration Project (PCIP) promotes the integration of efficient, high-quality palliative care delivery to palliative patients and their families across the continuum of care. The five comprehensive, evidence-based, multidisciplinary Collaborative Care Plans (CCPs) guide patient care and enable assessment of the patient's progress. Educational sessions for health care professionals at various levels and in a variety of care settings have accompanied the distribution of the Project materials.

c) **The Interdisciplinary Falls and the Elderly Project** is evaluating the impact of an interdisciplinary (physician, nurse and physiotherapist) fall prevention program on the incidence on falls and fall injury in seniors. Patients of family physicians in a Family Health Network (FHN) in Kingston, who are 65 years of age or over, and have identified risk factors for falls, will receive a fall prevention program targeted at reducing modifiable risk factors identified through comprehensive team assessment. The model developed in this demonstration project could form the basis of fall prevention programs within primary care across the province

d) **The Team Survey** is a pilot project to determine if the Team Survey[®] tool developed by Millward and Jeffries for the National Health Service in Britain is valid and reliable for use in primary care teams in the Canadian Health Care context. The overall goal of the research plan is to study primary care teams to ascertain: 1) characteristics that define high performance professional teams in health care, 2) how the characteristics vary with the task and the setting, 3) the differences between face-to-face teams and virtual teams, and 4) methods to develop high performance professional teams in primary care.

e) **The Remote Northern Satellite Dialysis Clinic** and its impact on quality of life and health status in Aboriginal Hemodialysis Patients, is a project that has been submitted to SSHRC. This is a collaborative effort between Physical Therapy, Occupational Therapy and Nephrology that has the potential for involvement of graduate student training as well as professional student (medical,

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rehabilitation therapy, nursing) clinical research placements. A graduate student in Rehabilitation Science is currently assigned to this project.

5.7.5 Opportunities within the current learning context: The clinical learning environment includes the Southeastern Ontario Health Science Centre (SEOHSC). As the city of Kingston is relatively small for the number of students enrolled at Queen's University opportunities for education are sought in smaller community hospitals and facilities including the remote communities of Moosonee and Moose Factory; and the rural and small town communities of eastern Ontario from Lindsay to Winchester. A Regional Network has been established in Southeastern Ontario wherein Queen's has existing Affiliation Agreements with primary and secondary care Hospitals. A Regional Education Office and Director and a Community Development Office are already established as well as the Eastern Regional Medical Education Program in conjunction with the University of Ottawa. A Surgical/Technical Skills Laboratory is being established. The planned laboratory will:

- a) Provide an environment specifically designed for learning basic technical skills as well as advanced surgical and resuscitation skills;
- b) Create opportunities for various health care professionals to practice skills as members of a team and learn essential crisis resource management skills; and
- c) Support educational research into effective methods for teaching and assessment of competence.

6.0 PROJECT OBJECTIVES

6.1 Overall Goals: The specific objectives of the IECPCP initiative have been defined as follows:

1. Promoting and demonstrating the benefits of inter-professional education for collaborative patient-centred practice
2. Increasing the number of educators prepared to teach from an inter-professional collaborative patient-centred perspective;
3. Increasing the number of health professionals trained for collaborative patient-centred practice before, and after, entry-to-practice;
4. Stimulating networking and sharing of best educational approaches for collaborative patient-centred practice; and
5. Facilitating inter-professional collaborative care in both the education and practice settings.

6.2 Specific objectives to meet the QUIPPED goal outlined on page one of this proposal builds on the IECPCP goals. Our objectives are described in the following charts outlining the objective, activity, outcome, and evaluation. In some areas time will not allow for full integration or more than process evaluation. However, the team are committed to developing measurable outcomes for the future that will have a direct effect on patient-centred care.

7.0 WORK PLAN and TIMELINES (see Table 5)

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Table 4: QUIPPED Objectives

1. Promoting and demonstrating the benefits of inter-professional education for collaborative patient-centred practice			
Sub Objectives	Activity	Outcome	Evaluation for Overall Objective # 1
1.(a) Establish an Office of Inter-professional Education within the Faculty of Health Sciences with a mandate of creation of an inter-professional educational environment that enhances the ability of learners and faculty to provide patient-centred care recognizing the contributions of the health care team within a respectful and collaborative framework.	Secure space for an office, develop mandate, establish a reporting mechanism. Hire and train staff Orientation meetings with each of the stakeholder groups involved in the project Publicize the creation of the Office through University, Faculty, health care and community publications	Establish a repository of all health related inter-professional activities at Queen’s University Itemize and list activities on an accessible web site Disseminate information in newsletters to local and provincial inter-professional groups (e.g. PPESO, ERMEP)	Accessible resources available to faculty, learners and the community outlining the mission, goals, activities, and outcomes of the QUIPPED project. Communication network and matrix which is effective, timely and relevant through chat rooms, list serves and web based portals is utilized by clinical agencies and academic partners
1. (b) Develop plan for sustainability of the Office of Inter-professional Education	Establish an advisory committee Establish an academy of experts at Queen’s who have specific IP responsibilities Prepare yearly report to Faculty board. Develop a business plan to sustain the Office of Inter-professional Education	Reporting structure finalized IP activities specifically identified in faculty and school yearly reports. Evaluation framework in place Approval for business plan	Framework to monitor process of evaluation of sustainability plan through documentary analysis. Framework to monitor process of evaluation models with learners, faculty and community partners through satisfaction survey methods.
1. (c) Develop overall learner evaluation framework to include patient and multiple health care professional perspectives in learner course evaluation (e.g. multi-perspective evaluation)	Conduct a systematic literature review of all practice based evaluation methods Produce templates for evaluation including self-reflection and portfolios.	Systematic review of existing evaluation models posted on web Each school has usable evaluation forms for assessing learner progress	Enumerate the school and FHS commitment by number of faculty who agree to undertake additional IP training.
1. (d) Evaluate existing inter-professional clinical and educational activities and ensure evaluation is a component of all future activities	Establish a reporting mechanism from each activity to inform the QUIPPED project of evaluation criteria	A collection of evaluation tools will be available through the Office to be shared with new and emerging projects	Monitor development of appropriate evaluation tools through documentary analysis

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<i>2. Increasing the number of educators prepared to teach from an inter-professional collaborative patient-centred perspective</i>			
Sub Objectives	Activity	Outcome	Evaluation of Overall objective #2
2. (a) Enhance the knowledge of faculty, both local and regional, of existing collaborative practice models and their benefits.	<p>Develop workshops to enhance inter-professional education, and multi-perspective evaluation, utilization of “patient as teacher” models.</p> <p>Develop a certification process for IP training within the FHS</p>	<p>Increased number of faculty within health sciences complete workshops and demonstrated willingness to teach in inter-professional courses</p> <p>Faculty undertake IP training, recognized by FHS as key component of faculty development</p>	<p>Pre and post enumeration of faculty prepared academically to provide inter-professional education.</p> <p>Framework to monitor the changes in knowledge, attitude, behaviour, and beliefs through pre and post test of workshops, of faculty, clinical instructors, learners, and patients.</p>
2. (b) Expand the number of clinical instructors and preceptors in community settings willing to teach inter-professional courses	<p>Deliver workshops to enhance inter-professional education, and multi-perspective evaluation, utilization of patient as teacher models.</p> <p>Provide workshops to patients who are willing to become teachers</p>	<p>Clinical instructors and preceptors prepared to teach students from other professional disciplines as well as their own. Patients as volunteers willing to provide patient as teacher health experience for learners</p>	<p>Report for the number of publications that are specific to IP activities, by FHS faculty and clinical partners.</p> <p>Monitor uptake of patients who attend workshops in Patient as Teacher models and who then participate in teaching, by keeping a record. Post evaluation of experiences of patients to ensure continuation of teaching.</p>
2. (c) Provide faculty development and ongoing support for the development of skills to function effectively in an inter-professional collaborative patient-centred practice	<p>Develop a framework for sustainability based on annual expectations</p> <p>Foster the integration of IP educational events with the Instructional Development Centre and Continuing Professional Development at Queen’s University.</p>	<p>A coordinated ongoing faculty development plan is in place to ensure all resources at Queen’s University are linked to avoid overlap and redundancy</p>	<p>Enumerate the increase in faculty engaged in development and assess the efficacy of activities.</p>

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<i>3. Increasing the number of health professionals trained for collaborative patient-centred practice before, and after, entry-to-practice</i>			
Sub Objectives	Activity	Outcome	Evaluation of overall objective #3
3. (a) Introduce health care learners to the scope of practice of other health care learners	<p>Develop new clinical education opportunities with inter-professional learner teams working together</p> <p>Develop formal mechanisms/expectations for linking learners to clinical/educational opportunities</p>	All learners will have had at least one opportunity to work in a clinical team with other health care learners	<p>Learners will be able to articulate the scopes of practice, roles and responsibilities of the health care team</p> <p>Learner evaluation of concepts of IECPCP will be assessed at the beginning and end of pre-licensure programme to assess positive change.</p>
3. (b) Organize graduate education along substantive areas collaboratively and reduce overlap in course offerings	<p>Assess graduate education in the Faculty and align and offer courses to all learners.</p> <p>Organize mechanisms to bring faculty together to collaborate on the development of integrated graduate education</p> <p>Develop a 4 day core competency academic programme for new practitioners and post licensure learners</p>	<p>Integration of courses with significant overlap</p> <p>Deliver two series of the 4 day core competency academic programme</p>	<p>Monitor the change in attitude, knowledge, behaviour and beliefs of learners who engage in IECPCP activities throughout pre and post licensure programmes</p> <p>Monitor uptake of continuing education, assess changes in delivery of care as articulated by clinicians.</p>
3.(c) Offer continuing education to clinicians	Develop workshops for clinicians that promote collaborative patient-centred practice.	Five workshops per year of the project offered to culturally diverse collaborative teams	<p>Developed communication and management skills for clinicians in IP programs</p> <p>Debrief learners and patients to determine if objectives of learning experiences have been achieved, through interviews and focus groups</p>
3. (d) Promote a patient as teacher model	Offer lived health experience opportunities for learners to visit patients in community settings.	All health care learners will have at least one opportunity during their pre-licensure education programme	

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4. Stimulating networking and sharing of best educational approaches for collaborative patient-centred practice.			
Sub Objective	Activity	Outcome	Evaluation of overall objective #4
4. (a) Increase learner knowledge, attitude and beliefs about inter-professional education	Develop and deliver educational packages outlining concepts, evidence and practice examples of inter-professional and collaborative patient-centred practice	Increased knowledge, attitudes and beliefs of inter-professional education in health sciences learners	Monitor the development of new initiatives to deliver collaborative patient-centred practice. Surveillance of the usage of web resources, willingness to share information through posting on the web, utilization of university resources to share best educational approaches.
4.(b) Enhance knowledge of faculty to teach inter-professional collaboration	Investigate best practice related to teaching learners with differing levels of educational preparation to work in teams Collaborate with the Faculty of Education in team building workshop offered across the University	Systematic review of best practice related to assisting learners to work in teams Faculty participate in team building education workshops	Establish a resource centre linked to Queens' IDC and QUIPPED.
4. (c) Engage in pre and post evaluation of workshops to understand the factors affected by interdisciplinary collaborative practice	Develop, pilot test, and utilize evaluation methods	Establish a repository of validated and reliable evaluation tools	Conduct a documentary analysis of curricula in all programmes for evidence of newer approaches to education incorporated that promote collaborative patient-centred practice.
4. (d) Develop a web site that can act as a repository for current collaborative patient-centred initiatives and provide interactive capability for interest groups	Hire a web designer Develop an inventory of existing initiatives	Functioning website with repository of the inventory, evaluation tools, inter-professional educational and clinical models that will have discussion forums and utilize interactive modalities	
4. (e) Provide support for research, with workshop and publication dissemination, related to inter-professional collaborative patient-centred initiatives	Development of a publication and research plan that will include at a minimum: one manuscript focusing on the QUIPPED initiative, and manuscripts on outcomes of evaluations. Development of research proposals based on questions/issues emerging from this project.	A systematic plan for the dissemination of project activities, findings to a broad group of stakeholders. IP research programme is integrated into the research matrix of the FHS	Assess the effectiveness of dissemination through cataloguing the number of enquiries to the Office for information on QUIPPED project activities

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5. Facilitating inter-professional collaborative care in both the education and practice settings.			
Sub Objectives	Activity	Outcome	Evaluation of overall objective # 5
5. (a) Offer inter-professional activities for learners	Align pre-licensure curricula to allow clinical and didactic learning opportunities	Assign two afternoons per month in the academic year for inter-professional activities	Pre and post licensure curricula allow for release time to promote interdisciplinary activities.
5. (b) Use initiatives to develop models of collaborative patient-centred education and practice that can be duplicated.	Work with existing initiatives to identify core elements of collaborative patient-centred practice. Develop interactive case studies illustrating these core elements. Integrate these findings into educational and research activities of the initiative. Share findings with other health care initiatives in south eastern Ontario	Contribute to the evidence base of collaborative patient-centred health care Use the foundation of existing local initiatives to support all elements of this initiative.	Conduct documentary analysis of all written material to assess the articulation of core elements, how they were measured and evaluated in each initiative. Monitor number of hits on web pages, requests for tool kits, written materials, requests for faculty to develop new resources. Interviews with patients and families to identify priorities for them and monitoring of whether these expectations are met.
5. (c) Influence the delivery of inter-professional collaborative patient-centred practice by enhancing the experience as defined by patients and their families	Recruit patients and their families to monitor changes in behaviour of health care teams delivering care.	Patients and their families will recognize more patient focused care through improvements in health care collaboration	Assessment of the change between evaluations at the start of the project and evaluations at the end of project on key elements of inter-professional collaborative education and practice.
5. (d) Monitor changes in knowledge, attitudes, and practices of faculty and learners in the faculty of Health Sciences at Queen's University towards inter-professional collaborative education and practice	Develop, pre-test and administer pre and post evaluation tools to be used with workshops, interviews and focus groups	A greater recognition of the key concepts of inter-professional collaboration, use of the web pages and tool kits, and increased response to inter-professional initiatives.	Assessment of sustainability of change with a survey of attitudes five years later (funding will be sought for this)

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Table 5: Timelines for QUIPPED Project

Timelines and Activities	April-June 05	July- Sept 05	Oct-Dec 05	Jan-March 06
Infrastructure	Hire and train core staff	Conduct comprehensive review of all IECPCP activities at Queen's University	Post all written material on web page and update regularly Hire and train research staff	Prepare Health Canada Interim report Prepare interim report for FHS
	Develop guidelines for evaluation of project	Liaise with evaluation teams	Monitor evaluation activities	Prepare end of first year report of evaluation activities
Faculty renewal	Conduct interviews with stakeholders in Faculty of Health Sciences	Prepare report of findings of interviews and using a Delphi technique develop priorities for renewal activities	Assess new faculty requests for assistance with QUIPPED activities	Re-evaluate the priorities and adjust as needed
	Conduct focus groups with all departments and schools in FHS	Develop workshops based on FHS needs	Deliver two workshops	Deliver two workshops
Pre-licensure	Develop guidelines for pre-licensure review of IECPCP activities	Identify pre-licensure activities for renewal Enhance existing courses for maximum learner inclusion	Deliver and evaluate Family violence workshop Professionals in rural practice course	Deliver and evaluate new courses/workshops to be determined
Post-licensure	Develop post-licensure committee to oversee academic planning	Evaluate core academic days programme Identify renewal activities for core academic days programme Examine post-licensure programmes for overlap	Deliver first two days of core academic days Prepare written report of overlaps and potential to enhance programmes	Deliver second two days of core academic days Disseminate findings and seek faculty feedback
Community based		Conduct focus groups with community partners	Identify learning needs of community partners Develop workshops with community partners	Deliver and evaluate two workshops

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Timelines and Activities	April-June 06	July- Sept 06	Oct-Dec 06	Jan-March 07
Infrastructure	Develop sustainability plan for Office	Align sustainability plan with the mission of FHS		
Faculty Renewal	Develop faculty workshops for new faculty on interdisciplinary collaborative in teaching	Deliver and evaluate new faculty workshops	Evaluate effectiveness of current and new faculty workshops in 05 using surveys and focus groups	
Pre-licensure	Develop multi-perspective evaluation mechanisms, pilot test with faculty, learners and patients	Revise pilot tested tools and make available on the web and in print for testing in academic year 2006-07	Deliver and evaluate Family violence workshop Professionals in rural practice course	
Post-licensure	Develop report of core academic days and adapt as necessary Develop criteria for interdisciplinary initiatives including PhD programme	Plan core academic days Provide learner information on web pages Liaise with other faculties in development of initiatives	Deliver and evaluate first two days of core academic days	Deliver and evaluate second two days of core academic days
Community diverse	Develop workshops in evidence-based decision-making in unique clinical settings. Northern aboriginal (WGH), Forensic (KP), Marginalized poor (NKCHC), regional (Bancroft), and urban poor (Street Clinic) Develop workshops (e.g CBT)	Evaluate effectiveness of workshops in first evaluation Deliver workshops (e.g. CBT)	Develop workshops on collaborative team building Evaluate workshops (e.g. CBT)	Re-evaluate effectiveness of workshops Realign workshops with perceived needs Prepare workshops for next cycle

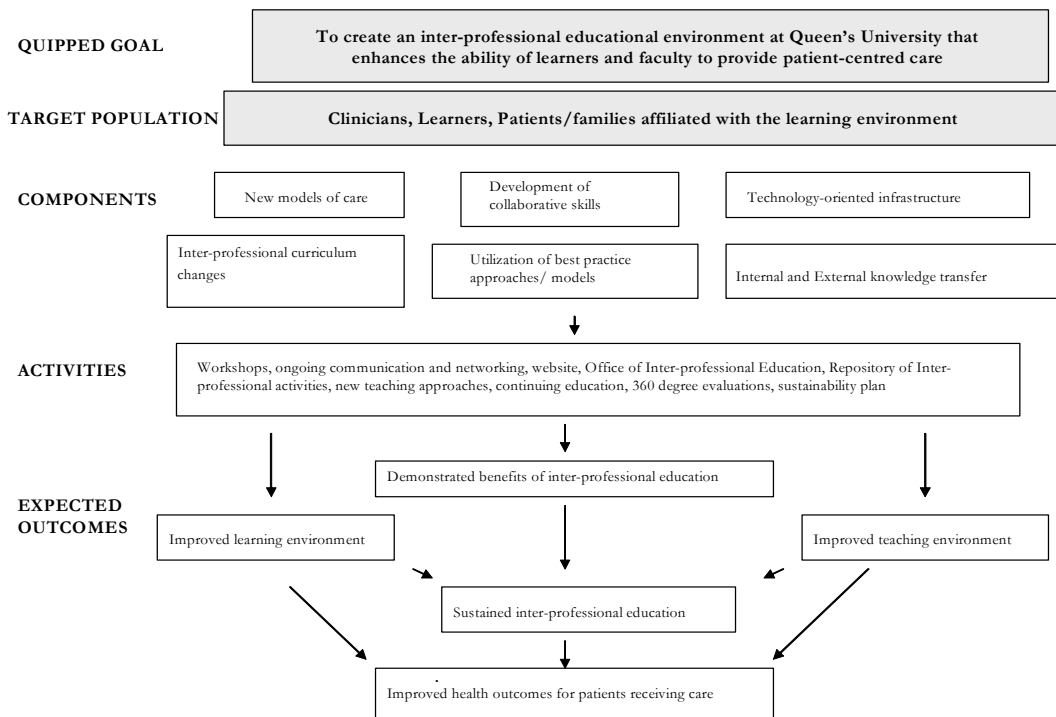
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Timelines and Activities	April-June 07	July- Sept 07	Oct-Dec 07
Infrastructure	Finalise sustainability report. Seek advisory committee approval.		Deliver written report to Health Canada Write and deliver final report to each school and department
Faculty Renewal		Deliver and evaluate new faculty workshops	Incorporate in Accountability Frameworks
Pre-licensure	Evaluate the efficacy of comprehensive evaluation and make necessary adjustments Engage patient as teachers model in developing learning needs of patients.	Incorporate comprehensive evaluation across the faculty where applicable.	Incorporate in Accountability Frameworks
Post-licensure	Evaluate attitudes and changes in learning environment	Enumerate the number of faculty involved in teaching and research	Incorporate in Accountability Frameworks
Community diverse	Develop workshops in collaborative team building in unique clinical settings. Northern aboriginal (WGH), Forensic (KP), Marginalized poor (NKCHC), regional (Bancroft), and urban poor (Street Clinic)	 Deliver continuing education workshops (e.g. CBT)	 Evaluate continuing education workshops

8.0 EVALUATION PLAN

QUIPPED will conduct a pre- and post-test study design that employs multiple methods and engages multiple stakeholders. This is consistent with utilization focused evaluation (Patton, 1997), responsive evaluation (Stake, 2004) and theory-driven evaluation (Donaldson, 2003). The evaluation uses a participatory action research approach. Action research is “social research carried out by a team encompassing a professional action researcher[s] and members of an organization or community seeking to improve their situation” (Greenwood and Levin (1998). It is a form of research that generates knowledge for taking action to make social change. Relevant knowledge is co-generated actions are taken and the results of these actions are interpreted based on what is learned. Action research enhances communities of practice to control and improve their own environment more effectively and to be able to continue this improvement over time. Participatory action research recognizes that its intervention in a social context will inevitably lead to new knowledge that can be applied for change and improvement. This involves a ‘transformation’, from the current environment to what the environment ‘could be’ recognizing and applying what the research has shown to that point. In keeping with action research, the evaluation is iterative and cumulative – building upon the experiences and learning derived in the earlier phases of the project. **QUIPPED** evaluation is based on the following ‘working logic model’ for the **QUIPPED** project (see below). The logic model summarizes the intent of **QUIPPED**, and is the foundation of the evaluation. Evaluation outcomes and activities are listed in the preceding tables under section 7.0.

Figure 5: QUIPPED Logic Model



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8.1 Evaluation Methods: A multiple method approach will be used in the evaluation. The methodological triangulation is important to enhance the validity of the findings (Denzin and Lincoln, 1994; Fielding and Fielding, 1986; Field and Morse, 1985; Goodman, 1997; Patton, 1990; Stake, 1995; Wilson and Hutchinson, 1996). **QUIPPED** will focus on both process and outcomes, thus recognizing the integral role that an understanding of processes is vital and essential to fully understanding the outcomes that may occur.

Table 5: Evaluation Method Matrix

Evaluation Method Matrix	*Data collection period (months)	Web-based survey	Focus Group	Interviews	E-Delphi
Learners	Baseline, 6, 12, 24	X	X		
Patients/ Families	12, 24		X		
Clinicians	Baseline, 6, 12, 24	X (all)		X (sample)	X (12, 24)
Faculty of Health Sciences Administrators	Baseline, 12, 24			X	
Lead Investigators, team members	Baseline, 12, 24			X	

*** Assuming a start date of April 2005**

In addition, a portion of the evaluation will focus on the community-based patient-centered workshops in clinical settings will build on the needs as identified earlier in the project. Pre and Immediate post-workshop evaluations will be conducted to gauge the extent to which new knowledge was acquired and understood, while subsequent follow-up will be made in 6 months time to determine extent to which learning from the workshops have been maintained or enhanced further.

8.1.1 Survey of Faculty member knowledge, attitudes and practices regarding collaborative education and collaborative clinical practice will include: communication, skill development, roles and responsibilities, trust and rapport with patients and other providers, use of evidence-based practices and clinical guidelines, use of technology, use of adult learning principles, skills in interdisciplinary assessment, intervention, evaluation and service coordination, critical appraisal, assessment of evidence, advocacy, scholarly output, background information on respondent.

8.1.2 Surveys of Learner knowledge, attitudes and practices regarding collaborative education and collaborative clinical practice will include: communication, skill development, perceived roles and responsibilities, trust and rapport with patients, teachers and other health professionals, use of evidence-based practices and clinical guidelines, use of technology, skills in interdisciplinary assessment, intervention, evaluation and service coordination, critical appraisal, assessment of evidence, advocacy, career intent, background information on respondent.

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The survey analysis will be completed using SPSS 12.0. Univariate analysis will determine basic descriptives such as means, frequencies, standard deviations, proportions and so on, on the basis of respondent demographics, and other variables as identified when the survey instruments are developed. Bivariate analysis such as one-way analysis of variance for continuous variables and Chi-square test for categorical variables will be applied. We will also apply Student's t-test (or Mann-Whitney U test) to examine differences between selected variables. Correlations between variables will be examined using Pearson (or Spearman rank) correlation coefficients.

8.1.3 Focus Groups: Focus group discussions will examine both process and outcome issues, as reflected by the logic model, and the domains and items identified with the surveys. The discussions in focus groups will be recorded with an audio-cassette recorder, transcribed verbatim and QSR-NVivo will be used for data management. The data will be analyzed to identify themes and patterns within and among the various stakeholders participating in the discussions (Krueger, 1988; Morgan, 1988). Two members of the research team will independently analyze the data and then discuss their findings to determine the prevailing responses by focus group participants and identify similarities and differences.

8.1.4 Interviews: These will be face-to-face, semi-structured interviews examining both process and outcome issues, as reflected by the logic model, and the domains and items identified with the surveys. The interviews will be recorded with an audio-cassette recorder. The data will then be analyzed to identify themes and patterns. During the analysis, there will be iterative input into conceptualization from the evaluators. Early analysis will provide feedback for modifying the interview guide as required (Corbin and Strauss, 1990, Miles and Huberman, 1994).

8.1.5 E-Delphi: The E-Delphi methodology elicits information and judgments from participants to facilitate problem-solving, planning, and decision-making. It is both a cost and time effective approach for examining process and implementation issues. Information will be exchanged via email. The purpose of the E-Delphi is to determine the nature and extent to which **QUIPPED** is achieving its activities and expected outcomes. We will provide a status report on the project to date and ask participants a series of questions related to this progress report. **QUIPPED** will engage the participation of thirty key informants from across the Faculty of Health Sciences and in the community. It is common to use regular mail for this purpose, but email can decrease the time required for completing a Delphi technique. Elapsed time from beginning to end of the process averages 44 days using regular mail and can be as little as 5 days using email. This technique is designed to take advantage of participants' creativity as well as the facilitating effects of group involvement and interaction. The E-Delphi technique will involve the following steps:

1. Send the progress report to the key informants. Ask each participant to comment on the report. We will ask questions of the key informants based on the report, and any other issues we may be aware of at that time.
2. Response to first email. Each participant lists his/her ideas in a brief, concise manner and returns the list anonymously to the researchers.
3. Create and send Questionnaire #2. A second questionnaire is sent to participants that contain all the comments sent in response to the first questionnaire and provides space for participants to refine each idea, to comment on each idea's strengths and weaknesses for addressing the issue, and to identify new ideas.
4. Response to second questionnaire. Participants anonymously record their responses to Questionnaire #2 and return them to the researchers.

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5. Create and send Questionnaire #3. Create and send a third questionnaire that summarizes the input from the previous step and asks for additional clarifications, strengths, weaknesses, and new ideas.
6. Continuation of the process. If required, iterations of the preceding process will be done until it becomes clear that no new ideas are emerging and that there is consensus on the progress to date and potential improvements that can or should be made.
7. Consensus/Agreement.

9.0 KNOWLEDGE TRANSFER, NETWORKING AND DISSEMINATION

9.1 Dissemination: Knowledge transfer, networking and dissemination are key outcomes of the **QUIPPED** project. The team consists of two researchers, James McKeen and Candice Christmas, from the Monieson Centre, School of Business who will assist in the process. The Monieson Centre, Queen's School of Business, is recognized for its innovative approach to research, employing a collaborative, multi-discipline, multi-university, "double-hurdle" research model. Double hurdle describes research that upholds the standards of academic rigour with results that are pertinent to practitioners. The centre's team of professionals manages these research projects by recruiting and deploying world-class international research teams to generate knowledge-based insights. The Monieson Centre has two academic networks with the Intel Corporation and the Bank of Montreal.

Knowledge transfer is a key focus of Dr Medves' research including the project to disseminate best practice guidelines from the Joanna Briggs Collaboration into practice. Relying on only electronic transfer will not be sufficient (Dixon, 2001) and therefore we will use multiple opportunities for face-to-face encounters to promote knowledge transfer including workshops, faculty and learner meetings, and informal discussion. We will use technology to coordinate activities but not for all transfer and dissemination (McKeen, 2004). In all knowledge transfer activities the success is more easily accomplished when the group share common social, cultural and linguistic characteristics (Roberts, 2000). The **QUIPPED** team members fully recognize that one method of transfer may work well in one discipline but less well in others because of the cultural and social context of each of the groups.

QUIPPED will disseminate using the traditional media outlets including academic journals, popular press, and conferences and meetings of each of the disciplines. We will also prepare executive summaries and reports for our clinical partners, policy makers and decision makers in local, provincial and federal departments. To date, one presentation has already been completed to the six Ontario medical schools at the ACM/COFM meeting in Thunder Bay in November 2004. In this presentation we outlined the lessons learned to date and our plan of activities for the next three years.

9.2 Follow-up Activities: **QUIPPED** will provide leadership for interuniversity communication and networking. In the spirit of collaborative knowledge sharing and dissemination at a National level, **QUIPPED** is committed to the pooling of the compendium of our combined knowledge intellectual property on inter-professional education including hosting a national conference for this purpose.

10.0 SUSTAINABILITY

Since the conception of the **QUIPPED** project earlier this year, the network of health care practitioners that has developed has been unprecedented. We have assembled a team of 38 faculty,

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from 14 disciplines, learners and patients who truly believe in the goal of the project and have brought a richness of discourse to the proceedings that have further encouraged the original team members that Queen's University is ready for an improved approach to IECPCP. The network has been meeting regularly and new ideas are presented that include a number of different health care providers and disciplines. The project will provide the financial resources to study the theory behind developing patient centred care and collaborative learning and provision that will enhance the care provided to Canadians. The **QUIPPED** project has already developed a web page to post all material related to the project and other interdisciplinary activities at Queen's University and in the Kingston area. We will utilize the web site for a number of activities including providing an overview of the project, activities and outcomes, related information and one-page summaries, and easy access to surveys and evaluation forms. We will monitor 'hits' and the questions and issues visitors to the site pose. A repository of documents will be available to download from the web either directly or through links to other sites.

The Continuing Medical Education department located in the School of Medicine has developed a vision to enhance all continuing education and is slated to change its name to Continuing Professional Development (CPD). One of the key personnel in the department will be an educator – that is an individual who has a graduate degree in education to influence the pedagogy in the Faculty of Health Sciences. The CPD educator will liaise with the **QUIPPED** educator to build the capacity of faculty to teach in inter-professional courses, workshops, and clinical settings.

A grant application will be prepared for the CHSRF foundation to conduct primary research to assess the effectiveness of inter-professional education for learners on their ability to positively affect the delivery of care with patients. The whole team, including learners and patients and our clinical partners, during the course of the project will design the research programme.

The main outcomes for sustainability will be established teams; strong facilitators and a cohort of clinical and educator experts to form an academy of inter-professionalism which would exist in perpetuity, become self sustaining and result in internal and external rejuvenation. We predict that this will enhance health system efficiency by producing clinicians dedicated to renewal, safety and excellent patient care.

11.0 DETAILED PROJECT BUDGET

A detailed project budget is a separate document with justification and the breakdown in years of funding. We recognize that faculty and staff time will absorb the majority of the budget and this will ensure we spend the time to plan and pilot new initiatives as well as enhancing existing initiatives.

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11.2 Contribution of Partners

Rent and Utilities:

Queen's University will provide office space for the **QUIPPED** project. The cost of utilities will be covered by the overhead charges. Partner organizations will provide logistical and human support.

11.3 Year Breakdown of Costs:

Year One	= \$ 433,505
Year Two	= \$ 485,460
<u>Year Three</u>	<u>= \$ 277,018</u>
Total budget	= \$ 1,195,983

12.0 ETHICS REVIEW

The entire proposal has been forwarded to the Office of Research Ethics. Existing research activities have already received ethical approval. Future research activities will undergo formal research ethics approval activities. The Project Administrator and project leaders will ensure that appropriate ethical approval is received prior to research activities.

13.0 PROVINCIAL OR TERRITORIAL SUPPORT (APPENDIX E)

Support provided by Ms Sue Matthews, Ontario Ministry of Health and Long Term Care

14.0 CONFLICT OF INTEREST CODE

No known conflict of interests identified.

15.0 TEAM MEMBER'S BIOGRAPHIES

The Lead Team Members

Dr. Jennifer Medves is an Ontario Ministry of Health and Long Term Care Career Scientist. Her research program, entitled *Sustaining Rural Maternity Practice*, examines the context of maternity nursing practice, collaborative practice between physicians, nurses and midwives, outcomes of rural births compared to urban births, and community practice to support sustaining rural health care. Her teaching areas are maternal child, philosophy of nursing science, and research methods. Recent publications include collaboration in teams to reduce the effects of pandemic influenza, evidence for practice in maternity care, and rural collaborative practice to sustain maternity practice.

Dr. Sarita Verma has experience in research in medical education and decanal leadership at the provincial, national and international levels in medical education. She initiated the enterprise of inter-professional curricular development within the FHS and with the Faculty of Engineering. She has participated in multiple policy arenas and written policy papers at these levels on the continuum of education, primary care issues, care of the elderly and regional education, in CIHR funded interdisciplinary research, the development of curricula in health advocacy and in social accountability. Dr Verma and Dr Paterson have a record of successful cooperation in the past of collaborative publishable research.

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Dr. Margo Paterson has completed relevant research in several interdisciplinary projects on education and practice in rural and under serviced areas as well as clinical reasoning. Her teaching areas include interpretation of applied research, qualitative research approaches, clinical reasoning, communication skills, and professional practice issues. She is on the editorial board of the Journal of Allied Health.

Consumers:

Ms. Debbie Docherty, M.S.W., R.S.W. has been living with Multiple Sclerosis for the past 16 years as well as working at the Hotel Dieu Hospital, Kingston, as a Social Worker for the past 24 years. She has a keen interest in teaching Rehabilitation, Nursing, and Medical students about the lived experience of chronic illness.

Ms. Kristen Spring is a feminist, an advocate, activist and public educator on various issues pertaining to disability. She has been a volunteer for the Clinical Education Centre at Queen's University for over 10 years. Kristen sees a vision of healthcare that involves the interweaving of all clinicians as well as consumers/patients. She is currently working on her BA in Women's Studies.

Learners are representatives of their Student Societies and are listed in section 3.2.

Basic Scientists:

Dr. Cheryl King-VanVlack, is a Basic Science researcher in peripheral vascular control using anesthetized animal models and clinical investigations with respect to exercise rehabilitation in end-stage renal disease. She teaches Graduate, Physical Therapy and Occupational Therapy entry-level to practice, and Life Science students.

Dr. Douglas Munoz, is a Professor in the Department of Physiology, Associate Professor in the Department of Psychology and is the Director of the Centre for Neuroscience Studies. He is currently funded with multiple individual CIHR operating grants as well as being actively involved in many joint funding initiatives. He is a key leader in neuro-scientific collaboration at Queen's.

Dr. William J. Racz, Associate Dean, Life Sciences, Faculty of Health Sciences, is responsible for coordinating the academic component of the first 2 years of the Collaborative Program in Life Sciences and X-Ray Technology with the Eastern Ontario School of X-Ray Technology.

Dr. Steven Scott, is a professor in the Dept. of Anatomy and Cell Biology at Queen's University. He presently holds a CIHR Investigator Award and is funded through multiple grants from CIHR and NSERC to study the neural and mechanical basis of motor function. He also develops robotic technologies for use for both basic research and clinical assessment of motor dysfunction.

Dr. Lewis Tomalty, Assistant Dean Continuing Medical Education is an Associate professor in Microbiology and leads the Faculty Renewal and Continuing Education portfolios at Queen's. He has extensive experience in distance learning and teamwork.

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Business:

Candice Christmas is Associate Director, Strategy and Communications, with The Monieson Centre, Queen's School of Business. She has extensive managerial experience in knowledge-based industries and project management.

Dr James McKeen, is a Professor of Information Technology at Queen's School of Business and the Director of The Monieson Centre, Queen's School of Business, a research centre devoted to the study of knowledge in organizations. He is among the premier researchers and educators in the application of management information systems in business and industry.

Clinical Education Centre:

Lee Fisher-Goodchild, B.Sc.(O.T.), B.Ed., M.Ed, is the manager of the Glaxo-Wellcome Clinical Education Centre, an interdisciplinary learning centre in the Faculty of Health Sciences that provides opportunities for students from the Schools of Medicine, Nursing, and Rehabilitation Therapy to learn and develop communication and clinical skills in a safe, simulated clinical environment, often with community members who volunteer to be simulated patients.

Education:

Dr. Nancy L. Hutchinson, is professor of Cognitive Studies and Coordinator of Graduate Studies and Research, in the Faculty of Education has conducted research in collaboration with faculty in the School of Rehabilitation at Queen's University and at Dalhousie University. She has conducted research on collaboration in the education of pre-service teachers, and on enhancing the critical reflection and professional development of beginning teachers.

Engineering:

Dr. Caroline Baillie, is a leading materials engineer and internationally renowned expert on higher education and the first Dupont Chair in Engineering Education, Research and Development at the Integrated Learning Centre. She will offer expertise in the learner evaluation aspects of the **QUIPPED** project.

Health Policy:

Djenana Jalovcic MPA, MSc. is Director of ICACBR responsible for multidisciplinary educational initiatives for Community Based Rehabilitation policy and management. Her research focuses on participatory and gender sensitive approaches to management and evaluation of community programs.

Library Sciences:

Paola Durando B.A., MLS is a Public Services Librarian at the Bracken Health Sciences Library at Queen's University and liaison to the School of Rehabilitation Therapy. She develops and teaches curriculum-integrated, for-credit information literacy skills in the Physical Therapy and Occupational Therapy programs and across the health sciences curricula.

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Medicine:

Dr. Maxine Clarke, MD is currently responsible for the Clinical Paediatric component of the Queen's University School of Medicine undergraduate program. She is interested in Inter-professional medical education at the undergraduate and postgraduate levels, including education for the development of culturally sensitive health care providers.

Dr. Dianne Delva, MD, Associate Professor of Family Medicine and former director of Faculty Development in the School of Medicine is involved in a number of projects aimed at understanding how health care workers can improve their collaborative skills.

Dr. Leslie Flynn, MD, Assistant Professor in the Departments of Psychiatry and Family Medicine, Assistant Dean of Postgraduate Medical Education has practiced the delivery of health care in an interdisciplinary fashion in her role as a Shared Care Psychiatrist. She has developed a team approach inter-professional education which was presented at the First International Interpersonal Psychotherapy Conference and was recently published.

Dr. David Holland, MD, is a nephrologist and Associate professor, Department of Medicine, Queen's University. He is the Director of Renal Transplantation, Kingston General Hospital, and is chairperson of the hospital's multidisciplinary joint practice team for organ and tissue donation. His research interests are chronic renal failure management and cardiovascular risk reduction in end-stage renal failure. As the Assistant Dean, Undergraduate Medical Education, Dr. Holland is co-leading the Curricular Renewal Task Force for the School of Medicine with Dr. Verma.

Dr. Corinne Schroder, MD, is Queen's local leader for the Educating Future Physicians in Palliative and End-of-Life Care Project, Program Director of the Palliative Medicine Residency Program, and Coordinator for palliative care education in the undergraduate and postgraduate medical training programs. As a palliative care consultant and educator, Dr. Schroder has experience with patient centred collaborative clinical care and inter-professional education.

Dr. Andre Tan, MD, is Head & Associate Professor, Department of Otolaryngology and is responsible for the undergraduate medical curriculum in neurosciences (Neural Basic Sciences, Neurology, Neuro-surgery, Ophthalmology, Otolaryngology and Psychiatry). For the past six years, he has been the Coordinator for the Domestic Violence Educational Program at the School of Medicine.

Dr Sandra Taylor, is the Director, Office of Bioethics and an Associate Professor of Medicine in the School of Medicine. She also holds appointments in the Departments of Family Medicine, Philosophy and the School of Nursing. As well she is the bio-ethicist for the Kingston General Hospital. Her research interests include End of Life research ethics and allocation of scarce medical resources.

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Nursing:

Dr Cynthia Baker, RN, Professor has recently taken the position of Director of the School of Nursing at Queens University after completing a mandate as Director of the School of Nursing at the Universite de Moncton where she promoted inter-professional education within a Health Science Faculty. She has conducted interdisciplinary and collaborative research on health service delivery and on issues related to cultural diversity.

Dr Diane Buchanan, RN, Assistant Professor, works in the fields of psychiatric-mental health and gerontology. She has experience teaching with an inter-professional team in the areas of human sexuality, grief and bereavement, depression and suicide, abuse and with challenging or difficult behaviours associated with the gerontology giants of depression, dementia and delirium. Her clinical, research and teaching experiences have been with physicians, occupational therapists, psychologists, social workers, physiotherapists as well as nurses.

Catherine Perkin, RN, is an Assistant Professor, School of Nursing. She has been involved in inter-professional education initiatives for the past 10 years including Project participant and coordinator for Development of Two Problem-Based Learning Packages on Community Health Issues for Interdisciplinary Learning.

Cheryl Pulling, RN, is an Associate Adjunct Professor and the undergraduate coordinator, School of Nursing. Her research and teaching interests include evidence based practice and inter-professional team approaches to improve patient outcomes. She has primary responsibility for undergraduate curricula evaluation and assessment of competency based education of learners in the School of Nursing.

Occupational Therapy:

Dr. Margaret Jamieson, OT, Associate Professor, Occupational Therapy Program of the School of Rehabilitation Therapy has been working with colleagues to research two areas of inter-professional patient-centred education. The first has focused on the development and evaluation of an educational module in which consumers with disabilities have taught undergraduate occupational therapy students about living with a disability. The second has focused on exploring the characteristics of high performance inter-professional teams in primary care.

Anne O'Riordan, OT is a Lecturer and a Fieldwork Coordinator in the Occupational Therapy Program of the School of Rehabilitation Therapy at Queen's University and coordinates the IPEP Program offered by NOMECC. She is involved in teaching communication skills and coordinates a "Lived Experience of Disability" course which enables students to learn about disability issues directly from individuals who are affected by health challenges within a community setting.

Pharmacy:

John McBride, BSc Pharmacy, MSc, has been involved in pharmacist education as a preceptor, residency coordinator and director for 20 years. He has served on many internal and external inter-professional committees and working groups and am currently the Chair of the Medication Safety Working Group at KGH. He has a strong interest in improving drug therapy outcomes through inter-professional collaboration, learning, and systems improvements.

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Physical Therapy:

Dr. Elsie Culham, PT, is the Chair of the Physical Therapy Program in the School of Rehabilitation Therapy. Dr. Culham is recognized as a leader in rehabilitation science research and is known particularly for her work in postural control and aging. She is the Principal Investigator on a project recently funded by the Primary Health Care Transition Fund (PHCTF) through the Ministry of Health and Long Term Care designed to evaluate the effectiveness of an interdisciplinary team approach to fall prevention in seniors.

Dr. Sandra Olney, PT, is the Director of the School of Rehabilitation Therapy and Associate Dean, Faculty of Health Sciences at Queen's University in Kingston, Ontario. She is internationally known for research in rehabilitation biomechanics and has contributed to the development of professional education in Community Based Rehabilitation worldwide. She has published over fifty articles in refereed journals and she has extensive international experience in projects in Asia, Australia, Latvia and North America.

Elizabeth Tata, PT, is the Academic Coordinator for Clinical Education of physical therapy students and coordinates the Queen's University campus component of the Inter-professional Education Program (IPEP) and has been involved in the development and implementation of community based rehabilitation (CBR), and the Mushkegowuk Territory Community Rehabilitation Aides project.

Program Evaluation:

Dr. Malcolm Anderson, previously worked as project manager for the Alternative Funding Plan Evaluation and has since been developing a research agenda in home and community-based care. Primary research areas include: home care, utilization, and the provision of mental health services in home care.

Theology:

Dr John H. Young, is an Assistant Professor of Practical Studies, Queen's Theological College, where he has taught in the areas of Practical Studies and the History of Christianity since 1991. He is also the Director of Queen's Theological College's Rural Ministry Program. He is a member of the team that will teach "Professionals in Rural Practice: An Interdisciplinary Approach" at Queen's University.

X-Ray Technology:

Linda McKinven is the Program Director, Eastern Ontario School of X-Ray Technology - in collaboration with Queen's University Bachelor of Science/X-Ray Technology Program. She is the former Quality Assurance Officer. A former five-year member of the Registration Committee of the College of Medical Radiation Technologists of Ontario. She is a member of the Canadian Medical Association's survey team for the Committee on Conjoint Accreditation.

16.0 REFERENCES

References, a bibliography for the proposal, and additional information are available on the **QUIPPED** web site at <http://www.meds.queensu.ca/quipped>

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