International-Interprofessional Health Sciences Education: A U21 Model for Consideration

Abstract

U21 Health Sciences Group is taking a bold step by creating an international-interprofessional health sciences summer program. The model proposed here brings together the best interprofessional approaches and international education with service learning. The model is intended to be flexible for a wide range of health topics and issues and to support dialogue and reflection of the distinct attributes of all health care disciplines and care delivery within a variety of cultures and economies. Through U21, the model promotes a unique ability for faculty to form instructional and practice-oriented teams across universities as well as across disciplines, further advancing the knowledge and skills of health care systems and learners to function well in a global context. This paper summarizes the current status of interprofessional health sciences education and international programs with service learning, and then proposes a framework for combining these key elements using a classic health services research approach. The structure, process, outcomes framework organizes the model components and identifies key points for evaluation.

Interprofessional AND International: the need for a model

While the teaching mission of academic institutions must focus on specific discipline knowledge and skills, all programs aim to improve the health and safety of people. The mobility of peoples, the rapidity of knowledge development and world-wide information exchange mandates that our academies foster global citizenship of future health science researchers and practitioners. Our future leaders cannot survive in either geographic or discipline isolation.

Most health sciences international experiences are discipline specific, such as (Dyjack, Anderson, & Madrid, 2001)(Hu, Andreatta, Yu, & Li, 2010; Simonelis, Njelesani, Novak, Kuzma, & Cameron, 2011) or designed as general service internships focused on cultural awareness. We are unable to identify any program that is designed as an interprofessional health disciplines education and international service-learning experience.

Important organizations, such as the WHO, provide frameworks for interprofessional education and practice (http://cihc.ca). These statements recognize the critical function of teams whose members have a mix of knowledge and skills. To inform the development of interprofessional education, WHO commissioned an internet survey that was conducted in 2008. The responses indicated that interprofessional health education is occurring in developed and under-developed countries, but often is voluntary and not evaluated http://informahealthcare.com, Rodger 2010). Approaches that mix faculty and learners from different nations is not mentioned. More recently (2011), the Interprofessional Education Collaborative reported the work of an

interprofessional panel on core competencies for interprofessional collaborative practice. These practice competencies are: values/ethics; roles/responsibilities; interprofessional communication and teams and teamwork. The group distinguishes 'team work' from 'interdisciplinary team-based care' that is first patient-centric and then becomes community/population-centric.

Model Criteria

Members of the Universitas21 Health Sciences Group (U21HS) recognize the vital importance of international understanding and interprofessional collaboration in addressing current and emerging health care issues globally. It also recognizes its unique position in setting the standard for excellence in such education and chooses to use a model that builds upon best practices, research based decision-making and sensitivity to community priorities and needs.

It is clear that no single profession or educational design can prepare today's students for the dynamics of global health with a rapidly expanding technology, advanced communication systems, and dramatic differences in values and cultures of the world's peoples. U21HS recognizes that future health care prevention and treatment will rely on highly functioning teams that recognize and respect the knowledge and skills of each discipline and act smoothly to provide the best services possible to a given population. The focus of all health professions is the good of the client, individual or population that is served.

Yet, each health science discipline must prepare its students with the distinctive knowledge, problem-solving strategies and skills of its profession. An international-interprofessional education experience widens and deepens the development of students within their own disciplines and adds a critical opportunity to become a member of an interprofessional team doing service within an international setting.

For the model development, criteria were developed to meet the needs of U21. The model must:

- Be applicable for a focus on a wide range of topics;
- Have distinguishing features that can be evaluated using both qualitative and quantitative approaches;
- Specific course design and instructional approaches are the responsibility of the designated faculty members;
- Students must have completed the first level of clinical instruction and practice within their specific disciplines;
- Students will come from various members of U21HS; and
- An advisory group from U21 will facilitate implementation, evaluation and communication of model refinements to member institutions.

Interprofessional Education, an Overview

An operational definition for U21

Many authors have written about interprofessional education, pedagogies, experiences and practices. The discussions and presentations raise the need for using a common definition of interprofessional education (IPE) that distinguishes it from other educational approaches. It appears that defining IPE began within interdisciplinary education. Pellegrino (1972, as cited by Royeen, Walsh, Terhaar, 2009) points out that interdisciplinary education can occur in one of three ways, when:

- faculty are from multiple disciplines and the students are in one discipline;
- faculty are from one discipline and the students from multiple disciplines; and
- both faculty and students are from multiple disciplines.

Disciplines within these contexts are generic, such as medicine or pharmacy, and do not distinguish sub-groups or specializations, such as oncology or primary care. Health care faculties often use the first two types of interdisciplinary education. Nursing students, for example, may have a course in end of life care that is taught by physicians, anthropologists, nurses and social workers. An example of a single discipline and different students can be seen when a pathologist teaches anatomy to medical and dental students or pharmacologists teach nursing and pharmacy students about drugs. The last approach is education that is conducted by faculty from multiple disciplines for students of multiple disciplines. Others (Havan, Royeen and Jenson 2009) have defined this last category as multidisciplinary and note that in health education, each profession addresses problems from his or her discipline's expertise, without integrating the content.

Harvan, Royeen and Jensen (2009) articulate the numerous terms and their meaning related to both education and service involving more than one discipline. They note that interdisciplinary often is used in an educational context, whereas interprofessional is used describe the practice. These varying uses of terms can cause confusion and miscommunication.

For the purposes of U21, we shall use the following definitions (adapted from Harvan, Royeen & Jensen, 2009):

> *Interprofessional education:* An educational approach in which two or more disciplines collaborate in the teaching-learning process with the goal of fostering interprofessional interactions. Students come from various disciplines, preferably the same ones represented by faculty.
>
> *Transdisciplinary or interprofessional practice:* Requires each team member to become sufficiently familiar with the concepts and approaches of his or her colleagues as to 'blur the disciplinary lines.' The team focuses on the problem with collaborative analysis and decision making that enhances the practice of each discipline and provides the best possible patient/client outcomes.

While the IPE wording of the World Health Organization (2010, p. 7) is slightly different [1], the outcome of IPE is a workforce that is ready for collaborative practice in an interprofessional team and engages individuals with necessary knowledge and skills to achieve the local health goal. Team members seek to support and optimize the work of members to achieve the best outcomes, interprofessional practice (also 'transdisciplinary' defined above). Within the WHO descriptions, IPE and interprofessional practice are viewed within the local context and culture of the world's people.

Best Practices in Interprofessional Education

The outcome of IPE, whether termed transdisciplinary or interprofessional *practice*, is to produce health care professionals that provide health care services through team approaches. IPE is a basis for the professional practice of the individual. With that outcome in mind, IPE has some defining characteristics that are discussed below.

Course objectives expand from those associated with knowledge and skills related to the health care topic and a specific profession. Reubling et al (2009, p. 318) state that the outcomes are: "(a) an articulation of knowledge and demonstration of respect for the role and unique contribution of the health professions and (b) effective practice of skills required for collaborative client-oriented teamwork."

Faculty roles blur from being the 'font' of information and direction to becoming a role model and a coach to student groups. Content expands from the health focus to include team development and roles of the health professions. Students need to be active learners and engage with other students through a variety of strategies, such as case studies, or group projects. Students need to rely on each other for specific information and perspectives of the various disciplines. By keeping students in the same groups, faculty can include information about and awareness of team development for the learners to enhance and stimulate student reflection. Faculty stimulates dialogue and reflection by individuals and the group (see Earley & Gibson, 2002).

Jenson, Cochran, Goulet and Coppard (2009) add insight into the experiences of individuals within IPE. They note the critical role of faculty in modeling behaviors and attitudes towards other health professionals. This and related discussions raise the critical importance not only of the content focus of IPE offerings, but the interactions, respect and cooperation that faculty model in teaching and practice. Ethical issues raised, such as social responsibility, distributive justice, patient/population values and personal/professional values, provide faculty and students a rich environment in which to develop and refine their moral reasoning.

Development and implementation of an IPE offering poses some challenges. There are territorial issues, poorly developed understanding of each other's disciplines and the change from teacher-centered paradigms to learner-centered ones. The challenges of paradigm change stimulate discussion of what goes into the course and what students gain (McManus, 2005). For faculty to become role models for

[1] WHO defines interprofessional education as occurring when, "students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes."

transdisciplinary problem-solving, faculty need time for their own dialogues, questioning and reflection on the work of the collaborating disciplines and the ways to foster student-centered interactions. Faculty also may need to learn additional education strategies, such as reflective journaling. In developing the first [and subsequent] U21HS offering, members need to consider whether or not faculty should come from one sponsoring institution or should faculty represent more than one institution? In the U21 context, faculty also must address that discipline roles and responsibilities vary in different nations and must employ active listening and questioning to help each other and students understand both the national and discipline differences.

Scholars also report that best practices in IPE need a supportive administrative environment that promotes IPE and brings the resources and administrative resources necessary for faculty and student success. The U21HS Executive Committee already approved its administrative support. The academic institution that leads the first offering also will need to consider what resources it will contribute. Examples include: use of technology for potential on-line portions of a course, engaging its service delivery partners in receiving international students, determining fees, and payment of faculty salaries.

International Education

International education experiences are most typically described as those where a student goes to another country and participates in all or parts of the educational offerings of an institution within the host country. This education abroad is not new and often a featured component within liberal arts academic programs, especially those in the languages and arts. International education is viewed as a significant vehicle for inter-cultural understanding and is part of U21's efforts to "nurture global citizenship in our students through innovative curriculum design…"

Experiential learning in an international context

Within the health disciplines, significant attention and time is devoted to providing learners with the opportunities to 'do the work of their profession' within a clinical practice setting. As learners work with real patients in real communities, faculty supervision guides students to appropriate activities and protects the clients from unsafe learners. The experiential learning is focused primarily on the learners. Approaches such as case studies and simulation often help prepare for interaction with real patients. With the advent of sophisticated simulation systems, experiential learning in a simulated environment may advance student practice, especially when the clinical conditions are complex (e.g., cardiac arrest) or rare (e.g., post-partum hemorrhage). Within an international education experience, experiential learning may advance the student's knowledge and skills to a more sophisticated level than available in his or her home country.

To extend students' global experiences, health professions faculty often include students in their own voluntary service in other nations. Most experiences are discipline specific. As volunteers, the priority is primarily on delivery the service with less structure and emphasis on student learning.

In many ways, the learner focus is an antithesis to the service orientation of the health professions. To consider the students' learning as more valuable than the clients' outcomes appears to invalidate the concept of social responsibility, which many interpret as their contract with society to relieve injustices{{105 Kelley,M.A. 2008}}. Attempts to resolve this conflict have resulted in new model: service learning which occurs when student learning and client outcomes are *equally* valued in the design and implementation of the activity. It is different than the voluntary service experiences noted above and requires faculty to understand those differences and to engage in the distinguishing approaches used in service learning {{104 Bridges,D.R. 2010}}. McKinnon and Feahy (2011) laud the work of Sigma Theta Tau, International and its international service-learning task force as developing a definition of international service learning, because that group deliberately addressed differing perspectives in its work. That definition states that the activity meets defined community needs AND enriches student learning (McKinnon, T.H., Fealy, M., 2011).

The use of a service learning approach within the international framework of U21HS has merit for building a model educational experience that can enrich the cultural experience and provide abundant fodder for faculty and student examination. It is the actual contact between members of the community and the learners that must be established, because the community members themselves are the instructors about the culture and needs of their peoples. {{104 Bridges,D.R. 2010}} The selection of projects/activities in service learning is a collaborative endeavor with the host community. It is intentionally created to develop and strengthen a relationship in which the local community members and the academic institution form a long-term partnership. Project selection expands and changes, as the needs of the community permute, e.g., first an immunization clinic and then a women's health project. In the U21HS summer school project, it is anticipated that the host academic institution will build a project with a community that already has an established partnership with the university and has defined priority needs.

There are challenges to international service learning. Interaction with local community leaders and members must occur with enough depth that learners gain insight into the values and beliefs of the local people. Dialogues are crucial with learners attentive to differences and similarities to their own experiences. Students and faculty should address ethical issues, such as their social responsibilities, the host community's values, e.g., gender-specific roles, as well as the various ways that another culture organizes and delivers health care. Prior to a service-learning experience, trust between the academic host and the community must exist, so that bringing a diverse group of international students will be handled with respect. Time and space during the experiential learning will need to be available to obtain the cultural insights, as well as discussion and clarification of the team and practice issues noted above.

Unifying international experiences and interprofessional education

As noted above, the charge is to provide a model that: allows flexibility in topic selection and host institution designation; fully empowers faculty to design and implement courses; and evaluation measures are both qualitative and quantitative. In considering this charge, it is noted that

interprofessional education and international service-learning have many similarities that can be framed within a health services research model of structure, process and outcomes, as described below.

Structure

The structure is the set of administrative supports, including finances, personnel, and facilities (including electronic and buildings). In the case of the proposed U21HS Summer Program, numerous structural elements need to be defined and made available.

Host University and U21. It is expected that the host university will award academic credit for the offering, and will make documentation available to learners who wish to have the course considered for credit in their home institution. Identifying and negotiating with the community partner is a critical role for the host. Faculty will need full support, as it shapes an experience that meets the partner's and learners' objectives. Housing arrangements for learners and foreign faculty also are done by the host university, using its knowledge of local resources. Additionally, faculty may need access to internet learning systems, simulation facilities, classrooms and buses for transportation. Staff expertise from throughout the host university may be needed to assist international students to obtain permission to join a practice experience, pay fees in their own currency, and access library collections. Previous experiences in U21 have demonstrated that an annual offering in July results in best attendance. Staff has expertise in dispersing information to member institutions, data on costs of other U21 summer programs, topics and group sizes that have been popular, cultural observational experiences, and how to organize local logistics (such as transportation from airport to venue). Staff can convene and support international conference calls among faculty and contact with evaluation experts and other advisors, as needed.

Evaluation

Quantitative measures related to structure can include costs, such as those covered and not covered by students' fees, number of staff personnel and the associated costs. Other quantitative data can be number of hours that the program used simulation or other facilities. Qualitative data can examine the perspectives of host university leaders and the trusted community partners; did it change the nature of the relationship in positive or negative ways? Were administrative supports and communication anticipated in planning or were there additional needs that became apparent during implementation?

Process

The design and implementation of the course are the major process elements. Course design, preparation of faculty and community sites, instructional objectives and selection of course evaluation techniques are process choices. Faculty will also decide numbers and types of students and whether disciplines of the students do or do not parallel those of the faculty. Approaches that capitalize on the traditions of interprofessional education and service learning will be employed. Some examples are: team concepts, reflection on experiences as individuals and groups, preparation and de-briefing guides for learners, knowledge and awareness of different team members' discipline specific orientation and cultural traditions that expand or limit those roles, ethical and moral reasoning in different cultural

context. Faculty preparation may include choice of professional discipline as well as additional knowledge and skills acquired to implement the program, e.g., coaching versus lecturing or guiding focus groups on selected cultural or ethics topics or observing or managing conflict constructively to benefit groups and creating a 'lessons learned' experience.

Evaluation

U21 acknowledges that the processes are complex, multifaceted steps, even within the boundaries of a single institution. Again, qualitative and quantitative measures will be employed. The tremendous opportunity for faculty creativity and innovation, the infinite service opportunities and cultural differences clearly indicate that evaluation of the process elements mostly will be course specific. However, it is anticipated that some evaluation methods will be used that can be repeated in subsequent offerings, such as reflective journals, de-briefing strategies and faculty guides. The Standards for Good Practice for Education Abroad (2011) can provide a beginning guide for evaluation, as it identifies key questions in the areas seen as necessary for an effective program. Some topics could include: assessment of the learners' knowledge and skill level prior to admission; assessment of learner's intercultural understanding pre and post experience; assessment of the need for and use of language specific to the partner's community; do students have individual goals that are different from those of the program and how are they accommodated or not?

Outcomes

The effectiveness of the overall course is the outcome of the project. It is tempting to produce "happiness indicators" and lots of literature reports comments from students on the benefits of the experiences. Effectiveness questions must encompass the course and its learners, the service(s) delivered, and the impact on the partnership within U21 members, the local community and host university. Broadly stated, key determinants of effective outcomes are:

- did the recipients of the service gain the target outcome, e.g., immunization of 90% of school aged children;
- did learners gain intercultural understanding;
- did learners understand interprofessional strengths and act within a team to capitalize on those strengths;
- did faculty gain interprofessional insights, cultural knowledge and/or skills with different teaching-learning strategies;
- is the cost acceptable?

The points above are short-term, and long-term outcomes also need consideration. Some long-term outcomes are:

- did the community partner gain knowledge to help sustain the services delivered;
- did learners' modify their career goals based on the experience; and

- is long-term follow-up with learners included?

Some tools exist for measuring the effectiveness of various component parts. As a beginning, Freeth, et al. (2005) identify several instruments associated with interprofessional education, e.g., a team climate inventory, and a team effectiveness questionnaire. The U21 Advisory Group will assist in identifying and developing tools that can be used over time.

Conclusion

The goals and methods of interprofessional education and international service learning overlap in many areas, thus providing a substantive approach to design, development and implementation of a U21HS Summer Program. The approach recognizes and maintains the autonomy of faculty in all aspects of course development and structural support can be provided by host universities and U21. It also fits into a health services framework of structure, process and outcomes in describing the roles and responsibilities of host universities, community partners, and faculty members. Critical decisions, such as choice of faculty from a single institution or multiple institutions can be evaluated in terms of both process evaluation and the short and long term outcomes of the project. U21 Advisors will provide additional support and consultation to assist in measurement issues and to provide continuity from one offering to the next and to tap the rich intellectual resources of the U21 members and staff.

It is an exciting undertaking that through its thoughtful and strategic development and evaluation will create the new standard for health services programming. Our students will have unique perspectives and opportunities to pursue their careers in a global context and we will grow a cadre of faculty who have knowledge and skills in the interface of interprofessional education and international service-learning—an unparalleled contribution to human health.