

Status of Interprofessional Education (IPE) Implementation in Asian Nursing Schools

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ABSTRACT

Background and Objective. Interprofessional Education (IPE) is a necessary step in preparing a collaborative practice-ready health workforce that is better prepared to respond to local and global health needs. This study examined the status of IPE implementation in Asian nursing schools in the World Health Organization (WHO) Western Pacific Region (WPR).

Methods. Descriptive online survey research design was utilized, supplemented by online interviews. Purposive sampling was done wherein nursing schools, colleges, and universities were invited to nominate a representative to serve as respondent in this study. Descriptive approach was used to analyze both quantitative and qualitative data.

Results. A total of 29 Asian nursing schools participated in the survey. Majority (82.76%) of them stated that they have an IPE program or a similar activity. Interviews with the respondents revealed that not all IPE opportunities were part of a formal IPE program, but were embedded in the different learning activities of nursing students. A clear program focus served as one of the facilitators of IPE implementation. Identified barriers included insufficient administrative support and lack of trained faculty to implement IPE and related activities.

Conclusions. IPE is present in most Asian nursing schools in WPR. They may not exactly be called or recognized as IPE, but there is the existence of programs and activities that bring together health and non-health science students to learn from, about, and with each other to enable effective collaboration and improve health outcomes. It is recommended that massive formal training should be conducted so that educational institutions and their faculty will be equipped in developing more formal programs, facilitate activities, and monitor implementation and progress.

Keywords: collaborative practice, interprofessional education, nursing education

INTRODUCTION

Interprofessional education and collaborative practice (IPECP) has been recognized by the World Health Organization (WHO) as an innovative strategy that will play an important role in mitigating the global health workforce crisis.¹ Collaborative practice happens when multiple health workers from different professional backgrounds work together with patients, families, carers, and communities to deliver the highest quality of care.^{1,2} Collaborative practice contributes to decreasing total patient complications, length of hospital stay, conflict among caregivers, staff turnover, hospital admissions, clinical error rates, and mortality rates.^{1,3,4}

Interprofessional Education (IPE) is a necessary step in preparing a “collaborative practice-ready” health workforce that is better prepared to respond to local health needs.¹ It occurs when students from two or more professions learn from, about, and with each other to enable effective collaboration and improve health outcomes.^{1,2} The benefits of IPE include



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positive outcomes on patients' access, quality and satisfaction of care, and health professions' competency, communication, and teamwork.^{2,5,6}

In 2008, the WHO commissioned an environmental scan to provide answers to questions such as: where in the world IPE occurs, how IPE is conducted, and why IPE is offered.⁷ They conducted an internet survey involving 193 WHO member states, which yielded a total of 396 surveys from 41 countries that were mostly non-Asian (e.g., Canada, UK, and USA). Participants reported variations of IPE practices in terms of professions involved, method and duration of delivery, and mode of assessment. Particularly, 29% of the participants had little experience, while 61% had no IPE when they were students. The lack of IPE may limit students' opportunity to gain interprofessional competencies valuable in real work settings.⁷ It may hinder deeper and diverse perspectives in working with healthcare teams, and developing the value of patient-centeredness.⁸ Significant efforts are necessary to ensure that IPE is designed, delivered, and evaluated in keeping with internationally recognized standards and best practices.¹ Informed by this environmental scan, the WHO Action Plan on Interprofessional Education and Collaborative Practice was created. The framework highlights the status of interprofessional collaboration around the world, identifies the mechanisms that shape successful collaborative teamwork, and outlines a series of action items that policymakers can apply within their local health system.¹

Previous studies about IPE among nurses and students were conducted in the Philippines and other Asian regions. Nevertheless, IPE research is still in its infancy in the country. For instance, a study surveyed the IPE readiness of students from various health-related courses (medical technology, pharmacy, and rehabilitation sciences) in a private local university, and found that readiness is higher among senior students but varied across programs.⁹ Another study shared the experience of developing and implementing a pilot IPE program in another university in 2015, noting challenges and lessons learned to facilitate IPE.¹⁰ Other studies in the Philippines involved the assessment of interprofessional collaboration among licensed providers (including nurses), such as those involved in geriatric care¹¹ and mental health services,¹² which found existing barriers and uncertainties in the manner of IPE provision. In Asia, more studies on IPE included nursing students. Particularly, a study in Korea reported that student nurses' perceptions of the relevance and effectiveness of IPE were higher than medicine students.¹³ Notably, another study in Indonesia found that nursing students had lower IPE readiness scores based on their perceived professional identity and role understanding, compared to their counterparts in medicine and dentistry.¹⁴ Hence, there is a need for a more comprehensive study of IPE among nursing schools, as they prepare future members of the healthcare team in various settings. However, to the best of the team's knowledge, there has been no study which

comprehensively investigated IPE implementation among various institutions in the Philippines and Asia.

This study focused on the status of IPE implementation in Asian nursing schools in the WHO Western Pacific Region (WPR), including the Philippines. Information gained from this study will be used to develop capacity-building programs and activities that can improve implementation of IPE in the region. Specifically, the objectives are as follows:

1. To describe the status of IPE implementation and practices in nursing schools in the Philippines and Asian countries in WPR;
2. To determine facilitators, barriers, and issues in the implementation of IPE;
3. To identify effective strategies and key elements for success in the implementation of IPE; and
4. To develop recommendations for developing capacity-building programs for enhancing IPE in nursing schools.

METHODS

Study Design

This study utilized descriptive online survey research design, to directly gather information related to the IPE practices, facilitators and barriers to implementation, and recommendations for enhancement. Moreover, an online survey was carried to promote a wider participation of nursing schools outside Manila, and more importantly, educational institutions abroad.

Sample

Purposive sampling was utilized wherein nursing schools, colleges, and universities within the network of the University of the Philippines College of Nursing (UPCN) were invited to participate in this study. This was regardless of whether they had an existing IPE program or not and whether their program was formalized or not. For the local survey, six Commission on Higher Education (CHED) Centers of Excellence (COEs) and seven Centers of Development (CODs), plus 17 nursing schools in Metro Manila, were invited.

For the international survey, nursing schools from eleven Asian countries in the WPR were included: Brunei, Cambodia, China, Hongkong, Japan, Korea, Laos, Mongolia, Malaysia, Singapore, and Vietnam. The criteria for choosing the nursing schools include belonging to an institution with at least two or more health profession courses/programs. One of the following was requested to serve as a respondent and answer the survey on behalf of the nursing institution: 1) the dean of the college of nursing or equivalent, 2) the coordinator or department chair responsible for curriculum and teaching, and 3) senior clinical faculty with at least three years of work experience in the school. They were chosen as they were likely the persons to know about the curriculum or IPE program, whether directly or indirectly involved.

Data Collection

Data collection was conducted from April to December 2019. This study was given an exemption from ethics review by the University of the Philippines Manila Research Ethics Board.

The survey questionnaire was adopted from the IPE Environmental Scan survey by the American Association of Colleges of Nursing (AACN),¹⁵ which also provided permission to use the tool. The survey questionnaire contained two parts. The first part inquired about the institution and the respondent answering the survey. The second part queried the IPE implementation and practices, such as the involvement of other students, partner institutions, on-campus and off-campus activities, topics, funding, concrete results, key elements of success, and lessons learned. The questions were in multiple-choice format, but an option of “others” was also included so that respondents may indicate answers that were not initially included. A link was given for the respondents to access the online survey via SurveyMonkey, which contained an introduction letter explaining the study and its purpose. Consent was obtained before respondents proceeded with answering the survey questions.

After the survey, seven participants were invited for online interviews to seek additional information on their IPE activities. Three participants were from abroad and four were from the Philippines. The reason for interviewing them further was based on their answers to the survey questions needing clarification or more information. The researchers noted down the answers of participants. Researchers ensured that there would be adequate representation of the following category of participants: dean of the college of nursing or equivalent, coordinator or department chair responsible for curriculum and teaching, and senior clinical faculty with at least three years of work experience in the school. The interviews were facilitated by at least two research team members, who served as moderator and note taker. To ensure trustworthiness, the researchers summarized the important notes to the participants and verifying that correct information was gathered from the interviews. Participants were further asked to clarify their answers if needed. Meanwhile, the two researchers who conducted the interviews compared the collected data for confirmability.

Data Analysis

SPSS version 26 was used in the analysis of quantitative data. They were first entered into an Excel file for the researchers to check for completeness. Descriptive statistics, using frequencies and percentages were used to summarize data. Notes on the answers of participants during the online interviews were incorporated into the results. Data were anonymized for the protection of privacy of the individual respondents, their nursing school, and partners.

RESULTS

Profile of the Respondents and the Nursing Institutions

This study was able to cover eight of the 11 Asian countries in WPR (72.73%), which include Cambodia, Japan, Korea, Malaysia, Mongolia, Singapore, Vietnam, and Philippines. A total of 29 nursing schools participated in the survey. Eighteen came from the Philippines (62.07%), five from Japan (17.24%), and one each from Cambodia (3.45%), Korea (3.45%), Malaysia (3.45%), Mongolia (3.45%), Singapore (3.45%), and Vietnam (3.45%). In the Philippines, of the 30 nursing schools that were identified and invited to participate, a total of 18 (62.07%) nursing schools responded and participated: five (27.78%) were Commission on Higher Education Centers of Excellence (CHED COEs); five were (27.78%) Commission on Higher Education Centers of Development (CHED CODs); and eight (44.44%) were nursing schools situated in the National Capital Region (NCR) of the Philippines.

The mean age of the respondents was 51.0 ($SD = 6.7$). Majority were female (86.21%), nurses by profession (96.55%), and had a doctorate degree (62.07%). More than half of the participants (55.17%) were the current dean of the nursing institution or its equivalent. Other participants included assistant to the dean (3.45%), research coordinator (3.45%), head of the simulation laboratory (3.45%), and coordinator of graduate studies (3.45%). Majority of the nursing schools were situated in a university (75.86%).

Participants were mostly facilitators or monitors (24.1%) and coordinators (24.1%) of their IPE program. Some respondents were involved in curriculum development or were course developers themselves. Some were faculty and trainers, and some worked on the advocacy arm. Majority of the participants reported being involved in the IPE program for five years and less (72.4%). Almost half (48.28%) of them claimed they have attended lectures, training, and workshops to prepare for their roles in IPE. However, most respondents claimed they were not involved in IPE as students (75.86%). Those with IPE involvement as a student mentioned simulation, case study, and patient care among the related activities.

IPE Program

Majority (82.76%) reported that they have an IPE program or a similar activity that provides opportunity for nursing and other profession students to learn with, from, and about each other to improve collaboration and quality of patient care. Other profession students refer to students enrolled in a health profession course other than nursing and non-health profession courses within the same university. The goals for initiating IPE among the nursing schools were to orient students to their roles and those of others in health care, and to encourage cooperation and collaboration. Respondents also mentioned learning core values and socio-

civic responsibility. Almost half of the participants (41.38%) claimed that their students were aware of the objectives of their learning activities. Ten respondents (34.48%) claimed that their IPE program has been formalized by assigning a person-in-charge or several personnel to coordinate the activities and having other logistical support. Table 1 shows the IPE program characteristics.

In most cases, IPE programs usually ran for less than 6 months (27.59%), while others have it for more than 12 months (20.69%). Participants also stated that IPE programs are mandatory for all (27.59%), with others indicating it is required for some (10.34%) or optional (13.79%). When asked how much time their students spend on IPE activities, participants had varied answers: 3 hours/week during six semesters, 8 to 16 hours/week, 45 consecutive 2-hour lessons and two full days clinical training, two years on-campus and two months off-campus, and 30 to 54 hours per semester.

IPE Activities

Top on-campus activities are lectures (41.38%) and case discussions (37.93%), followed by colloquium/seminars/workshops (24.14%), research projects (24.14%), and service learning (13.79%). Online activities (10.34%) and laboratory simulations (15.79%) were also indicated. Meanwhile, common off-campus activities include assessment of community health and social services (44.83%), participation in community health campaigns/fairs (41.38%), planning of health programs and services (37.93%), evaluation of programs and outcomes (31.03%), research (31.03%), and other health-related activities (27.59%). There were also joint home visits (24.14%), advocacy for health-related laws and/or regulations (20.69%), disease prevention (20.69%), clinical work (20.69%), social marketing and health communication (10.34%), and joint publishing (6.90%). Major content areas addressed by the IPE program/activities were the roles/responsibilities of health professionals (51.72%) and teams (51.72%). These were closely followed by interprofessional communication (48.28%), values and ethics for IPE (37.93%), quality improvement and patient safety (27.59%), evidence-based practice (21.14%), health care systems and calls for improvement (17.24%), communicating across culture (13.79%), social determinants of health and health care disparities (10.34%), population-based data analytics (6.90%), policy analysis and development (3.45%), and root cause and systems analysis (3.45%).

Based on the individual interviews, most IPE programs in Philippine nursing schools are embedded in the curricular activities. These include problem-based learning, research work, clinical simulation, service learning, community outreach, and interdepartmental education. Activities ranged from simple case discussions to complex clinical simulation, actual collaboration with special projects and advocacies. Nursing students attended classes that are also taken by other health and non-health profession students, which become an IPE opportunity. In the case of problem/project-

Table 1. Interprofessional Education Program Characteristics (N=29)

	N	%
Presence of IPE or similar activity		
No	5	17.24
Yes	24	82.76
Health profession schools/programs involved in this IPE program/activity		
Allied Health	9	31.03
Dentistry	2	6.90
Nutrition and Dietician	2	6.90
Occupational Therapy	3	10.34
Optometry	1	3.45
Pharmacy	5	17.24
Physical Therapy	4	13.79
Public Health	3	10.34
Psychology	3	10.34
Radiology	1	3.45
Respiratory Therapy	1	3.45
Speech Therapy	1	3.45
General medicine	3	10.34
Non-health profession schools/programs involved in this IPE program/activity		
Architecture and Design	1	3.45
Business	3	10.34
Communications	3	10.34
Education	3	10.34
Engineering	2	6.90
Fine arts	1	3.45
Law	1	3.45
Religious studies	2	6.90
Social work	3	10.34
Partner institutions for this IPE program/activity		
Chronic/Palliative care center	1	3.45
Community	10	34.48
General clinic	2	6.90
General hospital	7	24.14
Government health agency	6	20.69
Specialty clinic	3	10.34
Specialty hospital	1	3.45
Non-government organization	4	13.79
Formalized IPE Program/Activity		
No	22	75.86
Yes	7	24.14
Knowledge of student on objectives of IPE program		
No	3	10.34
Yes	12	41.38
IPE program run per group/batch of students		
<6 months	8	27.59
6 to 12 months	1	3.45
>12 months	6	20.69
Student participation in IPE		
Mandatory for all	8	27.59
Mandatory for some	3	10.34
Optional	4	13.79

based learning, service learning, and community outreach activities, nursing students consulting other health and non-health profession students and professionals with the project they are working on for the community, is another IPE opportunity. They may be just consulting, or together they work for a common goal from start to finish. With increasing concerns for patient safety, clinical simulation has become an important teaching-learning tool. Clinical simulations, such as scenarios in the emergency room, operating room, and critical care, and the role of the different health professionals are being highlighted, with the role of physicians and nurses often emphasized.

Assessment of achievement of learning objectives include oral discussions (37.93%), written exams (31.03%), and term papers (20.69%). Other bases include measurement of actual performance, program proposals and accomplishment reports, revalida, and pre- and post-meeting discussions.

Training of Faculty, Funding, and Accreditation

Almost one-third of the participants (31.03%) claimed that their faculty do not have training or orientation on IPE. Of those who have related training, such included participation in workshops (local or abroad) or patient safety conferences where IPE was discussed. Moreover, they claimed that training does not happen regularly (20.69%), but may be facilitated every one to two years for some (20.69%).

In terms of financial support for IPE, a third of the participants claimed not having university funding. For those with funding, the program (27.59%) and center (79.31%) are the main university funding sources. Community development funds are a source of funding for some. For external funding, the majority again declared having none (41.38%). Meanwhile, the government is the number one external funding source for a few (13.79%). Other external funding sources identified included donations and non-government organization support.

Almost half of the participants answered that they have IPE program in their schools (48.28%), but shared that their programs have not undergone formal accreditation. Five participants (17.24%) mentioned having IPE program accreditation. Some of these accreditations, however, were not IPE-specific, but those involving other agencies, such as the International Organization for Standardization (ISO) and accrediting associations.

Concrete Results of IPE, Facilitators and Barriers of IPE, and Key Lessons Learned

To assess the results of IPE, participants noted that feedback from stakeholders, such as the community, is important. Another measure is the change in or observation of the students' attitude. Notably, a very clear and specific focus is the primary key to success of IPE implementation and evaluation. Committed and passionate human resources and properly coordinated activities among faculty and students could also contribute to such success. Meanwhile,

Table 2. Perceived Facilitators, Barriers, and Effectiveness of IPE (N=29)

	n	%
Perceived facilitators in the implementation of IPE program/activity		
Adequate financial support	5	17.24
Clearly defined goals of IPE program	5	17.24
Well-constructed IPE program curriculum	2	6.90
Trained educators on IPE	4	13.79
Local/international partnership	5	17.24
Organization partnership	5	17.24
Different health profession course	8	27.59
Competent and supportive leaders/administrators	7	24.14
Learning enhancement programs in IPE	4	13.79
Well-defined evaluation measures of IPE	1	3.45
Perceived barriers in the implementation of IPE program/activity		
Inadequate financial support	5	17.24
Unclear goals of the IPE program	4	13.79
Poorly constructed curriculum/guideline	2	6.90
Minimal support from the administrators	2	6.90
Lack of value	2	6.90
Poor partnerships with other health education institutions	3	10.34
Poor partnerships with other organizations or associations	4	13.79
Inadequate training	7	24.14
Minimal number of IPE educators	4	13.79
Minimal number of health profession courses	1	3.45
Differences in the schedule of health profession students and educators	8	27.59
Perceived effectiveness in improving collaboration among health profession students		
Not effective	1	3.45
Effective	11	37.93
Very effective	3	10.34
Perceived effectiveness of the program/activity in terms of achieving the goal of improving quality of care		
Not effective	2	6.90
Effective	10	34.48
Very effective	3	10.34

participants mentioned that inadequate funding and administrative support are the most common barriers to IPE implementation, followed by a lack of trained faculty to facilitate IPE-related activities. Table 2 shows the perceived facilitators, barriers, and effectiveness of IPE.

Meanwhile, participants also shared key lessons from their experiences of facilitating IPE in their respective institutions. These include realizing the importance of planning and preparation; promoting collaboration, synergy, and teamwork; formalizing guidelines and training the faculty for IPE; and ensuring financial support, willingness, and commitment on the part of the faculty. Participants also stated that implementing IPE could be challenging at first, but both of their faculty and students seemed satisfied. They also shared that their current IPE programs have incorporated patient safety components.

DISCUSSION

It is evident that IPE is present in most of the Asian nursing schools in WPR. They may not all be called or recognized as IPE, but there is the existence of programs and activities that bring together health and non-health profession students to learn about, from, and with each other to enable effective collaboration and improve health outcomes. While exemplary models of collaborative and interprofessional education include those that are established, implemented, and supported,¹⁶ most participants indicated that their IPE programs have been formalized; nevertheless, the level of formalization varied from one program to another, and was perceived as mostly having logistical support and well-coordinated activities. Although a majority of the curricular activities in nursing could provide opportunities for IPE, many of the IPE programs have yet to be designed, established, and formalized.

It is common for nursing and medicine to work together as IPE partners.^{6,17,18} Most common venues would be the classroom, hospital, community, and working on common projects or research-related activities that require a multidisciplinary approach. For educational institutions that do not have a formal IPE program, general education courses bring together students from different disciplines, and these promote beginning awareness and understanding of other professions and the likelihood of working together. In the hospital, the multidisciplinary approach to patient care allows student nurses to realize the bounds of their work in relation to the roles of other health professions. This facilitates the acquisition of the right attitude, knowledge, and skill in working effectively with other professions wherein the ultimate goal is to provide safe and quality patient care that will lead to desired outcomes.

Students should be aware of the objectives of the activities for or related to IPE. The goal for IPE initiation must be clear and established from the start.¹⁹ This provides focus and achievement of the goals is ensured. In the IPE competency model by Haruta et al.,²⁰ there are two core domains and four peripheral domains for IPE. The core domains were patient/client/family/community-centeredness and interprofessional communication. Peripheral domains involved role contribution, facilitation of relationships, reflection, and understanding of others.

Outcome indicators are essential in determining whether the goals are being met or not, which could provide information as to the success of the program. Positive feedback from stakeholders such as the community and observed changes in the attitude of students have been identified by respondents as positive outcomes and basis for stating that the goals are being met. It is important to have measurable outcome indicators at the start, so there will be an adequate basis for concluding whether the IPE goals are being met. Accreditation facilitates continuous assessment of the program and its relevance to achieving the goals of

IPE, as well as standardization of practice.²¹ However, about three-fourths of the institutions with identified IPE programs in this study did not have formal accreditation. For those who claimed that their programs have been accredited, some referred to the general educational accreditations not specifically designed for IPE.

Facilitators of IPE implementation are mainly coordination of programs and activities among faculty and students, and adequacy of human resources. According to Eiff et al.,²² enablers to sustaining the IPE program include grant funding; integrating IPE with institutional efforts; continuing to meet as a team; and building relationships in a safe and inclusive environment. Barriers centered on insufficient administrative support, finances, and manpower. Support may be scarce because some stakeholders might not fully realize the value of IPE. It is also possible that there are no proposals for the design and implementation of IPE. Faculty may not have the necessary training to be able to develop a proposal for the design and implementation of IPE.

Study Limitations

The study focused on Asian nursing schools within the WPR which could have different social, educational, and cultural perspectives of IPE implementation from other regions. Efforts have been extended to increase the number of schools to be recruited. However, most schools that participated came from Japan and the Philippines, and few from other WPR countries. This aspect imposes limitations to gaining a full grasp and comparison of the status and progress of IPE in Asian nursing schools. Some qualitative data were instrumental in providing further explanations and descriptions of participants' responses. Future studies such as qualitative research and records review can be done to further examine the status, experiences, perspectives, and nuances of IPE in Asian nursing schools.

CONCLUSIONS

IPE is present in most of the Asian nursing schools in WPR. They may not exactly be called or recognized as IPE, but there is the existence of programs and activities that bring together health and non-health profession students to learn about, from, and with each other to enable effective collaboration and improve health outcomes. Facilitators to implementation of IPE included clear focus on the program and activities, adequate and committed human resources, and properly coordinated activities among faculty and students. Barriers identified were insufficient or lack of administrative support and trained faculty to implement IPE and its activities.

Formal implementation of the program and undergoing accreditation are among the best practices so far. In the Philippines, while formalization of the program and accreditation are yet to happen, among the best practices for IPE are the clinical simulation and community development work.

Recommendations

The following are the recommendations of the study:

1. Conduct a more extensive information dissemination campaign to raise awareness and interest among nursing schools and stakeholders.
2. Promote implementation of a well-designed IPE program through:
 - a. Massive formal training so that educational institutions and faculty will be equipped to develop more formal programs, facilitate activities, and monitor implementation and progress.
 - b. Encouraging educational institutions to apply for accreditation of their IPE program. This will help standardize implementation and bring about more uniform results that meet the standards.
3. Philippine nursing schools should build on its number one strength, which is community health nursing, and develop a more formal program for interprofessional education through this course.

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Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

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