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CONTENTS

Original Research Article

A Pilot Implementation of Interprofessional Education in A Community-Academe Partnership in the Philippines

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ABSTRACT

Introduction: Interprofessional education (IPE) has been internationally recognized. In the Philippines, however, there is limited experience with IPE. This paper describes the activities of interprofessional teams and the student participants' perceptions of the pilot implementation of the Family Case Management, an IPE initiative of the University of the Philippines Community Health and Development Program in partnership with the Municipality of San Juan, Batangas. **Methods:** Five teams composed of medical, nursing, occupational therapy, physical therapy and speech pathology students participated. They provided health services to families with complex health needs in the community. Their activities were: (1) orientation of the team, (2) choosing the patient and family, (3) patient and family engagement, (4) assessment and goal-setting, (5) patient and family intervention, and (6) monitoring of outcomes. Students completed a self-administered questionnaire exploring their (1) overall experience, (2) perceptions of the project's most and least useful aspects, and (3) recommendations for improvement. Quantitative and qualitative data analyses were performed. **Results:** Data showed high ratings of the experience. Themes on the useful aspect of the project were (1) learning about collaboration, (2) appreciation of roles, (3) holistic care, (4) service to the community, and (5) unique learning experience. Themes on the least useful aspects were (1) coordination requirement, (2) patient management, (3) program structure, and (4) community-setting limitations. Recommendations included improvements in communication, orientation, patient management, available resources and supervision. **Discussion:** The students' appreciation of the Family Case Management demonstrated the opportunity and challenges for IPE implementation in the Philippines.

Keywords: Community-based, developing country, interprofessional education, rural community

Introduction

Context

"Interprofessional education (IPE) occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care".[1] Through IPE, collaborative competencies are developed among students from different professions by increasing their understanding of each other's roles in patient care. It builds awareness, mutual trust and respect, which are important in team building.[2] In contrast, traditional uniprofessionaleducation produces professionals with stereotypes of their own and other professional identities, which hinder collaborative learning and develop turf protectionism.[3] Although earlier reviews showed inconsistent evidence of its value in fostering collaborative practice,[4,5] the World Health Organization and its partners in 2010 recognized interprofessional collaboration in education and practice as an innovative strategy that will play an important role in mitigating the global health workforce crisis.[6] At present, several academic institutions, professional groups and policy-makers have integrated IPE in their curriculum and accreditation requirements.

Despite international recognition, there has been no documentation of IPE initiatives in the Philippines. An earlier community-based health program was offered by

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the University of the Philippines, called the Comprehensive Community Health Program, instituted interdisciplinary delivery of healthcare by fielding students from different academic units to local villages as interdisciplinary teams. However, this program was not formally evaluated.[7]

Objectives of the Study

This paper will describe the activities of the interprofessional teams involved in the pilot implementation of the Family Case Management (FCM), which is an IPE initiative of the University of the Philippines Community Health and Development Program (CHDP). It will further present the perceptions of the students' who participated in the project in terms of the most useful and least useful aspects of the experience and recommendations for improvement.

Setting

In 2007, the University of the Philippines implemented the CHDP with the purpose of providing learning opportunities for its students and faculty on the principles and practice of community health and development while assisting partner communities attain increasing capacities in their own healthcare and development. Mainly involved in CHDP activities are two full-time faculty members, three community organizers, two administrative staff and faculty representatives from the different colleges. Guiding the program are the principles of Primary Health Care, specifically: (1) health as a basic human right, (2) need to address the social determinants of health for development, and (3) utilization of interdisciplinary, intersectoral, and integrative strategies.

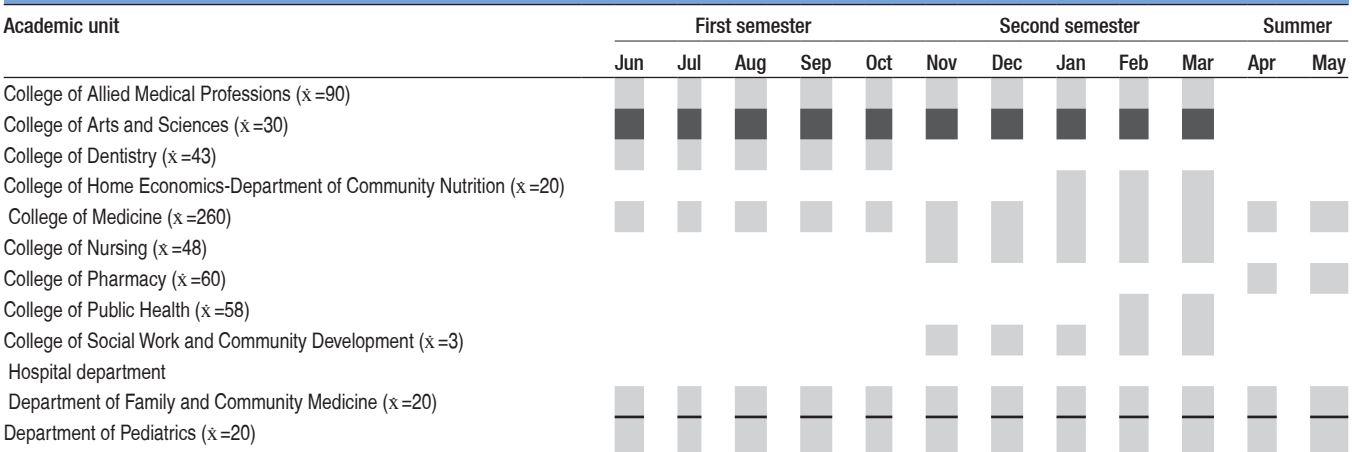
The municipality of San Juan in the province of Batangas was the first partner community of CHDP. It is a rural community composed of 42 villages or *barangays*. Public health services are provided by a limited number of health professionals including physicians, nurses, midwives, dentists, and sanitary inspectors. Volunteer village health workers or barangay health workers with training in primary care comprise the majority of the municipality's human health resources.

Every year, an average of about 640 students and trainees from the different colleges of the university are fielded in San Juan through CHDP for their community practice rotation. Schedules of fielding of the colleges differ although there is also overlap, most frequently during the second semester [Figure 1]. During the rotation, students spend 6-8 weeks in their assigned barangays. Assignment is done by their respective faculty preceptors. Although colleges have different curricular objectives, students share some common activities. These are (1) community immersion by living with foster families in the barangay, (2) provision of clinic and home-based health services, (3) training of local health workers in primary care, and (4) health education in the community.

Project Development

The first year of CHDP implementation highlighted the importance of collaboration not only between the university and the community but also among the different colleges as well. The absence of clear guidelines for the students and faculty on how interdisciplinary collaboration can be practiced led to problems. Thus, to gain better understanding of these approaches, the CHDP core group of faculty reviewed literature on interdisciplinary approach, collaborative practice and IPE. Focus group discussions among members of the academic and community partners were also conducted to explore their experiences and insights on these concepts. As a result, guidelines to ensure collaboration were instituted in CHDP, which are described in Table 1.

Figure 1: Community Rotation Schedule*and the Mean Number of Students and Trainees per College or Hospital Department per Academic Year ($\dot{X}$)



*Shaded portion represents presence of students from the given college except for the College of Arts and Sciences, which sends students only on selected weekends

Table 1: Guidelines for Interdisciplinary collaboration in the community health and development program

Orientation of all students and faculty preceptor by a CHDP Area Coordinator
Meeting of all students deployed in the same barangay to agree on protocols about referral of patients, clinic schedules and roles of different professions in the clinic, ongoing activities, and how each profession can contribute, sharing of data to avoid duplication of data gathering process
Regular weekly meeting of students fielded in the same barangay
Required attendance in community meetings
Coordination between the students for presentation of accomplishment reports

CHDP = Community health and development program

Furthermore, to provide opportunities for student interactions, activities that can be venues for IPE were also identified. These activities were interdisciplinary clinics, training of barangay health workers and FCM.

The FCM is a common activity for students from four colleges rotating in CHDP, namely the Colleges of Allied Medical Professions, Medicine, Nursing, and Nutrition. Upon recognition of FCM as an opportunity for IPE, an implementing guideline was put together by the faculty, student representatives, and the San Juan local health team. Through FCM, the students should be able to (1) enrich their competencies as health professionals in the community-setting and (2) provide comprehensive and coordinated care to patients and their families in the community as part of a health team. The guideline described the activities to be followed by the interprofessional team involved in FCM giving emphasis on teamwork, patient and family involvement and holistic care utilizing problem-based learning and in a small group of students. Importance given to these concepts and processes were based on recommendations given within the literature on IPE.[1-3,6,8-10] At the end of the students' rotation, feedback from those who participated in the project was elicited.

Methods

Participant Profiles

The pilot implementation of FCM involved five interprofessional teams during the second semester of academic year 2009-2010. In terms of health professions mix, all teams had at least one medical intern and at least one physical therapy intern. The presence of other health professions students in the team like nursing, occupational therapy, and speech pathology were dependent on their presence in the barangay and the need or condition of the index patient. Other members of the team were:

- One family and community medicine resident trainee
- A faculty preceptor from each represented college (Allied Medical Professions, Medicine, and Nursing)
- One CHDP community organizer
- One rural health midwife in the barangay
- One barangay health worker

All 19 students involved were in their last year of education before graduation. They all had clinical exposure in an urban tertiary hospital, though with varying duration.

The resident doctors were on their last year of residency in Family and Community Medicine, a program offered by the university and the Philippine General Hospital.

Team preceptors included the students' respective community rotation faculty and CHDP community organizer. By profession, they are composed of midwives, nurses, occupational therapists, physical therapists, physicians, and speech pathologists. None had formal training in facilitating IPE.

Each team managed one index patient and his/her family. All index patients had a complex medical condition: four were adults with hemiparesis due to cerebrovascular attack secondary to uncontrolled hypertension and one patient was an adolescent with cerebral palsy and malnutrition.

Project Activities

The following describes the activities of the interprofessional team based on the guidelines made regarding the implementation of FCM.

1. *Orientation of the team*
   The FCM team was formed when students from at least three health professions (medicine, physical therapy, and either nursing, occupational therapy, or speech pathology) shared a common barangay assignment. The team was oriented by the CHDP faculty. This included discussion of the rationale, history and FCM guidelines. Since students differed in their schedules and length of rotations, some student team members changed every four weeks. To deal with this, the CHDP faculty oriented the new team member as needed.
2. *Choosing the patient and family*
   Any team member can propose the inclusion in FCM of any family from the barangay under his/her care who presented with complex needs and required interprofessional management. Examples include:
   - presence of multiple comorbidities in the index patient
   - more than one family member has an active disease
   - presence of multiple risk factors for illness.

   The student who had initial contact with the family completed a Unified Assessment Tool for FCM. This included medical, socio-economic, socio-cultural and home environment data of the family. Results of this assessment were discussed with the team to develop the roles of the various professions and possible interventions that each could contribute. The team then decides whether interprofessional management will be feasible.
   Two teams had at least one candidate families for FCM. After discussion, both teams decided to manage only one

family each, with the choice based on how the team can improve the family's access to health services and resources and the prognosis for improvement of the index patients.

3. *Patient and family engagement*

   Central to FCM was patient and family involvement. Consent for management from the family was elicited after the explaining the following:

   - The patient and family were chosen because of the complexity of their problem, which requires expertise of the different professions
   - Each team is composed of students, professionals and health workers who were trained on different fields They are required to provide coordinated care to the patient and family
   - Intervention is mainly home-based care so there will be regular home visits
   - Patient and family information will be shared only among the team members
   - Active participation of the patient and family is expected, such as in decision-making, and performance of home-based interventions
   - The patient and family may discontinue the management anytime if they so choose.

   The roles and expertise of the different team members were also explained. When consent was given, the family's preferred time for home visit was determined.

4. *Assessment and goal-setting*

   A more detailed assessment of the index patient and family followed that included: (1) special physical tests (performed by the specific profession); (2) laboratory examinations (as needed); (3) functional assessment, (4) evaluation of speech and feeding problems, (5) nutritional status assessment, (6) family assessment (family genogram, family map); (7) environmental assessment, and (8) referral to a specialist, if needed.

   These methods provided the team with a holistic assessment of the patient. The results of these were relayed to the patient and family. The FCM team with the patient and family prioritized the problems deemed to be most important and common goals were set. Leveling off of expectations was done so that goals are realistic given the patient's condition and the resources available.

5. *Patient and family intervention*

   Planning for the interventions involved (1) identifying and analyzing the problems that contributed to the condition of the patient and family, (2) defining the tasks needed to address the problems, (3) delegating the tasks to the specific profession/s who can best address the problem/s, and (3) team discussion on the proposed intervention/s. During the discussion, other team members were encouraged to contribute to improve the plans. This also led to common understanding of the members' roles to avoid overlap and promote complementation. These interventions were communicated to the patient and family through a family meeting. The patient and family's perceptions were elicited and their possible contributions identified. Aside from medical interventions, educational and psychosocial interventions were included in the management. Implementation of the plan involved the team, patient and family. Trainings were also conducted by and among the team members such that all can (1) educate the patient and family regarding their condition and management and (2) perform the most important interventions even if the professional who is specialized to provide these are absent. For example, the barangay health worker, medical interns, and nursing students were trained by the physical therapy students on how to perform strengthening exercises for the patient with hemiparesis.

6. *Monitoring of outcomes*

   Patient outcomes were monitored based on the resolution of the problems and achievement of the goals. The teams held regular weekly meetings to monitor the patient and family's progress and discuss management problems.

   Each family had a health record at home and a duplicate compiled at the CHDP office. The health record contains the assessment done, the plan of management and monitoring notes of the team.

Data Collection

Students involved in FCM were asked to complete a Post-Rotation FCM Questionnaire, shown in Table 2. This is based on a tool developed by the Curtin University of Technology for the Royal Perth Hospital-Curtin University Student Training Ward. The tool was made available to CHDP through its linkage with The Network: Towards Unity for Health, an international organization of academic health professions institutions and organizations. The questionnaire was pilot-tested among the students who were rotating in the community. The questionnaire was self-administered,

Table 2: Post-Rotation Family Case Management Questionnaire for Students

How would you rate your over-all experience in the Family Case Management? (Scale: 1-very poor, 2-poor, 3-average, 4-good, 5-very good)
What were the most useful aspects of the Family Case Management experience for you?
What were the most useful aspects of the Family Case Management for the:
Patients and their families?
Community Health and Development Program as an organization?
San Juan community?
What were the least useful aspects of the Family Case Management experience for you?
What were the least useful aspects of the Family Case Management for the:
Patients and their families?
Community Health and Development Program as an organization?
San Juan community?
What improvements would you like to see made to the Family Case Management?

composed of (1) quantitative exploration of the student's over-all experience on FCM based on a Likert scale with score = 1 as poor and score = 5 as excellent and (2) qualitative component with open-ended questions on the most useful and least useful aspects of the project and recommendations for project improvement.

Data Analysis

Quantitative data was analyzed using descriptive statistics. In contrast, the written responses to the open-ended questions were processed by the author and a health profession researcher using qualitative analysis to generate emergent themes.[11-13] Initially, the written responses were independently read by the researchers several times until they were familiar with the data. Patterns and topics covered in the responses were identified and each was assigned a coding category. The results generated were compared by the researchers and disagreements were resolved through consensus building. These categories were further consolidated into main categories based on their emergent themes.

Results

All 19 students who participated in the FCM completed the questionnaire. Respondents were five medical interns, and eight were students in physical therapy, two in occupational therapy, two in speech pathology, and two in nursing. Most were female (63%).

The median over-all rating given by the students to the FCM experience was 4 or "good" based on the5-point scale provided and a mean over-all rating of 4.16 (sd = 0.37). It was noted that the physical therapy students gave the highest over-all rating.

The results of qualitative analysis of the responses are presented in Table 3. Five themes were generated regarding the most useful aspect of the experience. These were (1) learning about collaboration, (2) appreciation of roles, (3) holistic care, (4) service to the community, and (5) unique learning experience. On the question regarding the least useful aspect of the IPE experience, four themes were generated. These were (1) coordination requirement, (2) patient management, (3) program structure, and (4) community-setting limitations. Students' recommendations on how to improve FCM are summarized in Table 4. These included (1) facilitate easier communication and coordination among team members, (2) improve students' orientation, (3) avoid crowded visits, overlapping or roles and delay in decision-making, (4) augment available resources for the patient, family and FCM team, and (5) improve staff and faculty supervision. Representative responses for the themes generated are provided in Table 2.

Table 3: Themes derived and representative responses from the post rotation Family Case Management questionnaire completed by the student participants (*N*=19)

Most useful aspect of the Family Case Management experience
Learning about collaboration
"I learned to relate with other professionals in handling a patient, setting mutual goals and treatment strategies"
"…the clinical supervisors and CHDP community organizers were given the opportunity and learning experience to organize the different professions to be able to help patients"
Appreciation of roles
"The experience helped me develop more respect and appreciation for each profession we were able to work with, because we were able to see each profession's role in the continuum of care"
"I appreciated the roles of the different members of the team including the barangay health workers and midwife"
Holistic care
"We are able to give better health care to our patients because since the various disciplines have their own areas of expertise, the needs of the patients are better responded to"
"enables active participation of the patient and family"
Service to the community
"The community was able to gain access to the services of health professionals not available in the community"
"It is one way for the local health team to help their people get better and thereby help them become productive members of the barangay again"
Unique learning experience
"This is what makes UP CHDP different from other schools or organizations"
"I enjoyed, appreciated working closely together with nurses, med interns which is not experienced in the hospital"
Least useful aspect of the IPE experience
Coordination requirement
"Communication is most of the time hard which makes coordinating with the team challenging, not all members of the team are present all the time because of other rotation requirements"
"Other disciplines are not readily available for consult regarding a common patient due to distance of designated areas"
Patient management
"Sometimes the patient gets crowded or huddled on during therapy or treatment sessions"
"Too many people visit, there was redundancy especially when new batch of people see them"
Program structure
"Students do not know each other before hand"
"Late orientation on the system"
"Limited time for team activities due to other responsibilities/assignments"
"Other faculty are not present or that involved"
Community-setting limitations
"Not all resources needed for patient management are available in the community such as laboratory exams, medical specialists, medicines and equipment."
"There were unexpected community events leading to problems in coordination and planning."
"There were geographical barriers since patient lives in far-flung area of the community."
"The community as a whole is not informed or aware of the existence of such program."
"Barangay health workers roles are limited because of limited skills."

CHDP = Community health and development program, IPE = Interprofessional education, UP = University of the Philippines

Table 4: Recommendations on how to improve the Family Case Management based on the students' responses from the post rotation Family Case Management questionnaire (*N*=19)

Facilitate easier communication and coordination among team members
Devise a communication scheme suitable for each team
Regularize team meetings
Assign students in the same or nearby villages
More accessible patient records
Use of language familiar to all team members in documentation
Improve students' orientation regarding Family Case Management
Schedule earlier orientation
Discuss the possible roles of different team members
Provide theoretical concepts related to interprofessional education
Include socialization activities
Avoid the crowded visits, overlapping of roles and delay in decision-making
Include only experts needed by the patient
Clarify the roles of community health workers
Assign a leader to facilitate decision-making
Augment available resources for the patient, family and health team
Engage and garner support from local government officials
Maximize available health and social services for the patient
Improve staff and faculty supervision
Continue faculty discussions on and advocacies for interprofessional education
Implement staff and faculty development programs
Document and report the benefits of interprofessional education initiatives

Discussion

Experiences in the implementation of IPE have been described in literature across different settings using varied learning activities. Notably, there are similarities in the responses of student participants in this study and from those in other countries regardless of the setting and learning activity utilized in IPE. These include (1) students' over-all positive reaction to the IPE activities (2) perceived gains from the IPE experience were learning about collaboration, appreciating other health professions' roles, and providing holistic care to patients or communities, and (3) IPE implementation difficulties were due to differences in students' schedules, placements and curricular requirements, and poor faculty support.[14-31]

In contrast, there are also student responses in our study that are infrequently encountered in IPE literatures. These responses may reflect our IPE setting, which is a rural community in a developing country. The impression of "infrequency" may be because many of the published IPE initiatives were mostly from the developed countries. These responses are under the themes of (1) service to community, (2) unique learning experience, and (3) the limitations of the community-setting.

The theme of "service to community" is about the students' perception of improving the patient's access to health professions services through FCM. A global environmental scan on IPE in 2010 described the perceived benefits of IPE on health practice and policy.[26] Among these benefits were access to healthcare and cost savings noted to be more prominent in developing countries, such as the Philippines, than in developed ones. The second theme is about the appreciation of FCM as a "unique learning experience", described by the students as different from other schools and organizations, and the hospital setting. This highlights the predominant uniprofessional education in our country. The challenge is now on the implementers of IPE to advocate and work toward the integration of IPE in the current health professions curriculum.

The third theme of the limited resources available for the patients and students in a poor rural area as a "community-setting limitation" can be another challenge to sustaining IPE in our setting. In addition, the implementers should be mindful of the inconvenience for the community from "crowding in home visits" and "redundancy" during student transitions brought about by the learning activity. Although the rural community has been described as suitable for IPE.[20,32] its university implementers should be able to demonstrate its benefits not only to the training of the students but more importantly to its partner community.[32-34]

Students' recommendations are important since participatory planning with students have shown to improve IPE activities.[2,8] At present, CHDP has implemented the following based on the students' proposals: (1) set aside protected time for team meetings and activities, (2) assigned students from different professions in the same barangay (3) created an IPE module including orientation on FCM, IPE concepts and team-building activities, (4) planning for home visits, (5) assign only one student-in-charge per profession, (6) involving the municipality's keyperson for People with Disabilities in the FCM activities, (7) discussing FCM patients and families during coordination meetings with the community leaders, and (8) interprofessional oral case presentation as a rotation requirement. CHDP's future plans for IPE are: (1) faculty and staff development, (2) summative evaluation of students' performance in FCM, (3) an IPE activity that will tackle community health and development concepts, (4) an elective course offering on IPE for the students in the lower year levels, and (5) advocacy for IPE in other health professions education institutions.

This study has several limitations. First is the limited feedback on the project, which presented only the students' participants perceptions. Aside from the small number of the students involved, it would be important to also have solicited the perceptions of other participants (faculty, staff, patients, families, and community health workers) and assessed patient outcomes. Second, the questionnaire focused only on the perceptions of the students based on their written responses. Further studies using validated questionnaires to measure actual knowledge, skills, and attitudes acquired can be done. Other data collection methodologies could also be employed,

such as focus group discussions and interviews, to expound on and clarify responses generated. Studies on the long-term effects and sustainability in the community-setting should also be done.

Conclusion

This pilot implementation of an IPE initiative in a community–academe partnership showed that students generally appreciated the experience. Its most useful aspects were felt to be learning about collaboration, appreciating roles, providing holistic care, providing service to the community and the uniqueness of the learning experience. Difficulties encountered were on coordination, patient management, program structure, and community-setting limitations. To improve IPE, support must be elicited from both the academe and the partner community. The challenge for future programs is to build on initiatives like this and demonstrate how it can benefit the health professions students and its community partner.

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