Collaborating for Education and Practice:
An Interprofessional Education Strategy for
Newfoundland and Labrador

Final Project Report – June 2008

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Project Partners
Partners in this project were the Faculties of Medicine and Education, the Schools of Nursing, Pharmacy and Social Work, and the Counselling Centre at Memorial University; the Centre for Nursing Studies, St. John’s; the Western Regional School of Nursing, Corner Brook; and the Eastern, Central, Western, and Labrador-Grenfell Regional Integrated Health Authorities.

Acknowledgements
We would like to thank the large number of students, faculty, and staff and all the project partner units who contributed their time to curriculum development and evaluation activities; members of the research evaluation team; members of project committees, particularly the Steering and Joint Interprofessional Education and Planning Committees; Glenda Cunning, clinical nursing instructor (Western Region) for her work with the collaborative practice clinical learning component of the project; and in particular, we would like to thank the following project staff for their numerous and varied contributions: Brenda Kirby, Project Manager; Jennifer Forristall and Kate Flynn, Research Coordinators; Shelia Silver, Centre for Collaborative Health Professional Education Secretary; and Diana Deacon, Health Professional Education Specialist. Several key project components have also been facilitated by two appointed tenure-track interprofessional education faculty: Dr. Olga Heath and Dr. Anne Kearney.
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MAIN MESSAGES

Interprofessional Education (IPE) Pre-Service/Undergraduate Curriculum Implications
An IPE curriculum framework can be established as required (versus elective) components in health and social care professional academic pre-service programs, although there are a number of obstacles and challenges to overcome that typically include an already crowded curriculum, the traditional way in which individual programs operate, scheduling common meeting times for students, recognizing and rewarding faculty involvement, and making IPE a meaningful experience for students.

The most effective way to deliver IPE teamwork and collaborative practice curriculum is based on experiential learning opportunities with students working in interprofessional teams that might include, for example, work with standardized patients (or actual patients in practice placement settings), small-group face-to-face discussions, and panel discussions. However, such approaches can be costly in terms of resources needed including faculty and student time.

The use of blended learning curriculum delivery helps to overcome some logistical barriers and to engage students at distributed campuses and at times of their own choosing, but the online components need to be well designed with content and interactive elements that address the needs of students who may be first-time participants as well as those who have completed a series of, for example, IPE curriculum modules and blocks.

Academic Faculty and Health Care Provider Implications
Faculty and practitioner development is a key element in promoting and expanding IPE along with building expertise, collaborative practice and support. It would likely be most effective if initiated prior to the start of any student IPE activities rather than concurrent with the introduction of new IPE curricula. Additionally, ongoing IPE support for faculty and practitioners is essential along with recognition of their support and engagement in IPE activities. For faculty this could potentially contribute to tenure and promotion processes.

Institutional and Health System Implications
Institutional support and change is necessary to accommodate IPE as a collaborative teamwork approach across academic disciplines that typically operate independently under a traditional governance structure. Many of the barriers to overcome are logistical in nature, but not insurmountable.

Regional Health Authorities are an integral part of IPE and interprofessional care (IPC) development which they can promote and foster through appropriate and ongoing workshops and other activities across the health system. Accommodating students for their practice placements in well developed and successfully functioning IP teams will be an important contribution.

Evaluation and Monitoring Implications
This was a relatively short term project (2-3 years). However, many of the behaviour, attitude and health system changes associated with IPE and IPC are typically part of longer term goals and outcomes. To monitor and track the progress of such changes (and the impact they ultimately have on patient care and provider satisfaction) will require support for longitudinal data gathering and analysis.
EXECUTIVE SUMMARY

Introduction
Over a three-year period (2005-2008) the Centre for Collaborative Health Professional Education at Memorial University introduced an interprofessional education (IPE) curriculum framework in collaboration with the Faculties of Medicine and Education, the three Schools of Nursing in the province, the Schools of Social Work and Pharmacy, and the University Counselling Centre. This work formed part of a Health Canada funded project entitled Collaborating for Education and Practice: An Interprofessional Education Strategy for Newfoundland and Labrador. The purpose was to introduce sustainable IPE curriculum content and related activities into education and practice settings and, overall, enhance the collaborative competencies of an increased number of learners and practitioners in the Province. The project work involved developing a comprehensive curriculum framework that included IPE curriculum components from pre-licensure to post-licensure levels with additional components for faculty development and the evaluation of all activities.

Results
Overall, student reaction to the curriculum blocks and modules was very positive and contributed to their understanding of IPE and teamwork involving other professionals. Highest satisfaction ratings were given to experiential delivery components such as face-to-face small group case-based discussions, work with standardized patients, and panel discussions. Students were less enthusiastic about the web-based online components.

The blended learning approach helps to overcome some logistical barriers and to engage students at distributed campuses and at times of their own choosing, but the online components need to be well designed with content and interactive elements that address the needs of students who may be first-time participants as well as those who have completed a number of the modules and blocks. Also, each student should be required to take part in a reasonable number of modules and blocks designed to build their IPE and teamwork experience and competencies as they proceed through their program. The students that engaged in all nine modules and blocks over the 3-year project timeframe indicated that the process was too repetitive despite the different curriculum content in each experience. Modifications of the module and block content to address this are relatively straightforward, but will require additional faculty time and committee work.
The nature of the IPE curriculum modules and blocks, and the collaboration necessary among faculty of different academic units to prepare for and teach these, translates into added faculty time for IPE (estimated at 14-20 hours per semester). Each participating academic unit will need to address this issue. Additional faculty time would also need to be dedicated should further expansion and development of IPE curriculum occur.

The autonomy and independence of each health professional program involved with the project presented logistical challenges throughout the three years in terms of planning and delivering IPE activities. To help sustain the delivery of future pre-licensure IPE modules and blocks, it will be critical to establish a common daytime schedule across participating program units within the regular workday and to fully integrate them into established courses and programs. Evening sessions were often perceived as “add-ons” to the regular program and an already busy student schedule.

Faculty and practitioner development is a key element in promoting and expanding IPE and would likely be most effective if initiated prior to the start of any student IPE activities rather than concurrent with the introduction of new IPE curricula. Additionally, ongoing IPE support for faculty and practitioners is essential along with recognition of their support and engagement in IPE activities. For faculty this could potentially contribute to tenure and promotion processes.

The mental health training care phase of the project proved to be a positive and valuable contribution to primary health care teams in the Province and provided participants with a good IP experience and relevant content through a series of workshops. It also considerably broadened the number of health and care professionals participating in the collaboration and illustrated that combinations of on-site and video-conferencing technology can be very effective. Increasing physician attendance at workshops will be a challenge for the future.

The three annual baseline evaluations conducted as part of the overall project provided useful longitudinal data with respect to student attitudes toward IPE and IP health care teams. It also enabled comparisons to be made by health program group, IPE experience, gender and other variables as the project progressed. Over 87% of students (about 1100) across all academic groups (Medicine, Pharmacy, Nursing and Social Work) completed the survey each year. Results clearly indicated positive attitudes towards both IPE and IP health care teams throughout the
three years of the project. There were, however, significant differences each year by program
group, with Medicine students having lower scores. Also, female scores were higher on each
survey and on the teamwork scale, senior students had significantly higher scores than those in
year one.

Results of a preliminary analysis using both scales from each survey year, and noting when the
teaching of each module and block of IPE curriculum occurred over the three years, were
inconclusive in terms of the impact. Overall, there was no consistent pattern to indicate whether
or not these IPE interventions had a positive or negative effect over the relatively short timeframe
of the project.

It will be important to continue building and monitoring the practice-based component of the IPE
curriculum as it is introduced this academic year (2008-09). Placing students across the Province
with functioning health care teams for this important phase of their development as professionals
will build on their experience with the pre-licensure curriculum IPE module and block activity.

A number of activities are currently underway that will contribute to sustaining and building IPE
in Newfoundland and Labrador. These include the continued delivery of selected curriculum
modules and blocks, funding to support the continued employment of key project management
and evaluation staff members, academic unit faculty support, the ongoing work of two new
tenure-track IPE faculty hired and initially supported by the project, requests from Regional
Health Authorities to continue the IPE health provider workshops, and the implementation of a
plan for student practice placement with IP teams across the Province. At an organizational level,
there is a proposal by Memorial University to establish a College of Interprofessional Health and
Community Services.
PROJECT REPORT

1.0 CONTEXT

In 1999, the Deans and Directors of the Faculties and Schools of Medicine, Nursing, Pharmacy, Education and Social Work at Memorial University established the Centre for Collaborative Health Professional Education (CCHPE). The Centre brings together a unique and flexible mix of people, activities and resources in the service of better education for health professionals. One of the main goals of the Centre is to promote, foster and coordinate the development and delivery of interprofessional education (IPE) programming for collaborative patient-centred care. Given the work of the Centre, including the introduction of some initial pre-licensure IPE curriculum components for students in Medicine, Pharmacy, Social Work and Nursing, it was well positioned to lead the Health Canada Interprofessional Education for Collaborative Patient-Centred Practice (IECPCP) funded project Collaborating for Education and Practice: An Interprofessional Education Strategy for Newfoundland and Labrador.

The overall intent of this project (July 2005 to March 2008) was to build on the work of the Centre and to develop and promote IPE through a wide range of associated activities. More specifically, the goals were to:

1. expand and promote pre- and post-licensure IPE activities in both education and practice settings;
2. enhance the collaborative patient-centered practice competencies of an increased number of learners and practitioners in Newfoundland and Labrador;
3. organize and deliver faculty development initiatives to foster positive attitudinal changes, increased understanding of the roles and responsibilities of other health care professionals, and skill acquisition in the areas being taught to students; and
4. conduct a systematic evaluation of the project curriculum framework and activities.
2.0 APPROACH

The project focus was on the development and implementation of a curriculum framework (see Figure 1) that included a continuum of activities from the undergraduate to the continuing professional education level as well as faculty development and evaluation components.

![Curriculum Framework](image)

Figure 1: Curriculum Framework

The undergraduate pre-licensure level IPE activities were integrated into existing required program courses within and across the curriculum of each of the participating faculties and schools of Nursing, Pharmacy, Social Work and Medicine. Curriculum components included:
• **Interprofessional (IP) learning blocks** and a **service learning project** based on introductory topics related to health promotion, illness/disease prevention, and professionalism;

• **IPE health and illness learning modules** using the topics of Health and Wellbeing of Children, HIV/AIDS Care, Geriatric Care, Rehabilitative Care, Newborn Care, and Collaborative Mental Health Practice to introduce students to IP care planning for patients; and

• **collaborative practice learning experiences** in settings throughout the province with the intent to expose students at the clinical novice stage to IP experiences with already functioning teams. (Note, these activities are currently under development with sites being identified in collaboration with the academic units and regional health authorities with initial implementation planned for the 2008-09 academic year.)

The modules and blocks utilized a blended learning approach which combined online activities over 2-3 weeks with a 3-hour face-to-face small-group and panel activity conducted during an evening session. Students from Medicine, the three Nursing Schools in the Province, Pharmacy and Social Work were formed into IP teams for these experiences. The use of blended learning facilitated the participation of Nursing students located in the western region of the Province and helped to overcome major daytime scheduling difficulties on-campus in St. John’s due to the diverse and individual nature of the academic program units involved. The curriculum topics of each module and block were identified through an examination of the content of existing courses within each participating academic program to ascertain common content to deliver interprofessionally. The overall intent, and a key concept of this facet of the curriculum framework, was **not** to add to already crowded curricula, but to deliver existing content in a
manner that would achieve IPE outcomes and be acceptable to students, faculty and academic units. A key feature of each module was the development of a patient care plan through an interactive, case-based approach with experiential components that included, where feasible, the use of standardized patients as part of the student small-group learning activities.

An **IP teamwork skills/collaboration workshop** was developed and successfully offered to a mix of post-graduate medical students, medical faculty and staff, and nursing and allied health staff in both the Eastern and Western Newfoundland Health Authority regions. The intent was to promote and enhance competencies as defined by the CanMEDS Collaborator role and to introduce participants to the values, principles, processes and techniques underlying effective IP collaboration. Topics focused on participating effectively and appropriately in an IP health care team, appreciating team member roles, collaborative practice, and conducting IP health care team meetings. The regional health authorities were key partners for these workshops in terms of covering staff replacement costs for attendees.

The **Rural Mental Health Interprofessional Training Program** project component was committee developed and led by faculty from Memorial’s Counselling Centre in collaboration with the CCHPE. The intent was to increase the capacity of rural health care providers to respond to the mental health needs of the community and to develop collaborative mental health skills and attitudes. Pilot work conducted the previous year contributed to the development process. The program incorporated existing primary health care teams and other professionals at six rural sites across the Province and utilized a mix of on-site workshops and video-conferenced sessions for delivery.

**Faculty development** for both clinical and non-clinical health educators was also an integrated and important part of the project strategy. This involved (a) establishing an add-hoc
committee of IPE faculty; (b) conducting a needs survey of all faculty associated with IPE curriculum development and delivery; (c) organizing a half-day workshop based on survey results; and (d) conducting a second follow-up workshop that included students and faculty and staff not directly involved with project IPE activities. Further workshops are being planned for 2008-09 based on feedback received.

**Evaluation** of all project activities through the three years was based on a modified Kirkpatrick (1967) program evaluation model (see Figure 2), with a focus on the first three stages of reaction, attitude modification, and the acquisition of knowledge and skills. It is anticipated that the remaining three stages will be more appropriately addressed in the years following this project as longer term outcomes. Survey instruments based on a review of pertinent literature were developed and used for each IPE activity along with selected focus group work. Baseline data on attitudes towards IPE and IP teamwork was also gathered prior to the start of the project and then during the fall of each year from all undergraduate students in Medicine, Pharmacy, Social Work and Nursing in each year of their academic program. A similar baseline survey was conducted with faculty at the start of the project. The instrument used for these surveys was based on two well established attitude scales:

1. *Attitudes towards Interprofessional Health Care Teams* based on an instrument originally developed in 1991 by Heinemann, Schmitt, and Farrell (as cited in Heinemann & Zeiss) and developed and refined by Heinemann, Schmitt, Farrell and Brallier consisting of 14 five-point Likert scale items that address the quality of care and teamwork of health professionals; and

2. *Attitudes towards Interprofessional Education* based on the Readiness for Interprofessional Learning instrument developed by Parsell and Bligh and consisting of
15 five-point Likert scale items that addressed aspects of collaborative teamwork, patient/client benefits and the professional identity of health professionals.

<table>
<thead>
<tr>
<th>Evaluation Components</th>
<th>Example Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction</td>
<td>Learners’ views of the IPE experiences.</td>
</tr>
<tr>
<td>Modifications of attitudes &amp; perceptions</td>
<td>Changes in perception or attitudes towards the value and/or use of IP teams and teamwork.</td>
</tr>
<tr>
<td>Acquisition of knowledge &amp; skills</td>
<td>Knowledge and skills related to IP collaboration.</td>
</tr>
<tr>
<td>Behavioural change</td>
<td>Transfer of IP learning to practice settings and changed professional practice.</td>
</tr>
<tr>
<td>Change in organizational practice</td>
<td>Impact and changes in health care organizations or health care system.</td>
</tr>
<tr>
<td>Benefits to patients or clients</td>
<td>Improvements in health or well being of patients or clients.</td>
</tr>
</tbody>
</table>

*Figure 2: Evaluation Matrix*

### 2.1 Leadership/Partners

*Project partners* at Memorial University were the Faculties of Medicine and Education, the Schools of Social Work, Nursing and Pharmacy, and the University Counselling Centre. Additional academic units were the Centre for Nursing Studies in St. John’s, and the Western Regional School of Nursing in Corner Brook. Other partners included the Provincial Health Authorities and the Provincial Departments of Education and Health and Social Services.

Overall *leadership* for the project was the responsibility of the two Co-Directors of the CCHPE at Memorial University with guidance and help from many individuals through a number of key committees (see Figure 3). This structure enabled wide and appropriate representation from relevant stakeholder groups for various phases of project development and delivery. Project staff were members of each committee, and the chair was typically one of the project co-leads. The governing council members of the CCHPE, with overall responsibility for the programs associated with the IPE curriculum, were able to provide vital support and leadership through the project. Two IPE tenure-track faculty were also hired into new joint
appointment positions (one in Medicine and Nursing, the other in Medicine and Counselling) as part of the project strategy and contributed to the leadership and implementation of the project framework. In addition, a coordinator located at the Western Regional School for Nursing, was contracted to work with faculty, students, health authority administrators, and practitioners in the western region of the province including Labrador.

The project steering committee membership represented faculty, students, patients, provincial government, health authorities and health practitioners and met on a regular basis throughout the three years. It should also be noted that a similarly structured committee was created to help inform the project proposal development and provide a wide range of input, involvement and ownership.
The **Joint IPE Curriculum Planning Committee** was comprised of the associate directors of each participating academic unit or others in similar positions with direct responsibility for the planning of program curriculum and course scheduling. Informing the work of this committee were several (one for each module and block) ad hoc **IPE curriculum teams** typically comprised of faculty from each academic unit who were instructors of courses associated with module or block content.

The **Rural Mental Health Coordinating Committee** was led by members of Memorial’s Counselling Centre with other membership from faculty in Medicine at Memorial and a faculty member at Dalhousie University. Committee members developed and delivered the training program modules.

The **Collaborative Practice Advisory Committee** was comprised of faculty in each participating academic unit responsible for program practice placement organization and delivery.

The **Evaluation Research Team**, responsible for evaluating all project activities in collaboration with the other committees, consisted of faculty from Community Health and Education with expertise in statistical processes, and the project research coordinator. The expertise of an outside international consultant also contributed to the work of this committee.

### 2.2 Communication/Dissemination

Effective communication was an integral part of project activities that involved a number of processes that ranged from appropriate representation on the various committees described earlier in this report to disseminating information through various forms of media. The overall communications plan addressed the needs of all stakeholders through specific reports and/or meetings as well as provision of project information to a much wider audience through our
specifically developed website, newsletters, and academic publications and presentations. More specific examples of communication and dissemination were:

- a public media launch with invited local and federal politicians, provincial government representatives, university officials, and members of the various stakeholder groups such as patients, faculty, practitioners, regional health authority officials and students;
- hosting of a one-day symposium *Learning Together – Working Together: An Interprofessional Health Symposium* with 130 stakeholders from Memorial and across the Province during the second year of the project to present results to date and obtain feedback;
- regular meetings of all committees;
- development and continued updating of a project website;
- publication of issues (5) of a project newsletter (*IECPCP Focus*);
- a briefing meeting with assistant deputy ministers of education and health and community services to discuss status of project activities;
- providing an evaluation report (20) for each module and block to the various project curriculum development and delivery teams as formative evaluation feedback;
- providing annual project reports (3), including baseline evaluation reports (3), to Health Canada, the CCHPE Governing Council members, and project steering committee members;
- teleconferenced meetings with the Western Regional School of Nursing;
- articles (7) written for peer reviewed academic journals based on project evaluation data;
- presentations (42) at local, regional, national and international conferences;
- production of a (publicly available) video sponsored by the Health Council of Canada and featuring this project and students in IPE at Memorial; and
• sharing evaluation approaches (selected instruments) with other IECPCP projects across Canada.

Meetings were also held with Regional Health Authority personnel that included project orientation sessions with senior administrators, program directors, division managers, primary health care team site administrators and staff.

2.3 Working Towards Sustainability

Several factors will likely contribute to the sustainability of the various elements in the curriculum framework and the continued development of IPE in the Province. These range from the continued delivery of IPE modules, blocks and workshops to additional funding support. Also, the two new tenure-track assistant professor level faculty in IPE, hired and funded as part of the project, are now fully supported by the academic units to which they were appointed and will continue to facilitate the work of the CCHPE, including several activities related to the continued development and implementation of the overall project IPE curriculum framework.

A schedule to continue the delivery of selected IPE curriculum modules and blocks with Medicine, Nursing (three Schools), Pharmacy and Social Work is well underway for the fall and winter semesters of 2008-09. In consultation with their respective units (including course instructors), the undergraduate committees of each unit have been reviewing a proposal from the CCHPE with respect to this that has been based on project evaluation reports and outcomes over the three years. Additional work with each academic unit has also involved discussions to establish, agree upon and adopt a common set of outcomes for IPE for each program.

CCHPE funding for the 2008-09 fiscal year has included additional amounts to support the continued employment of two key project staff (the project manager and the evaluation coordinator). This sustained funding is a vital contribution to the current (and ongoing) planning,
delivery and evaluation of IPE activities, particularly given the additional work involved with scheduling and integrating curricula modules and blocks into the programs of the academic units. Additionally, the Deans and Directors of each academic unit have requested new budget allocations to cover faculty time associated with IPE curriculum delivery costs.

Discussions with, and requests from, regional health authorities to continue the delivery of the IP collaboration workshops will continue to foster and expand practitioner involvement. An additional unit on eating disorders has also been developed for delivery to participants of the rural mental health IP training program.

Though not directly involved with the IPE curriculum framework components, Memorial now has an active chapter of the National Health Sciences Students Association (NaHSSA) with membership from all academic units involved with this project and support from the CCHPE. This adds to student commitment and the fostering of IPE at the pre-service level.

It should also be mentioned that a proposal to establish a College of Interprofessional Health and Community Services at Memorial has been submitted to the Provincial Government by the senior administration of Memorial University based on a government commissioned report, Foundation for Success: White Paper on Public Post-Secondary Education (2005)\(^5\), and a subsequent committee report to the University President. Project data was used to help inform the committee work. If established, the proposed College would provide an umbrella organization that brings together all of the academic units engaged in this project, including the University Counselling Centre and School of Kinesiology.

### 3.0 Key Results and Findings

Overall, the project has received tremendous cooperation from over 100 faculty, patient representatives and health professionals in the development and delivery of IPE curriculum
activities to date, and each year has engaged approximately 1100 students in the IPE modules and blocks. Additionally, over 400 other health professionals have been exposed to IPE and collaborative teamwork practices through specifically developed workshops and other activities over the three years of the project. More specific and detailed results are discussed in this section of this report.

3.1 Curriculum Modules and Blocks

Nine curriculum modules and blocks at the undergrad/pre-licensure level have been developed and implemented as part of required program courses. Many of these have been offered at least twice during the 3 project years to students in IP teams from each of the participating units of Medicine, Pharmacy, Nursing and/or Social Work through a blended learning approach. A specifically developed post-survey was administered after each module or block to assess student satisfaction with the content and delivery process of the activity, along with some focus group work.

Overall mean satisfaction scores for the blocks and modules, based on a scale of 1 = strongly disagree to 5 = strongly agree, have all been well above the midpoint of 3.0, with the exception of two activities (Service-Learning Project - first delivery and Health Promotion through Community Assessment Block – second delivery) (see Figure 4). For the Service-Learning Project, substantial changes were made to the delivery of this project after the first offering resulting in a significant increase in the mean satisfaction score during the second offering. With regards to the Health Promotion through Community Assessment Block, the drop in the level of satisfaction for the second offering was due to the change in the nature of student assignments with focus group feedback suggesting that difficulties arose from the nature of the health topic used for this curriculum block. An example of the items used to determine these
satisfaction ratings is shown in Figure 5 which also depicts the student ratings of the HIV/AIDS module for each year that it was delivered.

<table>
<thead>
<tr>
<th>Block/Module Topics</th>
<th>Mean Satisfaction Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Offering</td>
</tr>
<tr>
<td>Mental Health</td>
<td>3.85</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>3.67</td>
</tr>
<tr>
<td>Health and Well Being of Children</td>
<td>3.74</td>
</tr>
<tr>
<td>Geriatric Care</td>
<td>3.76</td>
</tr>
<tr>
<td>Newborn Care</td>
<td>3.75</td>
</tr>
<tr>
<td>Rehabilitative Care</td>
<td>3.68</td>
</tr>
<tr>
<td>Service-Learning Project</td>
<td>2.79</td>
</tr>
<tr>
<td>Professionalism</td>
<td>3.79</td>
</tr>
<tr>
<td>Health Promotion</td>
<td>3.50</td>
</tr>
</tbody>
</table>

Figure 4: Mean Satisfaction Scores for IPE Blocks and Modules

In summary, evaluation results from the blocks and modules revealed that:

1. Student reaction to the IP small-group delivery process and content was typically positive, although as illustrated, module satisfaction ratings did vary by topic. Some differences were also evident by student health discipline and by gender (female ratings were often higher).

2. Participants particularly liked (and rated very highly) the experiential components, especially the use of standardized patients, the face-to-face small-group discussions, the panel discussions, and working and learning from students of other disciplines. However, there was less enthusiasm with the web-based components, especially among students who participated in several modules over a year, each of which utilized a similar on-line approach. This component will need revisions prior to the next offering of the modules.

3. Student ratings of their perception and understanding of IP teamwork, using a scale adapted from Clark (1994)\(^6\), were typically high and positive for each module and block.
4. Students expressed a desire to have all four health professional groups participate (represented) in each module and block. This was especially evident when a particular health care perspective was not available as they worked through a specific patient care plan scenario.

5. Logistical issues related primarily to scheduling each module and block were an administrative challenge from both a semester timetabling perspective and the creation of appropriate IP teams given the large number of nursing students compared to other disciplines.

6. Changes suggested by students mostly focused on organizational issues. In particular, the use of evening timeslots to accommodate the face-to-face components were disliked and
considered to be inconvenient by many. Such scheduling also increased the perception that this IPE experience added content to an already crowded program curriculum.

From a faculty perspective, the ongoing delivery of blocks and modules will add to their time and workload. A survey of this group indicated that this work adds 14-20 hours of additional time each semester.

3.2 Collaborative Practice Learning

Activities during the first two years of this project included: orienting preceptors and administrators to IPE through workplace orientation sessions and one-day workshops; developing handbooks for preceptors and students; surveying practice placement coordinators and preceptors to develop an inventory of current practice throughout the province; and developing common competencies/objectives for IP practice which have since been adopted by all participating academic units at Memorial. Overall, 19 preceptor orientation sessions were held across the Province involving about 150 potential mentors/supervisors who will work with students in practice placements.

During the final year of the project, an IP collaborative practice learning model was developed for translating the classroom learning into the clinical setting. This model emphasizes the significance of three factors:

1. Preceptor and student familiarity with the required IP competencies;
2. Student and preceptor discussion about the practice setting in which the student is learning with reference to each of the competencies, including the challenges and opportunities related to IP practice in that setting; and
3. The importance of ensuring that the discussions concerning IP competencies occur as part of the placement process given the context of a busy clinical placement with many profession specific demands facing both preceptors and students.

The model will be tailored to meet the needs of each participating academic unit.

Implementation will begin in the fall 2008 semester and will be based on the practice placement schedule of each academic unit.

3.3 Interprofessional Teamwork Skills/Collaboration Workshops

Eighteen practitioner workshops (12 IP teams in the Eastern Region Authority and 6 in the Western Regional Health Authority) were offered between December 2006 and March 2008 to over 300 participants across various program areas such as Surgery, Mental Health, Child Care, Medical Flight Specialist, Rehabilitative Care, Nephrology and Women’s Health.

Participants were medical faculty and residents as well as nursing and allied health staff. A post-evaluation of satisfaction with the experience revealed a high level of satisfaction across all of the workshops offered, with 91.2% of the respondents agreeing or strongly agreeing that the workshop had been a meaningful learning experience, and 90.2% of participants indicating they would recommend the workshops to others.

As an additional part of the evaluation of these workshops, participants were also asked to complete a pre-workshop survey and a post-workshop survey 6-8 weeks following the completion of the workshop. Each survey included two scales measuring attitudes towards IP health care teams and perceptions of effective IP teams (using a 5-point Likert scale). Participants were asked to create a unique identifier on both surveys to be used for matching purposes during pre-post analysis. Based on this, 82 respondents out of 134 (61%) were matched for analysis purposes (incomplete or inaccurate completion of the unique identifier was the main
reason surveys could not be matched). Based on this data, it was found that overall, participant ratings during both the pre-test and post-test survey administrations showed positive attitudes towards both IP health care teams (mean scores of 4.11 and 4.19, respectively) and perceptions of effective IP teams (pre-test mean scores of 3.51 and post-test mean score of 3.50). Overall, Medical Residents’ attitudes towards IP health care teams scores were lower than those in other groups, but increased significantly between pre- and post-workshop measures; and for Allied Health Care Staff and Nurses, there was a significant increase in their self-assessed IP team skill scores from the pre- to post workshop evaluation.

Feedback from the sessions was very positive overall. There were suggestions to offer these workshops to a wider range of IP teams, and particularly to newly formed teams or teams with new members. Some participants also suggested condensing the content down to a half-day format to better suit work schedules.

3.4 Rural Mental Health Interprofessional Training Program

Over the course of the Rural Mental Health Interprofessional Training Program, 127 individuals from the 6 different rural communities representing 15 different professions attended at least one of the six sessions that comprised the complete program, including physicians, social workers, nurses, pharmacists, ambulance attendants, nurse practitioners, recreation therapists, occupational therapists, dieticians, clergy/pastoral care workers, youth regional coordinators, school counsellors, community development specialists, police/justice personnel, and clerical staff.

All participants in each session were asked to complete an evaluation of the delivery process, the program content, and an *Attitude Towards Interprofessional Mental Health Care Teams* scale (based on the Heinemann, Schmitt, Farrell and Brallier³ scale). Overall response
rate was 89%. All aspects of the delivery process were rated highly (average 4.55 on a 5-point Likert scale ranging from 1=very dissatisfied to 5= very satisfied), particularly “the opportunity for interaction” (4.70). Similarly, all of the content topics (see Figure 6) were rated highly.

![Content Scores](chart.jpg)

**Figure 6: Participant Rating of Rural Mental Health Interprofessional Training Program Content**

Scores on the attitude scale also received high rating scores from workshop participants and increased significantly after the training. Pre- post-scores changed from 4.06 to 4.22 on the 5-point scale used in the instrument.

Following the completion of the program, focus groups were also conducted with participants from the six communities. Overall, feedback was extremely positive, highlighting in particular the content, which focused on issues related to mental health, along with the opportunity to network and create new lines of communication with other professionals within the community. Further analysis of this participant feedback revealed that:

- The program would benefit from a wider range of professionals at each site and in each workshop, and particularly from increased physician attendance;
- The combination of in-person and video-conference sessions was effective, although the reliability of the technology was an issue at times;
• It is important to ensure the relevance of content given the diversity of individuals participating in the sessions;
• The IP process was highly valued and reinforced learning the content; and
• The training significantly improved attitudes towards IP mental health teams.

A follow-up survey of physicians is planned to help determine factors that would help increase the workshop participation rates of this group. The survey will include those that did and did not attend the workshops.

3.5 Faculty Development Survey and Workshop Results

During the spring and summer of 2007 a faculty development needs assessment survey was administered via email to assess faculty knowledge, attitudes and experiences with IPE and IP teamwork. The survey was sent to faculty members involved in any aspect of IPE, along with the Deans and Directors, Associate Directors (undergraduate) and faculty members responsible for curriculum in each academic unit. Response rate was 61% based on 62 returns from a possible 102. Results indicated:

• a high level of satisfaction with their involvement in both the IPE blocks and modules with 67% either satisfied or very satisfied with their participation;
• that 85% of respondents felt positive or very positive about incorporating IPE into their teaching at Memorial; and
• that 95% indicated being positive or very positive about participating in IP health care teams.

Overall, it was clear that faculty members who have been involved with the development and implementation of IPE activities up to survey time were knowledgeable about, and quite satisfied
with, their experiences. They were also extremely positive with respect to the advancement of IPE at Memorial.

Thirty-five of these faculty and administrators attended the first of two half-day workshops. The second workshop held in May 2008 included a similar group of 37 participants, including some students with IPE experience and faculty not directly involved with preparing and teaching the modules and blocks. Both sessions examined progress to date, challenges involved with IPE and, particularly the second workshop, planning for sustainability. Overall, participants were positive and very supportive of undergraduate curriculum activities and sought ways to both improve and continue IPE at Memorial. Comments and suggestions included:

- improvements to the content and delivery processes of specific modules and blocks;
- using standardized (or real) patients in more of the modules;
- considering continuing with all of the blocks and modules and allowing students to select which ones they would participate in, or focus in on a smaller number; and
- creating student teams during their first IPE experience and maintaining those teams through other IPE activities as a process to develop team skills.

3.6 Student Attitudinal Change

All students in each of the Faculty of Medicine and the Schools of Nursing, Pharmacy and Social Work during the fall semester of 2005, 2006 and 2007 at Memorial University were considered as the sample of health professionals for the baseline survey to assess attitudes towards IP health care teams and IPE. Response rate each year was about 87%, based on 1179 out of 1358 respondents in 2005, 1203 out of 1368 in 2006, and 1176 out of 1357 in 2007. Figure 7 illustrates the mean scores across professions of students for the Attitudes towards Interprofessional Health Care Teams scale for the years the survey was administered. Average
scores for all groups across all three years were in the positive range (3.78 to 4.00). Figure 8 illustrates the mean scores for student responses on the *Attitudes towards Interprofessional Education* scale for the three years. Again, results for all groups were in the positive range (3.68 to 4.16).

![Figure 7: Student Attitudes towards Interprofessional Health Care Teams](image)

![Figure 8: Student Attitude Towards Interprofessional Education](image)

Further analysis of the data for both scales revealed a number of factors:

- Each year there were significant differences based on academic grouping, with Medicine students typically having lower mean scores than the other program groups.
- When all program groups are combined, year 4 student scores were significantly higher than those of students in other years on the *Attitudes towards Interprofessional Health Care Teams* scale in each of 2005, 2006 and 2007. In contrast to this, scores on the
*Attitudes towards IPE* scale decreased from year 1 to year 4 students for each annual survey, but not significantly.

- Female scores overall were higher than those of males on each scale for each survey year. However, the scores of males did increase slightly each year, but not significantly.
- Results of a preliminary analysis using both scales from each survey year, and noting when the teaching of each module and block of IPE curriculum occurred over the three years, were inconclusive in terms of the impact. Overall there was no consistent pattern to indicate whether or not these IPE interventions had a positive or negative effect over the relatively short timeframe of the project.

Details of this baseline data analysis are contained in Appendix 1.

### 3.7 Faculty Baseline Results

During the fall of 2005, all full-time faculty from Medicine, Nursing, Pharmacy and Social Work were asked to complete a survey assessing their attitudes towards IP teamwork and IPE using the same two scales as the student baseline survey. The response rate was 62.3% based on 191 completed surveys out of a possible 306. Overall, the mean scores for each academic group indicated positive attitudes towards both IP collaborative health care teams and IPE (see Figures 9 and 10).
Further analysis of the data for each scale revealed that:

- The scores of Medicine faculty were significantly lower than those of Nursing, but not the other academic groups;
- The scores of female faculty were significantly higher overall, particularly in Medicine;
- Faculty with prior IP experience had significantly higher scores, again especially in Medicine;
- Positive attitudes towards IP health care teams increased with the amount of prior IP experience; and
- Differences were not apparent based on age, amount of experience as a health professional, or amount of experience as a health professional educator.

### 3.8 Health Care Provider Experience

Professional health care providers, as described earlier in this report, have had a number of opportunities to participate in, and benefit from, many project developmental and implementation activities to date including faculty workshops, the IP collaboration workshops, and the Rural Mental Health Interprofessional Training Program. Health care professionals were also encouraged to volunteer in a facilitator’s role or as a member of the panels during student IPE learning blocks and modules (many did and made valuable contributions through...
these activities). Through the evaluation of these activities, participants reported such benefits as appreciating the roles of other professions and reducing communication barriers through IP teamwork and collaboration.

A key feature of this project was an emphasis on working with, and maintaining, continuous communication with health care providers. For example, in the project developmental phase, IPE activities were created based on the input from the curriculum development teams comprised of members of each participating faculty and/or school.

3.9 Patient Experience

Given the nature of this project, there was no evaluation of patient experiences. However, patients were involved with several of the project’s activities, particularly in the development of several of the IPE blocks and modules. For example, patients and patient advocacy group members sat on some of the ad hoc curriculum teams to assist with the planning of these activities; and in several cases, patients participated as members of panels during the plenary sessions of the blocks and modules. Additionally, there was a patient representative on the project steering committee, and patients took part in the Interprofessional Health Education Symposium event as invited panel members.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Through the work of this project the CCHPE has introduced a comprehensive set of activities through a specifically designed curriculum framework that form an excellent basis and set of resources for a continued and sustained effort in the development of IPE in Newfoundland and Labrador. Throughout, we have worked collaboratively with several academic partners and the Regional Health Authorities (RHA’s) to develop and deliver IPE pre-licensure curriculum blocks and modules, workshops for faculty and RHA practitioners, orientation sessions for
practice placement supervisors, and a rural mental health training program for health professionals. Through these and other related activities, the goals set out for the project have been achieved. Based on the results to date, and subsequent initiatives it is recommended that all elements of the curriculum framework be sustained and further developed. More specifically, it is recommended that:

1. Selected pre-licensure IPE modules and blocks continue to be offered in the current blended learning format as required components of program courses in the academic units of Medicine, Nursing, Pharmacy and Social Work. Some revisions are required to the on-line components and content based on student and faculty/instructor feedback; and where feasible, the experiential learning components should be increased.

2. A number of serious logistical challenges be addressed through collaboration among the academic units. These challenges are primarily associated with the planning and scheduling of the modules and blocks in each semester and during regular student classroom hours.

3. Allowances be made in faculty workload for their part in the planning and delivery of the IPE blocks and modules. Surveys indicated that 14-20 hours each semester be added to accommodate this for each faculty teaching a course that included the IPE component. Also, it is important that ways be established within each participating academic unit to recognize and reward faculty involvement in IPE activities, especially in terms of contributing to tenure and promotion.

4. Participating academic units commit dedicated faculty to help further develop, expand and deliver IPE activities.

5. A CCHPE staff member be available to plan, coordinate and manage all IPE activities including the curriculum components, workshops and orientation sessions.
6. The various workshops and orientation sessions for faculty, staff, practitioners and other health and social care professionals be continued to further develop IPE competencies.

7. A plan be developed to continue collecting evaluative data on the various activities to address longer term outcomes related to behaviour, attitude and health system changes associated with IPE and IP care. To monitor and track the progress of such changes (and the impact they ultimately have on patient care and provider satisfaction) will require support for longitudinal data gathering and analysis.

8. The Newfoundland and Labrador chapter of the National Health Sciences Students’ Association continue to be supported as part of the IPE agenda at Memorial University.

**5.0 REFERENCES**


An Interprofessional Education Attitude Survey of Students in Medicine, Nursing, Pharmacy and Social Work: 2007 Baseline Survey Results and 2005-2007 Comparisons.