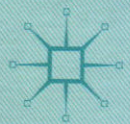


EDITED BY
DAWN FORMAN,
MARION JONES AND
JILL THISTLETHWAITE

LEADERSHIP AND COLLABORATION

Further Developments for
Interprofessional Education



Leadership and Collaboration

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Interprofessional Education

Edited by

Dawn Forman
Curtin University, Australia

Marion Jones
Auckland University of Technology, New Zealand

Jill Thistlethwaite
University of Technology Sydney, Australia

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Contents

<i>List of Figures</i>	xi
<i>List of Tables</i>	xii
<i>Foreword by Barbara Brandt</i>	xiii
<i>Acknowledgements</i>	xvii
<i>Notes on Contributors</i>	xviii
1 Introduction <i>Dawn Forman</i>	1
Part I: Framing Leadership in Interprofessional Education	
2 Leadership Frameworks for Interprofessional Learning <i>Alan Dow, Nital Appelbaum and Deborah DiazGranados</i>	13
3 Interprofessional Education from Pilot to Formal Curriculum <i>Wiwik Kusumawati and Salmah Orbayinah</i>	29
4 Foundation of the Japan Association for Interprofessional Education (JAYPE) <i>Hideaki E. Takahashi, Hideomi Watanabe and Masanobu Kinoshita</i>	47
Part II: Collaborative Developments	
5 Collaborative Leadership within Interprofessional Practice <i>Carole Orchard and Margot Rykhoff</i>	71
6 Learner Leadership: A Change Agent for UK Interprofessional Learning <i>Kate Cuthbert, Geoff Glover and Dawn Forman</i>	95
7 Training COPC and Leadership Development at Ghent University, Belgium <i>Lynn Ryssaert, Sofie Dhaese, Inge Van de Caveye, Sarah Bogaert and Jan De Maeseneer</i>	110

3

Interprofessional Education from Pilot to Formal Curriculum

Wiwik Kusumawati and Salmah Orbayinah (Indonesia)

Introduction

The aim of this chapter is to describe and reflect on the experiences of the Faculty of Medicine and Health Sciences Universitas Muhammadiyah Yogyakarta (FKIK UMY), Indonesia in developing interprofessional education (IPE).

The implementation of IPE in FKIK UMY is designed to meet the policy of the Directorate General of Higher Education, Ministry of National Education Indonesia, which was described at the health professional education quality (HPEQ) conference in December 2011. At this conference, the Director General of Higher Education declared that all medical and health educational institutions in Indonesia are required to introduce IPE formally in the education process to improve the quality of healthcare. Moreover, the implementation of IPE must achieve the competency standards or guidelines for healthcare professionals (as established by the Indonesian Medical Council, the Association Institution of Nursing Education and the Indonesian Association of Pharmacists), which stated the importance of working together as a team and of the collaborative competency of healthcare professionals in managing patients. Not all medical and health institutions were able to apply the policy to develop and implement IPE straight away because the interprofessional curriculum is considered innovative and technically very complex in its implementation.

FKIK UMY has four major programs: medicine (since 1993), nursing (since 2000), dentistry (since 2004) and pharmacy (since 2010). The existence of these four programs provides opportunities and also challenges for FKIK UMY to implement IPE. The former dean of FKIK UMY proposed that IPE should be implemented straight away because of the

new national policy and his vision for FKIK UMY due to its four study programs. There was thought to be a greater chance of success through the dean's leadership and championing of IPE. The dean asked me (Wiwik Kusumawati) to be a leader of the IPE team, which has responsibility for developing and implementing the IPE program for the four health professions. This implementation of IPE has not been an easy task due to the complexity of managing the schedule and other logistical challenges. However, the dean has inspired us through his leadership such that we consider that the benefits will be so important for our community that we cannot leave things as they are. The four professional programs have already introduced problem-based learning (PBL) as a student-centred learning strategy since 2010. By implementing IPE we want all graduates of FKIK UMY to be competent in collaborative practice in the patient-centred care era.

The IPE pilot – preclinical

FKIK UMY started implementing IPE pilots at the preclinical stage for about one month, from 24 January until 18 February 2012. Since August 2011 and before the pilots, FKIK UMY had prepared for IPE through a 10-person task force team consisting of four medicine lecturers, two dentistry lecturers, two nursing lecturers and two pharmacy lecturers. This task force team, which was set up by the dean's decree, held some coordination meetings to discuss the preparation, implementation and evaluation of IPE pilots. The preparation consisted of determining which cases or scenarios should be chosen as the main topic, developing modules and tutor guidelines, composing a skill lab manual and a field experience guide, scheduling activities, and so on.

Based on the endorsement of the task force team at the preparation stage, diabetes mellitus (DM) was chosen as the topic for learning in the form of scenarios. The case selected was a complex example of DM so that the scenario, which was used as a trigger, could include the viewpoints and input of the four health professions (medicine, dentistry, nursing, and pharmacy). To ensure that the case or scenario under development could accommodate the triggers and roles of all health professions, lecturers from the four different health professions worked collaboratively. Together they discussed the learning strategy, technical guidelines, and the schedule of activities. In our faculty this is the first experience in which lecturers from the four health professions have discussed together the content knowledge or the disease as a learning trigger. The discussion was led by the chair of IPE and involved

four lecturers from medicine, nursing, dentistry and pharmacy as the module developers. The success in developing the IPE module was due to all the professions contributing; if any one profession were absent, it would have been difficult to finish the content of the module. A series of workshops was held after the lesson planning and guidelines had been completed, to gain input from competent stakeholders, and also to introduce IPE to all FKIK UMY lecturers.

IPE as a learning activity, with two credits' value, involved a number of students recruited voluntarily from the four major programs. Students who expressed an interest in registering for the IPE pilot were told about the technical implementation of this learning activity via a flyer; recruitment criteria included students who had finished their endocrine module, and who were willing to participate actively for the whole process and give informed consent. Subsequently 23 of 30 students took part in the pilot after going through a selection process. Those 23 students were: six third-year medical students; four third-year dental students; seven fourth-year nursing students; and two second-year pharmacy students. They were divided into two groups for tutorials, skills laboratory and field experience. Having the endocrine block or module completed was the main requirement for the students who applied for the IPE pilot so that they had prior knowledge about DM. However because the pharmacy students were still in their second year and had not yet studied this module, they were briefed about DM prior to the pilot. The IPE pilot at the undergraduate stage was implemented and used the DM scenario as a trigger. Learning activities consisted of small group discussion or tutorials, lectures, practical work, field experience, and plenary discussion.

A patient with DM and leg ulcer complications was the subject of three tutorials; the duration of each tutorial was two hours. The first and the second tutorials focused on the case of diabetes mellitus, whereas the third meeting focused on health profession ethics. The lecturers from the four health professions gave lectures on communication, ethics, and the role of each health profession. The purpose of the lectures was to provide students with the key points about the intersection of the roles and responsibilities of healthcare professionals, which they would be able to apply in other practical activities. The same case (DM with ulcer complication), involving a simulated patient and a mannequin, was used to develop clinical skills among students. Besides improving clinical skills, those activities were also designed to help students learn to work together, to share their skills according to their competencies, and to respect one another.

Field experience activities, overseen by lecturers from the four health professions, were designed to give the students opportunities to interact with other health professions and to work collaboratively with physicians, nurses, pharmacists, and dentists in relation to patient observation, interaction and management. Plenary discussions, along with evaluation, were held at the end of that series of IPE pilots.

The general impressions of the IPE pilot were that students seemed to be more confident within their own professions, and that they respected others during the IPE learning process. It also improved their sense of curiosity about the knowledge possessed by other professions, and those impressions were noticeable during lectures or tutorials.

The evaluation also included some less positive feedback about the implementation of IPE. The students were not keen on the recruitment method. This might have been due to the requirements stipulated by the committee and, perhaps because of this, it took a long time (more than a month) to reach the minimum number of participants. Moreover, due to timetabling issues, medical students were not able to participate in the third tutorial, while the dentistry students could not participate in the activities of the skills laboratory. These circumstances caused imbalances and incompleteness in the discussions and learning processes. In the field experience activity, the lecturer from nursing could not attend the second group so that activity, which was aimed at showing how each health profession interacts with patients, became less than perfect. Likewise, in the plenary discussion, one of the mentors from a health profession could not attend, so the feedback to the plenary discussion was not from each of the four health professions as expected. All these circumstances were caused by problems in the regular and concurrent schedule of activities in the last two weeks of implementation of IPE, that is lectures, tutorials, and faculty development.

The IPE pilot – clinical

FKIK UMY started implementing the IPE pilot in the clinical phase from December 2012 to July 2013. The preparation for the pilot, running from July 2011 to December 2012, was undertaken by the task force team which was formed by the dean of the Faculty of Medicine and Health Sciences UMY. The organizational structure of the task force team for the clinical practice phase was different from the preclinical phase. Because of the complexity of the learning activities at the clinical practice phase, it was decided that the task force team should consist of a consultant (acting as chairperson or leader), deputy (treasurer), the technical team

from the four health professions, and administrative staff. The leader of the IPE team was chosen by the dean and other team members were subsequently chosen by the leader. To perform its duty, the task force team was assisted by a module development team, which consisted of various expert lecturers and also lecturers from the medical education unit. The team then had meetings and coordination events to develop and design modules and learning triggers, the learning method, the involvement of real and simulated patients as the trigger, the learning activities schedule, assessment, infrastructure, facilities, and so on.

Besides considering the complexity of each disease, the selection of diseases to be developed as modules was also based on their impact on society, that is, diseases with high morbidity and mortality rates in Indonesia. Based on its discussions and findings, the task force team decided on which diseases or conditions should be learning triggers on a modular basis, such as DM, HIV/AIDS, endemic goiter, drug abuse, trauma, stroke, osteoarthritis, infectious disease (pulmonary tuberculosis, malaria, leptospirosis), and abortion. The team agreed to develop the first six modules in such a way as to involve dentistry. A team appointed by the chairperson and approved by the task force team developed the modules. Since the students involved in the IPE pilot were used to interacting with and managing patients as part of their clinical education in the hospital, the task force team agreed to work with real patients as well as simulated patients, with a higher priority given to real patients. Scenarios were also used for certain cases such as trauma.

The development of the modules, which consisted of module overview, learning objectives, the role of each health profession (clinical pathway), scenario (if any), assessment, facilities, and schedule of activities, required some intensive coordination among health professions to enable the learning trigger to stimulate interprofessional discussion among the health professions involved. Frequent and regular meetings for coordination were necessary and important. Once the module development was completed a workshop was held, attended by lecturers from several related sections, resulting in enhancements before implementation.

The IPE pilot in the clinical practice phase lasted a week and was worth one credit. It was conducted within the clinical practice rotation in general medicine, in conjunction with the family medicine stage for nursing. The dentistry students involved in the pilot were in their clinical practice phase at Asri Medical Center and PKU Muhammadiyah Hospital. Because the senior students of pharmacy were still in the third year, the IPE trial in the clinical practice phase involved pharmacy

students but they were still in their preclinical (theoretical) stage. As it was thought that pharmacy students should not miss too much of their regular training, they were only required to attend specific IPE activities such as bedside teaching and tutorials. The period of learning activity for the IPE pilot was one week, and most of the activities started at 1pm to allow for the schedule of clinical rotation of the students. Interprofessional teaching and learning activities were conducted in the same period during the family medicine rotation, that is, while students were working at the primary health service (Puskesmas). They had their clinical rotation in the morning and their IPE at Asri Medical Center (AMC) in the afternoon.

The total number of FKIK UMY students who attended the pilot from December 2012 to July 2013 was 379: 121 general medical students, 105 dentistry students, 114 nursing students and 39 pharmacy students. Because of the small number of pharmacy students, every pharmacy student spent, beside teaching and tutorials, three periods on different modules during this time in order that there was a balanced number of each profession for every activity.

The pilot interprofessional learning activities started with didactic lectures on the first day. The topics were: introduction to IPE, the role of each health profession in managing patients, communication between health professionals, the technical explanation of IPE, and also explanation of the assessment of IPE. The objective of the introduction to IPE lecture was to help the students understand the concepts and principles of IPE, as well as their role in the practice of teamwork. The lecture on the role of each health profession aimed to help the students understand the role of their profession and other professions in a collaborative context when interacting with patients, so it was linked with the appropriate competencies that must be mastered in order to improve the ability to cooperate. The objective of the health interprofessional communication lectures was to develop the interprofessional communication competency of students so that they could develop effective communication among the health professions, have the ability to negotiate problems faced by the patient according to the perspective of their profession, and be able to manage an effective meeting and/or interaction between professions.

On the second or third day, students participated in bedside teaching (BST) with real patients and were mentored by clinical lecturers from the four professions. In every BST session, students from each profession were accompanied by one lecturer. The aim of the BST session was that the students should learn the role of each health profession (clinical

pathway) or, in other words, share roles between the health professions. Informed consent was obtained from the patients in advance by general medical students before the interaction with each health profession. General medicine was the first profession to carry out the BST, in order to provide a clinical trigger for other professions who watched through an observation room. Nursing students became the second profession to carry out the BST, learning to perform the appropriate role for the patient, that is, providing nursing care for the patient's disease or condition. If the case that was used as a learning trigger involved the profession of dentistry, then dentistry students carried out the task of identifying the patient's teeth and mouth problems and also identifying the solution (therapy). Lastly, the profession of pharmacist carried out the BST to carry out pharmacy care and to provide information to the patient about drugs, including side-effects and drug-related problems (DRP). When students from one profession conducted BST, students from the other professions observed the interactions from another room (either with a one-way mirror or through CCTV).

On the fourth day, a *small group discussion* or tutorial was conducted to discuss the problems faced by the patients who had been involved in BST. The aim of the tutorial was to enable the students to *share knowledge* and to develop effective communication amongst the health professions, with BST patient cases being the *trigger*. In this tutorial, students identified and analysed the problems of the patients, determined the appropriate solutions or treatment alternatives from the perspective of each profession, and then negotiated with the other professions. The tutorial used the *seven jumps* modification of the PBL approach (Gijsselaers, 1995) and was facilitated by one tutor. Tutors on duty already were required to follow training for tutors (TOT) which was organized by the *task force* team of IPE.

On the fifth day, a case study was presented which aimed to set out the case in the traditional way; this was attended by expert lecturers. In the case study presentation, the students first presented a summary of the case and its analysis which had been obtained from BST and tutorials, along with relevant citations and references to scientific or evidence-based medicine (EBM). In addition, the case study presentation required a focus on the collaborative context related to the patient's problem. At the end of the case study presentation, the lecturers provided feedback to the students on the content and technique of the presentation. The case study presentation was organized by the IPE task force team.

On the sixth day of the IPE pilot, a reflection session was conducted. The aim of this session was for the students to reflect on the learning

experience of IPE for one week. The reflection could also be linked to the case which was used as the learning trigger. Besides providing beneficial feedback to the students about IPE and their future orientation as health professionals, this activity was also expected to give input to the institution to improve the technical implementation of IPE as well as the IPE learning content.

Feedback and reflection

The result of reflection demonstrated the importance of IPE, that is, the benefits of cooperation and communication between health professionals in handling patients, and sharing roles and knowledge, so that it could improve the knowledge of IPE participants. [We have permission to reproduce the quotes below.]

Here are some expressions of the feelings and thoughts of the medical students:

As a student I felt attracted to interprofessional education, because based on my experience during the following clinics, there was a lack of good communications among healthcare practitioners in hospitals and a tendency to work individually. So a program like interprofessional education is needed. I was able to learn the respective roles of the professions in pursuing the same goal, i.e. patient safety in healthcare.

The feeling... during and after I attended the program of IPE is pleasant enough, as these activities provide many positive values and benefits. By following IPE [I] can interact, discuss, and collaborate with colleagues from different health department personnel (in the fields of nursing, dentistry, and pharmacy), not only with a peer group. Interpersonal communication can be learned properly on this activity to avoid misunderstanding in handling and giving medical therapy to patients. In addition, in this activity we can share useful information and knowledge about the handling of patients, and apply the experience that has been acquired during... IPE as independent practitioners in hospitals and in other medical services places.

My feeling about the IPE experience is that it is very interesting and makes me understand how to provide the best health services for patients, so that we can apply the system of cooperation with other professions with similar purposes in which one gives the best healthcare for every patient... a follow-up will be done; this should keep IPE activities as their benefit is huge for the respective professions. However, these activities are carried out

outside the clinical practice profession, so that each phase can focus on this activity.

The following are some expressions of feelings and thoughts from dentistry students:

Activities that are performed during IPE are very interesting, providing experience and demonstrating to us the importance of cooperation among the health professions for good general medicine, dentistry, nursing and pharmacy. The expectation is none other than increasing the degree of a patient's health.

Attending the activities of...IPE for the first time became an experience as well as a challenge for me as a student because the dentistry profession must be able to team up with students of other health professions in the field of healthcare, so that patients get maximal service, supervised by the respective competent health personnel in the field, namely, general practitioners, nurses, pharmacists/pharmacy, and dentists. Thus, the healthcare and treatment of patients gets better and more secure.

IPE held this time around is very helpful in intercultural professional communication. Because of this we can communicate...IPE in accordance with their respective competencies so as to obtain comprehensive decisions for patients. Patient-specific drug abuse this time was related to HIV/AIDS, so that cases are very complex and each profession can contribute to dealing with such cases to the maximum. IPE aims to increase the quality of health services, patient satisfaction, and economic efficiency.

The following are expressions of the feelings and thoughts of nursing students:

IPE is very important, and must be applied between the health professions, so things that may threaten patient safety do not happen. Communication and collaboration between physicians, nurses, pharmacists, dentists, and other health professions must be entwined for the good of patients.

IPE learning experience is especially suitable for professional students in practical application in the clinic. By learning to collaborate early between professions, we can increase...good cooperation with fewer staff, which is ultimately expected to deliver higher quality health services to the community.

The process of learning IPE for one week had plenty of benefits for me. From the experience of...BST I came to know the divisions between doctors, nurses, dentists, and pharmacists. Each has its own role and its own responsibility

in the physical examination of the patient. Doctors focus on general studies and physical examination from head to toe, nurses focus on the study of basic human needs, dentists focus on assessment and examination of the teeth and mouth, while the focus of pharmacy is treatment... Every profession has its own role, from examination to diagnosis. In the process tutorial we can explore and discuss existing cases in patients, and what their care plans are. From these discussions we can know the importance of collaboration among health professions; communication is very important in the healing process for patients, so that things which are undesirable and detrimental to the health of the patient do not happen.

These student statements about IPE are one of the factors contributing to the decision to implement IPE as part of the formal curriculum at FKIK UMY. The university leadership took note of the following student and patient feedback about the importance of and necessity for IPE.

From medical students:

...there should be a special time used for the IPE (not only inserted as another stage), so conditioning [sic] the division of roles to take care of patients can be applied better.

IPE activities must be carried out by all students... IPE should be expected to be applied in the clinic/hospital directly and beneficially to all instead of just being discussed as a science course.

IPE needs to be given to all students of medicine and health sciences as early as possible... It is important to plan to provide education and sustainable IPE periodically on campus [at] FKIK UMY, not only in the education profession, so that early communication between disciplines is already conditioned [sic]...

From a dental student:

IPE must be implanted... early [in the] semester so that students have had an overview of collaboration with other professions to prepare them for when they are working in hospitals.

From students of nursing:

Implementation of IPE needs to be delivered at the right time because it clashed with the other activities.

IPE should be developed in each place to improve the quality of health services... To make the IPE a habit, it should be introduced early on, not only at the clinical stage but it can be taught in college before entering the profession.

Some patients with DM who had been involved with or participated in the bedside teaching interprofessional activities also expressed their feelings about the experience: Mrs M., 47 years old with dental problems and DM, and Mrs. S. K., 58 years old, who shared her experience about drug therapy.

I am very happy, because I was examined by four professions and was asked to complete a detailed program. For example, dental problems, I asked regarding dental issues in great detail... When examined by one person or one profession alone in my opinion it is incomplete, because then the question is not detailed. [It is] different to ask two or more professions. (Mrs M.)

I think the implementation of IPE has been good. The services and facilities have been very satisfactory. The method has also been good. In addition, after I became a patient of IPE, my blood sugar levels began to improve but it must take medication adjustments again. But that does not matter because the medicine I got from the IPE is perfect for me. (Mrs M.)

I am very happy, because I see there is a sense of mutual cooperation... among doctors, nurses, and [the] pharmaceutical section. (Mrs S. K.)

... very different. I prefer to be examined by four professions than one profession. For example, in the health centre, doctor's check only. Sometimes when I ask the efficacy of a given drug, the doctor did not answer, I was told to take medicine but was not told usefulness. But if there are four professions, as practised in IPE, I am so happy that I could better know in detail what exactly my disease [is], and I came to know the function of each drug... administered. (Mrs S. K.)

Mrs D. (37 years), a HIV patient, who was diagnosed with HIV in 2002, said that the implementation of IPE in FKIK UMY was very good. Mrs D. said that when she was examined by a team of four healthcare professions at once, it made for a very effective inspection and was more practical; she didn't need to repeat her story several times. If there were problems, suggestions for treatment could be directly given by four different healthcare professions at once. This circumstance made Mrs. D. feel cared for and she was delighted. She also became more aware of her health and eager to maintain it, so as not to have HIV complications:

Being checked directly by four different healthcare professions (general medical doctor, dentists, nurses, pharmacists), I feel very happy, it saves time, is more efficient, and more practical, I can freely ask the medical doctors,

the pharmacists, dentists, and nurses about my disease, and I do not need to repeat the same story to different healthcare professions (Mrs D.)

Mrs D. even said that this event was extraordinary. Imagine medical doctors and other healthcare professions spending a lot of time in this activity and waiting patiently for their turn to meet the patient. She did not think it could be easily done in another hospital.

Similar comments came from Mr A. (48 years), a teacher, suffering from tuberculosis (TB) for five years, and Mr R. (33 years), a driver, who has been suffering from DM for six years. They said that when they were invited by IPE FKIK UMY to participate in bedside teaching they also felt happy. Mr A. said that the interaction with four different healthcare professions at one time meant he did not need to return as frequently for further checks and being consulted by different healthcare professions in the same examination avoided the need to repeat answers to the same questions:

*I am very happy with the IPE program at FKIK UMY. For education, this program has been very good. I find it more efficient to me to come here. Being examined by four healthcare professions, there seemed to be a connection with each other, and I do not need to come over and over again to see different healthcare professions, because it could all be here in one visit.
(Mr A.)*

Although most patients felt comfortable interacting with the four healthcare professions working collaboratively, some patients expressed shortcomings about this process. While Mr S., a patient with HIV aged 26 years, said that being examined by four healthcare professions at a time was more practical, he also felt that certain things reduced his comfort. There were still some questions which were asked several times by different healthcare professions. According to Mr S., internal coordination is needed to overcome this. Also, Mrs D., quoted above, said that the shortcomings of the implementation of IPE in FKIK UMY were that she was always met and handled by a different medical doctor for every visit. This circumstance led to the questions which had been asked in previous visits being asked again so she had to repeat the same story over and over again. This made her less comfortable, because being handled by different medical doctors meant there was less continuity between visits. Mr D. (48 years), a patient with TB involved in bedside teaching, said that it needs good communication between healthcare professions

before they meet the patient so they do not ask the same things and work together well.

Overall, the patients believed that healthcare which is carried out collaboratively by several professions is better than healthcare which is done separately:

There are some things that could be explored more deeply. (Mr S., HIV, 26 years)

More effective, more efficient, and continuous. (Mr D., TB, 48 years)

If you go to see a doctor, sometimes the doctor hands over to other health-care professions... But in IPE, it is more practical; you'll be given advice when there are health complaints. (Mrs D., HIV, 37 years)

There were some suggestions from the patients who had been invited to the learning process in IPE FKIK UMY. According to Mr S. (HIV, 26 years), IPE goals have not been fully achieved. Mr S. said that informed consent is very important, and should be obtained at the beginning of the process. He suggested that it is necessary to build *an attachment* to the patient in order to obtain hidden information about the case. Mr S. and Mr D. also stressed the importance of communication skills, so that more students could ask questions without duplication. They would thus be able to dig deeper in eliciting information from the patients. Mrs D. (HIV, 37 years) suggested that it needs internal coordination so that the medical doctor who examines the patient is always the same for every visit, thus providing continuity of care. Furthermore, the four patients interviewed all said that they would be willing to come back for IPE FKIK UMY bedside teaching activity. They would be happy to contribute directly to IPE. According to them, this program is beneficial not only for the patient but also for the students of IPE.

Difficulties in implementation

In the implementation of the IPE pilot at the clinical stage, there were some constraints such as technical problems in scheduling the IPE activities as these sometimes *overlapped* with the ongoing regular clinical education schedule in spite of the IPE activities schedule having been set up with due regard to the clinical education schedule. The students from the different healthcare professions couldn't always be scheduled to be together at the same time, so that the learning process was sometimes carried out with the involvement of only three healthcare professionals,

or even sometimes only two. The role of the lecturer or tutor in *bedside teaching* and tutorials among the healthcare professions was not understood by all those involved. The presence of lecturers from four healthcare professions, which was scheduled for the BST and the case study presentation, couldn't always be guaranteed. These types of logistical and development problems are found frequently when IPE is implemented for the first time in an institution.

To solve these problems, the institution should implement appropriate faculty development to improve the role of tutor and clinical teacher in BST and other interprofessional learning activities. This can be done through discussion, workshops, or seminars. Involving more tutors and clinical teachers in the teaching and learning process leads to an improvement in managing the schedule.

Discussion and reflection

Thanks to the commitment of all staff, the IPE pilot at the academic stage (preclinical) and the clinical stage (professional) was implemented, and it provided a lot of valuable experience and input for the next formal implementation of IPE. However, various obstacles, mainly technical, were encountered during this pilot. Some students, especially those at the preclinical stage, couldn't attend the third tutorial activities and plenary because they still had regular unavoidable commitments. At the clinical education stage, especially for medical doctors and nurses, there were sometimes complaints from the health centre and lecturers if their students left their activities to attend IPE sessions. But this problem can be overcome by communication and coordination with the dean and also with the division of family medicine and community about the IPE activities schedule so as to minimize the possibility of *overlapping* activities. Students' interaction among health professions in teaching and learning activities such as small group discussion, laboratory skill activity, and field experience gave them a vital opportunity to share knowledge, skills, and professional roles, thus engendering mutual respect.

Implementing interprofessional education as early as possible, even from the first year at the preclinical stage, followed by an integrated curriculum throughout the academic educational process and also at the clinical stages, can cultivate positive attitudes and respect, remove barriers to communication, and improve collaboration.

Leadership in implementing IPE

Based on the experiences in implementing the IPE pilot, I (Wiwik Kusumawati) as the *chairperson of IPE* since the beginning, wish to convey to the dean that, considering the complexity of the implementation of IPE involving four healthcare professions using a variety of learning settings, I need *persons in charge* on every aspect of the task with a high commitment to the IPE program so that the IPE learning process can be realized. This commitment needs to be maintained, or even improved, if we intend to apply IPE in formal learning. Problems will not be resolved without optimizing the participation of clinical lecturers from the four healthcare professions in their roles as BST supervisors, and also the participation of the case study presentation supervisors, as students need to share professional knowledge and understanding of the roles of the healthcare professions. Technical coordination of the schedule of activities, and the role of each department of each profession in each learning activity and the assessment system, still needs to be improved and developed for better IPE implementation. In addition, a big effort is still required to engage clinical lecturers as important care providers in the health services, in order to contribute or to serve as good *role models* in *collaborative practice* among healthcare professionals.

Based on the four *leadership frames* of Bolman and Deal (2003), the implementation of IPE in FKIK UMY utilizes a combination approach between the *structural* and *human resource* frames. An approach using a combination of *multiple frames* makes it easier for the leaders to do their job because it is more flexible. The *structural frame* in the implementation of IPE requires policies at the institutional level, and the high commitment of each healthcare profession department, so that the students of each department can learn and work together. Therefore, when they graduate, healthcare professionals will have been able to establish avenues of communication and maintain effective cooperation in dealing with patients. In addition, *standard operating procedures* (SOP) are needed for each learning activity so that students and faculty have the same perception of the learning activities. The SOPs and clear guidance in the learning processes can help overcome the confusion of students and some lecturers in undergoing interprofessional learning and working. The *human resources frame* focuses on *people*, and assumes that the organization must meet the basic needs of workers as human beings. There should be a balance struck between their needs and the expectations of the organization.

Learning goals and objectives need to be tailored to the capabilities and needs of their human resources. The interest and enthusiasm of the lecturers to teach cooperation among healthcare professions need to be encouraged from the outset, so that building commitment and fostering participation in learning becomes easier. Not all lecturers are interested in implementing IPE due to a natural resistance factor or because some lecturers do not understand the background, purpose and importance of IPE. Providing such understanding is the first thing that needs to be developed through *workshops*, seminars or *informal meetings* with all lecturers from all healthcare profession departments, both in preclinical and clinical stages. They will thus be better able to play their role as healthcare educators to prepare graduates who are ready to work together effectively and improve health outcomes in the patient-centred care era.

The FKIK UMY IPE program involved four professions: doctors, nurses, dentists and pharmacists. All of these professions collaborated with each other to achieve better patient care. Developing leadership skills in certain professions, especially those related to the health field, is not an easy task. Every profession requires personal skills in leadership to lead both practitioners and the organization to develop collaboration competencies in order to produce the best service for patients. Leadership skills are crucial for health professions in their goals to build a good, solid, collaborative team and thereby to assist patients in improving their quality of life.

FKIK UMY has Asri Medical Centre (AMC) as a health centre that can support the implementation of the IPE pilot during part of the students' community medicine rotation. The students practise basic health services to enhance their professional capabilities in primary care at AMC. However, one week is perhaps too short – not enough for students to fully become aware of their professional duties in primary care and develop adequate teamwork skills. According to Thistlethwaite et al. (2013), in a review of longitudinal clinical rotations, students moving from location to location over a few weeks are unlikely to be able to build trust with supervisors, other health professionals, or the communities in which they are placed. Longer (longitudinal and integrated) placements enable students to become members of a community of practice, and develop legitimate peripheral participation and increasing responsibility as their capabilities, especially in relation to teamwork, are enhanced. Therefore, in our implementation of IPE the scheduling will be evaluated on an ongoing basis.

For the application of leadership and team-building skills, IPE FKIK UMY conducted teamwork activities such as bedside teaching, tutorials and case presentations. In the IPE pilot the principles and the importance of leadership and teamwork were taught and applied through group collaboration. Experience in generic leadership skills in individual professions will be broadly similar to that required for interprofessional collaborative practice but there are also some differences to take into account. Interprofessional experiences provide opportunities for students to collaborate with professionals from other disciplines, respecting the values and expertise of other professions, and to learn about and share in decision-making activities. Learning at the bedside, tutorials, and case presentations in the IPE pilot provided excellent experience of the application of leadership and team-working skills. Communication between health professions, as well as team-working, can be developed well during such processes. This was evidenced through the comments of students and also patients involved in the IPE pilot. The students from the four professions worked well together and this helped improve patient satisfaction. According to Lamb and Clutton (2014) citing Reason (2004), improving patient safety requires a whole-system approach, including an understanding of the nature of risk and the complexity of the interaction between the health and social care environments, health and social care professionals and the patient/client, and the potential impact on developing safe care.

Conclusion

1. In the implementation of IPE into a formal curriculum, testing or piloting at the preclinical stage and also at the clinical stage are important activities which provide benefits both in terms of technical implementation and the impact of the learning content for both students and patients.
2. Strong leadership was needed to prepare the learning content effectively so as to make it capable of being a trigger for every health-care professional involved; to manage the IPE learning process which is quite complex; and also to provide human resources in order to achieve the learning objectives.
3. Leadership facilitates the process of all stakeholders involved in understanding the background, purpose, and benefits of IPE; thus it can make a more optimal contribution to the process of education in the health services.

Reflective questions

1. Does your institution conduct IPE pilots before it is applied in the formal curriculum? What are the advantages and disadvantages of this approach?
2. How could the leadership in your institution support the implementation of IPE?
3. What are some of the obstacles that you encountered in the implementation of IPE? What is the most dominant constraint or the most difficult to overcome?
4. Did coordination among the healthcare professions and other components involved work well in overcoming these obstacles?

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