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Description of a Model of Interprofessional Global Education for Allied Health Students

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Abstract

An interprofessional approach to health care involves members of different health professions working together to evaluate health needs and provide care. Health care professionals must be trained to provide this specific type of care, and educating allied health students to provide interprofessional care presents a challenge. One promising approach to educating students about interprofessional care is participation in a community-based rehabilitation (CBR) model of health care provision. This paper describes the development and implementation of an international interprofessional education program with a CBR emphasis, and also describes future plans for this program.

Introduction

An interprofessional approach to health care involves members of different health professions working together to evaluate health needs and provide care (Mu & Royeen, 2004). Due to shifting models of providing care, health care professionals must be trained to provide this specific type of care; and this training is moving from the workplace to health care educational institutions (Cooke, 2005; Stumpf & Clark, 1999). However, educating allied health students to provide interprofessional care presents a challenge.

Logistical issues with scheduling students from multiple programs to participate in activities together is problematic, and programs differ in their educational philosophy, with some adhering to a medical model while others emphasize a social model of education and care. One promising approach to educating students about interprofessional care is participation in a community-based rehabilitation (CBR) model of health care provision.

Community-based rehabilitation is a sustainable approach to health care endorsed by the World Health Organization. Several principles of CBR include partnership building, education, and the eventual transfer of responsibility for provision of health care services to host communities (Carrington, 2009a). These principles

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can be addressed by making presentations to community leaders to educate them on health care topics, meeting with interested local individuals to see if volunteers can be trained to provide services, and providing education to local caregivers to help them improve their ability to provide quality care. This focus on collaborative community health is different from the one patient-one provider approach typically taught in health professions education programs (Carrington, 2009b).

There are several reports in the literature on the implementation of interprofessional educational programs by colleges and universities (Furze, Lohman, & Mu, 2008; Charles, Bainbridge, Copeman-Stewart, Kassam, and Tiffin, 2008). Outcomes from these reports indicate that the programs are helpful to promote students' understanding of their own roles and the roles of other health professionals, and that the programs have a positive effect on the community (Furze et al., 2008; Charles et al., 2008). However, there is a paucity of information on the implementation of interprofessional education programs that have an international CBR approach. The purpose of this paper is to describe the development and implementation of an international interprofessional education program with a CBR emphasis, and to describe future plans for this program. Data collection for this program is in the early stages, therefore, data will be presented in a later paper.

Description of Project

Initiated in 2007, the *Promotion of Health of Elders in Nicaragua* project is the first interprofessional international educational endeavor for the College of Health Professions at Pacific University in Hillsboro, Oregon. The project was started when an occupational therapy (OT) student (AB) approached an OT faculty member (TB) with the idea. The College of Health Professions was actively encouraging the development of more interprofessional activity, so this idea seemed like an excellent fit. The faculty member then recruited faculty from other health care disciplines to participate (KS, BR, SB), and the project began. For the last four years, students and faculty have worked together to provide health services to abandoned elders in Nicaragua. Health care disciplines represented in this project currently include OT, Physical Therapy (PT), Dental Health Science (DHS), Physician Assistant (PA), and Pharmacy (Pharm).

Nicaragua was chosen because, as the second poorest

country in the Western Hemisphere (U.S. State Department, 2011), resources in Nicaragua are scarce. Resources that are available are predominantly geared toward the health care needs of women and children, which makes it very difficult for society to meet the needs of the elderly population. Most Nicaraguan elders do not receive any government pension, or social security, or subsidized health care (Ministerio de Salud, 2008), leaving them with little financial security as they age. Adult children must frequently leave the country to seek employment to support their families, leaving elderly parents to fend for themselves. Many elders, who can no longer work and do not have family to care for them, live in elder centers (“hogares”) that rely on foreign aid and municipal assistance for funding. Elders residing in these centers disproportionately experience the long-term effects of poverty and poor health care. Heart disease, diabetes, chronic pain, poor vision, periodontal disease, and lack of productive and leisure opportunities are common challenges (Lopez, 2008). Also, the College of Health Professions had an established relationship with a local group, the Jessie F. Richardson Foundation (JFR), which promotes care of indigent elderly; JFR had already established a presence in Nicaragua, so some of the ground work had been laid for work in that country.

The focus of the *Promotion of Health of Elders in Nicaragua* project is to provide an interprofessional opportunity for health care students and faculty to provide care, learn from each other, and provide a framework for sustainability in the host community. The goals of this project include providing care for geriatric residents, educating caregivers and community healthcare providers, developing programs to make the project self-sustaining, and enhancing interprofessional understanding and service delivery among health disciplines for students and faculty. These goals align with the model of CBR described above. While in Nicaragua, students from different disciplines work alongside one another while performing assessments, treatment planning, and providing care, while interacting with allied health professionals from the host country. This interactive care allows for greater understanding of each discipline, increases the knowledge necessary to make appropriate referrals, and promotes sustainability. Following is a description of the participants, planning process, and yearly activities involved in this project.

The first trip to Nicaragua in December 2007 included nine students and faculty from the College of Health

Professions' programs of OT, PT, and DHS. In the second year, the team expanded to 16 participants with the addition of the College's pharmacy program. During these first two trips, a needs assessment was completed, and services and education were provided at the *La Providencia Hogar de Ancianos*, which houses 45 residents in the city of Granada. In the third year, the physician assistant studies program joined the project, creating a team of 20 participants. The focus expanded to a second *hogar* in the town of Masaya, Hogar San Pedro Claver, which currently serves 32 residents. These *hogares* are two of 20 in operation in Nicaragua today. The trip in the fourth year included the largest number of participants to date, and the group performed a needs assessment at a third *hogar*.

Planning and Preparation

Students begin to prepare months in advance for in-country service including Spanish study, fund-raising, and gathering equipment and supply donations. Each student develops and implements a personal action plan to enhance Spanish language skills. This includes a course offered by the College of Health Professions titled "Spanish for International Travel." Additionally, many students join local Spanish conversation groups, take private classes, and access instructional software.

Prior to travel, students research the history, politics, culture, and health status of elders in Nicaragua and share their findings with team members through formal presentations that occur during monthly orientation meetings. During these meetings, the students are also introduced to the concept of CBR and how it will be applied during the trip. Students are exposed to the foundations of interdisciplinary care through a separate College of Health Professions interprofessional course that all first-year students are required to take, optional interprofessional case conferences, and during the orientation meetings for the trip.

Students gather over 2,000 pounds of donated supplies and equipment and self-direct a number of fund-raising events including a recycled can drive, yard sale, and a Day-of-the-Dead celebration. Students use proceeds to provide refreshments for community gatherings during the trip to build social capital for the project, and to purchase any needed supplies that were not donated. Finally, students pay their own way to participate and pack all personal belongings into one carry-on bag, us-

ing checked luggage to transport donated supplies.

Interprofessional Teamwork

While in Nicaragua, students work as an interprofessional team to provide care and to learn from each other's expertise. For example, DHS students learn how to safely transfer elders from a wheelchair to the dental chair through collaboration with the PT and OT students. Physician Assistant students team with the pharmacy faculty and students to review medication profiles of the residents and jointly identify topics for caregiver education. All student leaders work collaboratively to create a fun holiday fiesta for residents residing at both homes in Granada and Masaya, facilitating the participation of those of varying ability levels to toss balloons, blow bubbles, dance, hit the piñata, feed themselves, and open gifts that students gift-wrap prior to leaving the States.

Students consistently report that the interprofessional nature of the trip is incredibly valuable. They learn about the other professions involved through informal mechanisms such as rooming together during the trip, planning fund-raising events, and collaborating on research about Nicaragua prior to travel. They also learn about the other professions through direct clinical work in country, for example, pharmacy students are able to give dental health students recommendations on medications for use in certain dental procedures, and PA students have taught other students physical examination techniques during care of the residents.

Direct Service

In addition to providing interprofessional care, students and faculty also provide direct service. For example, PA students perform health screenings and physical exams (under the supervision of the local gerontologist) with residents and document follow-up care plans. Dental students assess residents' needs for dental care, followed by providing dental clinics offering examinations, teeth cleanings, local anesthesia, extractions, debridement, and fluoride treatments. Occupational Therapy and PT students collaborate to provide exercise groups for residents, adapting exercises for those in wheelchairs and those of varying ability levels. They also join forces to assist clients in self-care and leisure activities, including nail care, social interaction activities, and the creation of holiday ornaments.

When direct services are provided by a discipline, an effort is made to have at least one student from another discipline assist, or at least observe, the direct service as a way to learn more about the direct services provided by other professions.

Education

Provision of direct care is a motivating factor for participants; however, the students embrace the importance of education for local caregivers as a fundamental way to maximize the impact of their efforts in the long-term. The education the group provides, based on needs identified by the local caregivers, is described below:

- PA students and faculty educate caregivers in infection control strategies to lower infection risks for both residents and caregivers.
- PT and OT students and faculty instruct caregivers in proper body mechanics for lifting heavy items and transferring residents from wheelchair to bed or toilet.
- DHS students and faculty educate residents and caregivers in proper oral hygiene and oral evaluations to help identify infections and lesions.
- PA, PT, and Pharmacy students and faculty educate caregivers in methods to assist with constipation.
- OT students and faculty provide an educational session for two “well elder community groups” on “aging in place” to facilitate the ability of these individuals to live safely and independently in their own homes for as long as possible.
- In the third trip, all students participated in a seminar in which they educated Nicaraguan PT students on gerontology and geriatric therapy. The seminar included instruction and practice in adapted intake interviewing techniques for the elderly, exercise routines, special needs in dental care, and how to assist those with physical and cognitive deficits to participate in meaningful leisure activities, complete with a lecture session and hands-on “lab” session, where the volunteers worked directly with elders.

Community Capacity Building and Partnerships

The group recognizes the importance of building community support and establishing relationships with local individuals and groups to sustain the project. The team has sponsored a reception for the Granada city mayor, members of the local Rotary Club, and a number of local health providers, at which support was secured to assist with various needs of the Granada *hogar*. In addition, students have collaborated with “*Fundación Nicaraguense de la Tercera Edad*,” a foundation comprised of community elders called “The Third Age,” who have volunteered to facilitate *hogar* resident participation in leisure activities throughout the year including origami and jewelry-making.

As another strategy to build social capacity, local health students from La Universidad Nacional Autónoma de Nicaragua volunteered to work with our group to learn more about care of elders within their chosen fields, as health education in Nicaragua often overlooks elder care in favor of a focus on caring for children. Dental health science students and faculty have worked with local dentists and assistants to provide care for *hogar* residents and geriatric members from the community. Physical therapy students and faculty have discussed with local therapists ways to increase care for *hogar* residents and the general community, and the need for additional educational material for local therapists. Also, the group has developed supportive relationships by leaving behind any unused supplies which are distributed within the community by a partnering physician. Finally, the group has met with representatives from the ministry of health, doctors from the local hospital and other local care givers to discuss ways in which we can create future projects and partnerships.

Philanthropy

Each program is responsible for soliciting monetary donations, medical and dental supplies, discipline-specific care items, and applying for grant funding. The team spends many months each year working on obtaining these donations to be effective with the quality of care provided. With faculty mentoring students, students learn how much time and hard work is necessary to be effective. Working hard to collect resources gives everyone a sense of pride and satisfaction with giving back to those who have so little. Table 1 provides a summary of participants, activities, and outcomes for each year of the program.

Table 1*Summary of participants, activities, and outcomes*

| Year | Participants | Activities | Outcomes |
|-------------|--|--|---|
| 1 | 4 OT students 2 DHS students 1 OT faculty 1 DHS faculty 1 PT faculty Total: 9 | 1. Performed OT, PT, and DHS needs assessments in Granada <i>hogar</i> 2. Made key contacts with local health care providers and community members 3. Provided dental care and OT services to elderly 4. Provided basic health care education (dementia, body mechanics training) to caregivers in <i>hogar</i> | 1. Local organization secured funding for rehabilitation room in <i>hogar</i> ; purchased and installed equipment 2. Local PTs began providing twice-weekly rehabilitation services in <i>hogar</i> |
| 2 | 4 OT students 6 DHS students 1 PT student 1 OT faculty 1 DHS faculty 2 PT faculty 1 PHRM faculty Total: 16 | 1. Performed pharmacy needs assessment in Granada <i>hogar</i> 2. Continued collaboration with local providers and community members 3. Continued health care education for caregivers in <i>hogar</i> | 1. Group was featured on local TV show, raising community awareness of work 2. Local PTs continued to provide care to elders |
| 3 | 4 OT students 4 DHS students 1 PT student 2 PA students 1 OT faculty 1 DHS faculty 1 PT faculty 1 PHRM faculty Total: 16 | 1. Performed needs assessment at Masaya <i>hogar</i> 2. Met with local rotary club 3. Worked with Nicaraguan PT students in <i>hogares</i> | 1. Through rotary contact, group was featured on local radio show, further raising community awareness of work 2. Local PT student made plans to engage in research project in <i>hogares</i> 3. <i>Tercera Edad</i> group visiting <i>hogares</i> regularly for leisure activities |
| 4 | 4 OT students 4 DHS students 3 PT students 3 PA students 4 Pharmacy students 1 OT faculty 1 DHS faculty 1 PHRM faculty Total: 21 | 1. Completed needs assessment of third <i>hogar</i> 2. Worked with Nicaraguan PTs and OTs 3. Provided direct care to over 120 elders 4. Provided 3-hour course on age-related changes to Nicaraguan health professions students | 1. Nicaraguan health professions students plan to volunteer with elders living in the <i>hogares</i> 2. Rotary club members and members of local youth group expressed intent to continue work with elders |

As can be seen in the “outcomes” part of Table 1, the participants in this project are implementing many of the principles of CBR, including partnership building, education, and transfer of responsibility for provision of health care services to host communities. Building social capital, using culturally compatible program planning, managing, monitoring, and evaluation are key components of CBR to create long-term public policy and community change.

Since returning from Nicaragua, participants have worked on several projects to support the continuation of care for Nicaraguan elders. These include:

- Consolidation and documentation of findings, and presenting the findings to other students and university advisory boards to build enthusiasm and support for the project.
- Presentation of interprofessional case conference on CBR (attended by more than 100 health professions students).
- Creation of an interprofessional intake evaluation form to formalize documentation procedures.
- Development of a proposal for a mobile dental clinic.
- Development of educational modules for future caregiver instruction.
- Development of tools to evaluate outcomes in relation to changes in health status of elders to demonstrate efficacy of interventions.
- Continued efforts to gather donations of needed equipment and supplies.

Outcomes

After each trip to date, students have reported that they have gained an appreciation for the concerns of those living in poverty, learned about the needs of elders living in an economically marginalized country, learned strategies to promote health, gained a better understanding of methods and the need to build social capital, and have become skilled at adapting interventions in the moment for unexpected circumstances and under less-than-ideal conditions. Many students have referred to the trip as a life-changing experience. Perhaps most importantly,

from the prospective of interprofessional education, students report they have expanded their ability to work with members of other health disciplines and that they have a much clearer understanding of the roles and responsibilities of members of the different professions. While this is not a clear statistical measurement, it is an informal indication that interprofessional learning has occurred.

Student learning is evaluated by direct faculty observation during the trip, as well as through post-trip debriefings with faculty. As stated in the introduction, formal outcomes of this project are being gathered and will be reported at a later date.

Future Plans

The vision for this program is to gradually expand services to all 20 homes in Nicaragua, using La Providencia as a model. Specifically, the plan is to:

- Add Optometry students and faculty to the team to address vision needs of elders.
- Expand project to two visits to Nicaragua each year, and expand service to additional *hogares*, using the Granada *hogar* as a model facility.
- Offer a one-week course in rehabilitation to local providers, including a training manual.
- Implement a mobile dental clinic to allow for greater service.
- Create a medication guide in Spanish, specifically addressing medication use issues in the elderly, as this kind of reference is not currently available.
- Collect and analyze data on the impact of the trip on students, *hogar* residents, and the host community.

Discussion and Conclusion

This paper presents a description of the development and implementation of an interprofessional international education project, using the principles of CBR. The principles of CBR, and the relationship to interprofessional care, are communicated to students throughout the project. Informal reports from students indicate an improved level of knowledge regarding other health pro-

professionals, and improved confidence in communicating with other professionals.

Key components of the project's success to date include faculty enthusiasm, as well as financial and non-financial support from program deans and directors. However, the trip is costly, and the group will be working in the future to secure funding to help with financial sustainability of the project.

Future plans, as stated above, include adding optometry services, expanding the scope of the project to include *hogares* in other parts of the country. Also, the group plans to use both standardized and informal outcome measures to gather and analyze data on the impact of the program on all participants. This type of evidence will lend support to the informal feedback from students and community members on the value of the project.

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