



## The Internet Journal of Allied Health Sciences and Practice

<http://ijahsp.nova.edu>

A Peer Reviewed Publication of the College of Allied Health & Nursing at Nova Southeastern University

*Dedicated to allied health professional practice and education*

<http://ijahsp.nova.edu> Vol. 2 No. 3 ISSN 1540-580X

---

### Changing Attitudes - Health Sciences Students Working Together

---

Elizabeth A. Taylor, MEd. OT(C) FCAOT<sup>1</sup>

David Cook PhD<sup>2</sup>

Rosemarie Cunnigham, BSc.<sup>3</sup>

Sharla King, PhD.<sup>4</sup>

Jan Pimlott, MSc.<sup>5</sup>

1. Associate Professor & Associate Chair, Department of Occupational Therapy, University of Alberta, Edmonton
2. Director of Medical Education, Faculty of Medicine, University of Alberta, Edmonton
3. Clinical Lecturer, Laboratory Medicine and Pathology, University of Alberta
4. Academic Coordinator IntD 410, University of Alberta, Edmonton
5. Director, Interprofessional Initiative, University of Alberta

---

**CITATION:** Taylor, E., Cook, D., Cunnigham, R., King, S., Pimlott, J: Changing attitudes: Health sciences students working together. The Internet Journal of Allied Health Sciences and Practice. July 2004. Volume 2 Number 3.

---

#### ABSTRACT

Is it possible to alter limiting stereotypic attitudes of health professionals toward each other? Perhaps a first step might be an undergraduate interdisciplinary course that brings students from different faculties together to work on scenarios of common interest? The Inter-professional Health Development, Education & Activities Group (IHDEA) at the University of Alberta believe that their innovative INTD 410 course addresses the goal of changing attitudes. Over a five-week period, more than 700 students attend this required course. They are supported by some fifty facilitators who are drawn from the community and from six different university faculties. Students interact in small interdisciplinary teams and in the process deepen their knowledge of the role of each health professional, and come to a greater understanding of the contributions of their own discipline to the team. Data gathered suggest that the course cultivates respect among the professions and that students feel better able to function within the health team. This paper describes how the course was developed.

---

#### Goals of the course from within the university environment

*"The feature that distinguishes the best health organizations is their culture." (Sir Liam Donaldson)*

Health care world-wide is constantly in transition, and thus education around the training of its professionals must also be subject to change. <sup>1-3</sup> A key feature of change in health care delivery and in health promotion has been the recognition that professionals interacting as interdisciplinary teams often make the most useful contribution. <sup>4</sup> This concept however must be translated into practice. It is reasonable to believe that teamwork needs to be specifically taught, and should be introduced early in the students' education. In health curricula, students are usually trained in discipline-specific isolation, and upon graduation are expected to work together with patients in a successful inter-professional team. Indeed, our experience at the University of Alberta suggests that in health education, rather than working together, health faculties tend to compete for available funds and facilities, and this professional allegiance tends to permeate student behaviour after graduation

Common sense thus dictates that we should lay the foundations of effective inter-professional collaboration during the education of all those who will work in the health field. While there are few published examples of attempts to achieve this objective, the literature does suggest the importance of moving to this type of practice and delineates the difficulties in teaching it.<sup>5,6</sup> Certainly there have been interdisciplinary courses in the health field, but they have almost always been electives or have consisted of didactic presentations with little opportunity for students to experience actual teamwork. Faculties of Medicine, in particular, have seldom been heavily involved in collaborative programs. Indeed, when we first started to discuss our plans with other universities, we were told that it was wonderful in theory, but logistically impossible. The IHDEA group at the University of Alberta took on this challenge, and has successfully instituted an inter-professional course.

### ***The Beginning of the Process***

*"Snowflakes are one of nature's most fragile things, but just look what they do when they stick together."* (Vista M. Kelly)

Since 1992, members of the academic staff from Nursing, Occupational and Physical Therapy, Medical Laboratory Science, Medicine and Dentistry, and Pharmacy have offered a course focused on the health care team. In its first year Interdisciplinary 410 enrolled twenty-four students, and year-by-year the enrolment grew to over one hundred and forty registrants. The course was offered in the evening, and consisted primarily of small group work. Initially an elective in all faculties, it gradually became a required course, with Dentistry leading the way in 1996.

In 1997, the Coordinating Council of Health Sciences (the council is comprised of the Executive Director for Health Sciences and the Deans of each of the Faculties of Agriculture/Forestry/Home Economics, Medicine/Dentistry, Nursing, Pharmacy, Physical Education/Recreation and Rehabilitation Medicine) recommended the formation of a committee to consider inter-professional or as it was more commonly known then as interdisciplinary education. Around the same time, students in the Faculties of Medicine and Pharmacy formed a Society dedicated to interdisciplinary collaboration called the Alberta Collaborative Health Interdisciplinary Learning Initiative (ACHILI), which has since expanded to include students from other health programs. Under the aegis of the Executive Director of Health Sciences, a group was formed comprising members of the Health Science Faculties, instructors in the existing Interdisciplinary 410 course, community practitioners, and members of ACHILI. The primary objective of that group was the furthering of inter-professional education at the University of Alberta.

A smaller, less unwieldy committee, including a representative from each of the undergraduate programs, was formed to develop an appropriate initiative. This committee was later christened the Administrative Group on Interdisciplinary Health Sciences Education. The name has now been changed to Interprofessional Health Development, Education and Activities Group (IHDEA). IHDEA has remained essentially stable from its inception. IHDEA developed the framework for establishing the InterProfessional Initiative (IPI), which now has three formalized positions: Director, Course Coordinator, and Team Placement Coordinator. IHDEA provides leadership, administrative support and visionary guidance to IPI.

The Administrative Group decided that the program of inter-professional education should include a mandatory course for all health sciences students that would introduce them to knowledge, skills and attitudes that would support effective functioning within a health-care team. Unquestionably, the group benefited immeasurably from the experience of the members who had taught the previous interdisciplinary course. However, since no other University appears to have created a required credit course in this area involving all the Health Faculties, we were essentially beginning a new endeavour.

### ***Oops, It is Actually going to Happen***

*"The roots of education are bitter, but the fruit is sweet."* (Aristotle).

To begin, the IHDEA team members had to learn how to work together on a common project. Working together meant diminishing allegiance to our own faculties in favour of loyalty to the principles of Team Education. Even this was initially very difficult until the working group designed explicit rules for making decisions: we would develop and adhere to guidelines for process and deliberation. In addition, since the chances of receiving any tangible reward for our efforts seemed minimal, we would do our utmost to enjoy the process. These decisions have sustained us through some periods of intense frustration and helped form a team that usually models the behaviours we hope that our cadre of 700+ students will adopt.

An issue that emerged early was: "During which university year should the course be offered?" The clinical field placements that occupy many students in the latter stages of their education present seemingly insuperable logistical problems (but see "Future Developments", below). On the other hand, offering the course early means students have less background with which to represent their disciplines in a inter-professional group. A compromise between logistics and pedagogy provided us with the following distribution of the enrolment over the last two seasons (see Table 1.1 below).

**Table 1.1: Enrolment and year of study for registrants in the Interdisciplinary program**

Program	Enrolment				Year of study
	2001-2002		2002-2003		
	Afternoon Session	Evening Session	Afternoon Session	Evening Session	
Dental Hygiene	38	3	37	1	2 <sup>nd</sup>
Dentistry	15	15	65	1	1 <sup>st</sup>
Medical Laboratory Science	6	3	9	4	4 <sup>th</sup>
Medicine	65	60	32	61	1 <sup>st</sup>
Nursing	127	137	103	82	2 <sup>nd</sup> & 3 <sup>rd</sup>
Nutrition	27	46	9	29	4 <sup>th</sup>
Occupational Therapy	0	13	60	13	4 <sup>th</sup>
Pharmacy	55	45	55	46	2 <sup>nd</sup>
Physical Education	1	5	6	2	Varies
Physical therapy	40	24	61	4	3 <sup>rd</sup> & 4 <sup>th</sup>
Other (Arts, Science, Graduate Studies)			0	3	Varies
<b>TOTAL</b>	375	355	437	246	
<b>TOTAL (afternoon &amp; evening)</b>	<b>730</b>		<b>683</b>		

The next problem was to find a time when all students would be available. A concentrated five-week period in January and early February provided the only option compatible with the timetables of the different academic programs. The course was scheduled for 3 or 3.5 hours each Tuesday and Thursday during this time period, with the students having a choice of afternoon or evening sessions.

INTD 410 is now a required course for all students in 9 of the 14 health science programs at the University of Alberta. Numbers vary from year to year as some faculties permit their students to choose the program year they will attend INTD 410. At present the course is "credit/non-credit" as opposed to one in which a grade is attached.

### **Course Description** **Objectives and Process**

*"The highest reward for a person's toil is not what they get for it, but what they become by it." (John Ruskin)*

The mission of INTD 410 is to produce graduates who are well equipped to function in a health team. This goal has been refined to six measurable and achievable objectives for student learning. Students will:

- Deepen their understanding of the roles of other health professionals and their contributions to the health team
- Demonstrate group process skills for effective interaction and gain an understanding of the contribution of one's own discipline to the team
- Demonstrate team decision making using clinical cases

- Demonstrate a shared patient- centred approach to health through developing a team project within the community
- Articulate their own strengths and weaknesses as a team member
- Demonstrate the essential features of an effective team. For example recognize non helpful behavior, confront the situation appropriately, communicate effectively to promote helpful behavior, resolve conflict and provided feedback to peers

In INTD 410 students interact as interdisciplinary teams using scenarios specifically designed to achieve the course objectives. The planning committee was influenced by a “process-learning” approach, in the development of the following model:

- **Teams:** Six or seven students are assigned to a team, usually with no more than two students (occasionally three nurses, because of student numbers) from the same undergraduate program on any one team. There are 120 teams in the entire course.
- **Sections:** Six teams form a section. The teams within a section work independently but in the same geographical area. Each section has two or three facilitators, including a member of the academic staff in one of the health faculties, and a health professional who practices in the community. One of these facilitators is designated as the “section leader.” Facilitators observe team function and provide advice and feedback on performance, but encourage students to work without interference. The course consists of 20 sections.
- **Revers:** Experienced faculty facilitators assist section facilitators as needed and help work through problems as they arise in the teams.<sup>7</sup>

This model provides a degree of independence for the students as well as readily available assistance if a team gets into trouble. Faculties provide facilitators in proportion to the number of their students in the course (5-6 facilitators per 100 students). Each faculty seeks a reasonable mix of academic staff and community professionals. Those from the community provide valuable feedback to the academic staff about the relevance of classroom activities to actual clinical practice and the suitability of the curriculum. Community facilitators receive an honorarium of \$450, paid by the faculty they represent. Participation of academic staff is recognized as part of regular teaching assignments. Table 1.2 shows the breakdown of facilitators over two academic years.

**Table 1.2: Number and distribution of Faculty/ Community Facilitators**

Faculty	Faculty	Community	Faculty	Community
Dental Hygiene	3	0	2	0
Dentistry	0	0	1 (half time)	0
Medicine	2	6	1	1 (half time)
	<b>2001-2002</b>		<b>2002-2003</b>	
Medical Laboratory Science	1	1	1	2
Nursing	7	4	2	9
Nutrition	0	2	0	5
Occupational Therapy	2	1	0	7
Pharmacy	2	3	2	3
Physical Education & Recreation	0	1	2	1
Physical Therapy	3	2	2	2
Social Work	0	0	0	2
<b>Total</b>	<b>20</b>	<b>20</b>	<b>10.5</b>	<b>10.5</b>

#### **Facilitator Training**

Preparing facilitators for the role has been proven to be essential. Training is conducted by selected members of IHDEA, who provide two instructional sessions for all facilitators, explain the course objectives and offer a model of how the scenarios might

be introduced and facilitated. Facilitators unable to attend these workshops receive an individual orientation provided by the Course Coordinator. In addition, the Course Coordinator and the Rovers visit the sections during each class and are available to assist with logistical problems or class management issues.

### Course Content

The course is structured around five scenarios that allow students to explore team decision making, interaction among health care professionals, collaboration of the health care team with an individual, partnership of the health care team with the community, and working together in a patient-centred fashion. Strategies to enhance team-work are stressed. Processes and behaviours include the use of **roles** that ensure attention is given to leadership, focus, clarification, summarizing, documentation, investigation of alternative ideas, evaluation, and participation of all members: the deliberate use of constructive **feedback**; the development of strategies for addressing differences of opinion or **conflict**; the use of **reflection** to consider individual contributions and to assess what worked and what didn't. The ten sessions in the course are planned as follows:

1. The first and only plenary session introduces students to the overall philosophy, logistics and evaluation of the course and provides a light-hearted look at team process. Held in the main auditorium in the hospital, the plenary lasts for one hour. For the remaining two hours, students move to individual team locations to meet their facilitators and the other team members. The section leader introduces the first scenario, "Getting to Know Our Teams" to the whole section, and the six student teams then embark on exploring the scenario. Students share previous team experience, reasons they chose their disciplines, and examples of how their own and other professions are stereotyped. They then discuss differences between a group and a team and examine their own strengths and weaknesses as team members. During this exercise students begin to get to know each other, while exploring preconceived ideas about other health professions. They are also given a research assignment that entails preparation of a description of the scope of practice of their own profession to present at the next class.
2. In the second session, students explore interactions among health care professionals. They each present the scope of practice of their profession, discuss shared responsibilities of clinical practice and decide how best to describe the function of a health team. Using the information brought to class they explain to the other team members what their professional education involves, and how their discipline is practiced. During this session they also examine team roles and develop expectations for how their team will operate. This class focuses attention on the benefits and challenges of coordinated team efforts, and on the uniqueness and overlap of the various health disciplines
3. The scenario explored in the next two sessions is more complex, and is loosely based on an actual clinical case. The intent is to move the team function from interaction among the health professionals, to collaboration of the team with a patient and his family. Advance preparation includes reading a clinical case in the course manual as well as additional material that supplements discipline-specific aspects of the case. Students then watch a video that shows an elderly man with a fractured arm being admitted to a hospital emergency room. The video was produced professionally through funding by a grant from Health Canada. The admission process and filmed statements from relatives reveal that since the death of his wife, the man has undergone progressive deterioration of physical and mental functions, the cause of which is not immediately apparent. Students discuss the case, and the six teams within each section are divided into three pairs. Based on information in the video and in the "resources" section of the student manual, one team from each pair plans and then performs an intake conference for this patient at a geriatric assessment unit. They also prepare a "feedback contract" which details the behaviours they intend to display during the conference, and on which they would welcome advice and comment. The other team in each pair provides three individuals to act as the family who will attend the intake conference (patient, patient's son, and patient's daughter). The remaining team members observe the intake conference and provide feedback within the parameters of the first team's feedback contract.
4. This session continues the previous scenario. A short video of a nursing/occupational therapy visit to the patient's home reveals that although ongoing health related issues include alcohol consumption, the major problem is an accidental chronic sedative overdose. The pairs of teams now exchange the roles they performed in session 3: the team that observed the intake conference conducts a discharge conference, while the team that performed the intake conference observes the proceedings and supplies the individuals who play the roles of the family members. A feedback contract is constructed as before. The final debriefing involves reflection on the degree of patient-centredness of the conferences, the giving and receiving of feedback, and on team function,.

5. In the next two sessions, team experience is expanded to interacting as a team within the community. Student teams are randomly assigned to projects according to the accessibility of community sites. The student teams prepare a community presentation of either 1) "Do Bugs Need Drugs", a program targeting elementary schoolchildren or seniors designed to improve handwashing and reduce antibiotic use or 2) a falls prevention program for seniors, or 3) a mental health anti-stigma program. Students decide how to present and evaluate the education program. Materials are available, but student teams are encouraged to be creative and develop their own resources.
6. In this session students travel to the community site and present their program. They evaluate their own presentation as well as being evaluated by the target group. Students often report that this is the highlight of the course, as it forces them to work as a team, and they are rewarded by the response of the community.
7. In this dynamic session student teams work on an ethical dilemma and are presented with a conflict matrix tool to identify their individual preferred strategies for dealing with issues that arise. Here students learn that there may be no right or wrong solutions to problems. They practice giving and receiving feedback and finally, examine the principles behind consensus decision-making. Students learn about the consequences of different conflict styles and evaluate both their team functioning and individual performances.
8. Working as a team when decisions must be made quickly is the theme of the next session. In preparation for their final examination, the students work on a series of three scenarios during the class. Each is in the form of a dilemma revolving around a case history. Teams deal with such issues as assisted suicide, organ transplantation in an isolated First Nations' community, home care with a noncompliant patient, or nondisclosure to a spouse of a sexually transmitted disease. Students discuss and explore the issues and agree upon some team resolution. Each team presents its case to the whole section. This session helps students become aware of their process for making decisions when there are time constraints.
9. In Session 9, students complete a course evaluation questionnaire and take the "Team Objective Structured Clinical Examination." (TOSCE: described later).
10. During the last session students receive final feedback on their team performance in the TOSCE and develop a strategy for closure. They may share entertaining moments during the course, perform skits, comment on the process and what they learned, and make suggestions for improvement in the next offering of the course. This session is designed to provide a positive ending to the experience of learning to work together in interdisciplinary teams.

Each session begins with facilitators discussing objectives, agenda, and other information that is necessary for the teams in the section to begin working on the scenario. While a further brief presentation to the section may occur during the session, facilitators know that their role is not to "lecture." For most of the time, students work in their teams, as outlined above.

Throughout the course, facilitators watch the functioning of the teams. Each team provides a vacant chair, so that a facilitator can slide in unobtrusively and observe the proceedings. The facilitators may answer questions, make comments and pose additional questions, but they intervene as little as possible. Students focus their attention on behaviours that ensure effective team function by assigning duties. Each team identifies an encourager (brings people into the discussion and promotes participation by all), an initiator (guides team towards goals, and keeps team on task), a recorder (clarifies and synthesizes ideas), an energizer (keeps the group positive, engaged and encouraged) and a skeptic (prevents rapid and superficial discussions by suggesting alternatives and questioning decisions). Cards identifying the role are placed in front of the individual and responsibilities listed on the back remind the person what is expected of him or her. Roles are rotated within the team at each session. Those team members who do not have an assigned duty may assume any of the following functional roles:

- Assessor (identifies and analyzes group process);
- Equalizer (ensures roles and responsibilities are shared within the team);
- Unifier (seeks commonality and consensus);
- Synthesizer (combines ideas to provide an improved solution);
- Clarifier (makes sure that everyone understands the real issues involved);
- Summarizer (condenses the conclusions into an easily-assimilated package);
- Monitor of critical dialogue (makes sure that every issue is discussed appropriately, and that consensus is not reached uncritically).

Students in these non-assigned roles need not identify the role they have adopted, but they do need to keep it in mind as they participate in the discussion. Each student thus has three tasks: to represent their own discipline on the team, to take responsibility for an assigned duty related to team function as described above, and, of course, to work on the scenarios.

### **Evaluation**

*"The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy."*(Martin Luther King Jr.) .

The current evaluation system is tied tightly to the learning objectives. Its simplicity ensures that it is not unduly burdensome for either students or staff. It includes one original tool which is now being tested for validity and reliability.

While the teams are working on the first two scenarios (in sessions 1-3), facilitators observe and guide the group process. After scenarios 3, 4 and 5 (sessions 4 to 8), each team member completes a hand-in debriefing questionnaire. Facilitators use this document and their own progress notes to comment on the group process as well as the team's ability to identify its own strengths and weaknesses. Problems with individuals are tactfully but unequivocally addressed.

Each individual and each team is assessed by three criteria:

- Participation in the team process;
- Ability to answer appropriate questions about the health professions; and
- Performance in a Team Objective Structured Clinical Examination (TOSCE: see below).

The TOSCE is based on an individual examination format widely used in the health sciences referred to as an Objective Structured Clinical Examination (OSCE) (Harden and Gleeson, 1979). In an OSCE, students perform a task realistic for their stage of learning, (often with a simulated patient) in the presence of an examiner. Using a checklist, the examiner objectively scores each student according to minimum acceptable standards of performance. The TOSCE is similar, except that the process occurs with a team rather than an individual. Each team spends 20 minutes on an examination case problem, with a further 5 minutes spent assessing their performance as a team. At least two examiners employ a checklist similar to one used by students throughout the course to independently score each team's performance. One of the examiners is from the team's own section, while the other, from another section, has not met these students previously.

The majority of students successfully complete this course directly, or after remedial work. The few students who fail have often had other problems within their undergraduate program. The goal is for students to develop the required knowledge, skills and attitudes and most find the process enables them to achieve the course objectives. It is possible for an entire team to fail INTD 410, but to date all failures have been at the individual level. Assessment is based not only on the TOSCE, but also on individual performance during the course. If, for example, an individual is identified as having a problem during the third scenario, and corrects it by the end of the course, a "credit" is awarded. A grade of "non-credit" arises either from absenteeism or failure to alter inappropriate behavior that has been identified and discussed with the student. Students who are absent from any session are expected to negotiate a way to be accountable for contributions to the team during the time missed. Facilitators identify those students whose performance is of concern, and Rovers give support in devising strategies for improvement. Where student problems continue, the facilitators, Course Coordinator and Rovers meet to consider the issues along with the results of the TOSCE on a case-by-case basis. The evaluation committee can assign a pass, an "incomplete" (which means that the student is required to successfully accomplish some appropriate remedial work), or an outright fail.

### **Outcomes**

While recognizing that non-traditional courses are not well served by traditional university evaluation tools, INTD 410 is assessed using the Instructor Designed Questionnaire (IDQ). Table 1.3 shows the results of the past three years on a 5-point scale.

**Table 1.3 Instructor Designed Questionnaire results**  
(1- strongly disagree to 5- strongly agree)

IDQ Question	2001	2002	2003
Overall the course was excellent	3.6	3.1	3.6
Overall the facilitator was excellent	4.2	3.9	4.1
The facilitator treated the students with respect	4.6	4.4	4.5
The facilitator provided a good role model for interaction with a team	4.1	3.8	3.9
The facilitator provided a good role model of the health profession	4.1	3.8	4.0
The workload of the course was appropriate	4.3	4.0	4.2
The course was well organized	3.9	3.6	3.8
I deepened my understanding of the role of other health care professionals	4.1	4.0	4.2
I learned to collaborate effectively with other health care team members	4.1	4.0	4.1
I increased my ability to work with patients and other disciplines in planning care	3.9	3.8	3.9
I gained more insight into my own strengths and weaknesses as a team member	4.0	3.8	4.0
I learned to identify the essential behaviours which make a team effective	3.8	3.8	3.9
I believe that this course will help me to become a more effective member of the health care team	3.9	3.6	3.8

Scrutiny of returns by discipline and year indicates similar responses. Statements on the evaluations from students suggest that they do achieve the goals of the course.

“I learned to value new viewpoints”

“I learned to collaborate more effectively with other health care team members”

“I deepened my understanding of other health care professionals”

Two questionnaires have been used to determine if the goals of the course are being met. The Revised Interprofessional Perception Scale (RIPS)<sup>9,10</sup>, and the Attitudes Toward Health Care Teams Questionnaire (ATHCT)<sup>11</sup> have both been administered at the beginning and at the end of the course. The RIPS provides a broad measure of the perceptions of one discipline by another. Each student is assigned a randomly selected discipline from those represented in the course. In the pre-test, fully half of the respondents had insufficient knowledge of their assigned profession to finish the questionnaire. However, 34% of those who could not answer even one question at pre-test were able to complete the entire questionnaire in the post-test. Of nineteen statements to be applied to the assigned profession, eleven showed a statistically significant change towards a more positive assessment of that profession at post course testing. Those eleven statements were as follows:

Those in the \_\_\_\_\_ Profession

- Have little autonomy (afterwards this was believed less)
- Understand your capabilities (afterwards this was believed more)
- Are concerned with patient welfare (believed more)
- Are highly ethical (believed more)
- Are defensive about their professional areas (believed less)
- Trust your judgment (believed more)
- Utilize your profession (believed more)
- Do not co-operate well with your profession (believed less)
- Their input is important (believed more)
- Their input is highly valued (believed more)
- Percentage of times these members attend team meetings (greatly increased)

The ATHCT questionnaire employed 20 questions to measure team members' perceptions of the quality of teamwork and the quality of care delivered by health care teams, as well as team members' attitudes toward physicians' authority in teams.

Preliminary analysis revealed that 9 of the 20 questions showed a statistically significant change in a positive direction for matters related to quality of care and the benefits of teamwork for health professionals.

Considering the above outcomes, we believe the goals of the course are being met. However, there is an ongoing need to refine each component of the course and each scenario to reflect levels of learning, as well as the kinds of learning experiences students have in their own discipline-specific courses. Often students think "group" learning is similar to the interdisciplinary team, and attitudes must change over the course of the five weeks. Another issue is the desirability of controlling registration for a better mix in team makeup. Further, because it is a credit / non-credit course, students sometimes do not see it as a priority. Consequently, the credit designation in 2004 will be based on a minimum numerical grade calculated from the competencies that students must achieve in their contributions to the team.

### **Other Associated Initiatives**

*"Knowledge must come through action; you can have no test which is not fanciful, save by trial." (Sophocles)*

Currently, IPI/IHDEA have three other initiatives designed to promote inter-professional collaboration among health sciences students. The first major "in progress" initiative is a Certificate in Interprofessional Team Development, which students will be able to achieve by conducting work beyond INTD 410. Successful completion of this program will entail additional class work, as well as further practical experience at working in teams. It will be recognized by a special transcript designation at graduation.

The second initiative is designed to create limited collaborations, or "partnerships," often with a focus on a specific health problem. For example, medical and dental students spend an afternoon with nutrition students discussing dietary modifications in diabetic patients. In another example, the IHDEA members from Nursing, Pharmacy and Medicine are part of national consortium on the interdisciplinary teaching of substance use disorder, a topic that occurs twice in the course described above. Because of the wide-ranging representation on the committee, IHDEA is able to act as a clearinghouse and liaison for these partnerships.

The final project involves what we call "team placements". Many of the disciplines have some form of clinical experience in which students nearing the end of their program are sent to a variety of health programs. Most team placements occur either in Edmonton or in rural Alberta and are often community based. Students from a variety of disciplines (no less than three) are required to master assigned discipline-specific material while learning how to interact as a health-care team. Students are given time within this experience to work together, although the actual hours at the site may vary with the discipline. Students must have a core period of time together in order for team placements to work effectively. The number of sites has expanded rapidly, with more sites wanting students than we have students to place in them. Systematic evaluation of the success of this endeavour is in progress and preliminary data are encouraging. We would like to expand the program to include a wider range of disciplines in each team and to increase the number of opportunities our students have to participate in this sort of experience.

Thus far the results of the course and related activities have been positive for both students and faculty. The dream of interprofessional work has become an ongoing reality and research is underway in a variety of areas related to the course. Our ultimate goal is to pilot our health science students through a planned and coordinated series of interdisciplinary activities, starting with the INTD 410 course and concluding with a team placement. We believe that this will have an important positive impact on health care in the region.

---

### **REFERENCES**

1. Lowry, S. What's Wrong with Medical Education in Britain? *British Medical Journal*.1992;305:p.1277-1280.
2. Muller, S. Physicians for the twenty-first century: Report of the Project Panel on the General Professional Education of the Physician and College Preparation for Medicine, *Journal of Medical Education*.1984; 59:p.1-208.
3. Toews, J. Presenting the patient as a person: a challenge to medical education, *Humane Medicine*.1990; 6: 180-185.
4. Weaver, R.G. & Farrell, J.D. In: *Managers as Facilitators—A practical guide to getting work done in a changing workplace*. San Francisco: Berrett-Koehler;1997.
5. Drinka, T.K.J. & Clark, P.G. *Healthcare Teamwork – Interdisciplinary Practice in Teaching*. Westport Connecticut: Auburn House; 2000.

6. Ray, M.D. Shared borders: achieving the goals of interdisciplinary patient care, *American Journal of Health-system Pharmacy*.1998; 55: p.1369-1374.
7. Duncan-Hewitt, W., Mount, D. and Apple, D. *Fostering individuality, affiliation and excellence: mentoring cooperative learning*. Corvallis, Oregon: Pacific Crest,1995.
8. Harden, R.M. & Gleeson, F.A. Assessment of clinical competence using an objective structured clinical examination (OSCE), *Medical Education*. 1979; 13:p. 41-54.
9. Ducanis, A.J. & Golin, A.K. *The interdisciplinary health care team: A handbook*. Germantown, MD: Aspen Systems Corporation,1979.
10. Skoloda, T.E. & Angelini, F.J. Psychometric properties of the Revised Interprofessional Perception Scale (RIPS). Conference Paper: 20<sup>th</sup> Annual Interdisciplinary Health Care Teams Conference, International Conference: 1998:Williamsburg, VA.
11. Heinemann, G.D., Schmitt, M.H., Farrell, M.P., Brallier, S.A. Development of an Attitude Toward Health Care Teams Scale. *Evaluation and the Health Professions*.1999; 22: p.123-142.