

The Implementation of Inter-Professional Education Community Curricula in Indonesian Universities

Eti Poncorini Pamungkasari^{a*}, Bulan Kakanita Hermasari^b, Endang Lestari^c, Tri Nur Kristina^d, Fatikhu Yatuni Asmara^e, Widyandana Widyandana^f, Fitriana Fitriana^g, Saekhol Bakri^h, Dian Puspita Dewiⁱ, Diana Nur Afifah^j, ^{a,b}Faculty of Medicine, Universitas Sebelas Maret, Surakarta, 57126, Indonesia, ^cFaculty of Medicine, Universitas Islam Sultan Agung, Semarang, 50112, Indonesia, ^{d,e,h,i,j}Faculty of Medicine, Universitas Diponegoro, Semarang, 50275, Indonesia, ^{f,g,d}Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta, 55281, Indonesia, Email: ^{a*}pamungkasariponcorini@yahoo.com

Nowadays, health profession educational programs should implement inter-professional education curricula in order to improve health outcomes. Values, roles and responsibilities and communication are important aspects of inter-professional healthcare collaboration, but it still becomes a challenge. However, studies on the implementation of inter-professional education curriculums in Indonesia are still limited. Therefore, this study aimed to analyse the effect of values and roles and responsibilities to health professional students' communication on inter-professional education. This study applies an observational cross-sectional study, which involves four universities located in Central Java province and Yogyakarta special region - Indonesia. A total of 970 health professional students from medical, nursing, midwifery, and nutrition programs took part in the study. Data were collected using student perceptions of inter-professional education instruments. Multiple logistic regression analysis is used for data analysis. The results show that there is no significant effect between types of the study program with communication on inter-professional education. It is very important to strengthen values and roles and responsibilities in order to improve students' communication in inter-professional education. The educational programs of the health professions should emphasise values and roles and responsibilities when designing inter-professional education curricula.

Key words: *Inter-professional education curricula, Health profession values, Roles, Responsibilities, Communication.*

Introduction

The quality of patient care could improve when members of the healthcare team work in collaboration and have an opportunity to share their unique patient care perspectives. Each profession enters into practice with different skill sets, knowledge, and professional identities to enhance the care of the patient, yet many barriers exist between disciplines that can obstruct a team-based system. These barriers include a lack of inter-professional cultural competence, perceived power differentials, and profession-centric role models. In response to these challenges, we found it essential to implement the recently developed core competencies for inter-professional collaborative practice. It is an effort to generate trust, respect, shared accountability and decision making, and effective teamwork to optimise patient care. It has been well documented that implementing collaborative inter-professional practices promotes greater patient satisfaction, improved efficiency, and enhanced job satisfaction among healthcare professionals (Green & Johnson, 2015; Körner, Göritz, & Bengel, 2015; Shrader, Kern, Zoller, & Blue, 2013). Health workers should be well prepared to work in a collaborative health team (Thistlethwaite et al., 2014). However, it is still a challenge to achieve good collaborative health profession teamwork (Behruzi, Klam, Dehertog, Jimenez, & Hatem, 2017). Students need to be prepared to work in inter-professional groups (Rhoda, Laattoe, Smithdorf, Roman, & Frantz, 2016).

The Centre for Advancement of Inter-professional Education (CAIPE) has defined “inter-professional education (IPE) as occurring when two or more professions learn with, from and about each other to improve collaboration and the quality of care” (Centre for the Advancement of Inter-professional Education, 2016). IPE teaches healthcare providers to utilise this collaborative approach in order to jointly make decisions, coordinate patient treatment, combine resources, and develop common goals. The Carnegie Foundation has published two studies that recommend that healthcare educators create new education models that teach their students not only to collaborate with one another but also to form teams with shared goals to improve patient outcomes. A team is defined as "a small group of interdependent people who collectively have the expertise, knowledge, and skills needed for a task or ongoing work." Effective teams must cultivate these critical inter-professional communication behaviours in order to achieve efficient, safe outcomes (Benner, 2012; Irby, Cooke, & Brien, 2010). IPE implementation could impact physician trainees’ self- assessed team functioning skills (Porter, 2016), and also encourage an atmosphere of collaboration among faculty and colleges (Davidson & Waddell, 2005). Students' competence in IPE implementation could be achieved by four collaborating domains, which are curricular, extracurricular, faculty development, and health care simulation (Blue, Mitcham, Smith, Raymond, & Greenberg, 2010). Students also could learn inter-professional practice through a project-based team (Rutherford, Whiting, & Smits, 2008).

Nowadays, healthcare still faces a challenge in communication among the health profession (Abd Hamid, Abdul Rasid, Maon, Mohd Hassan, & Suddin, 2016). The link between miscommunication and poor patient outcomes has been well documented. Ineffective communication in healthcare could result in delayed treatment, misdiagnosis, medical errors, patient injury, or death. Improving the effectiveness of communication in healthcare is a global priority. Literature has highlighted the importance of inter-professional training. Schools of medicine, nursing, pharmacy, and other disciplines have taken on the challenge of increasing inter-professional education experiences.

Community health issues are becoming more complex and requiring comprehensive health services in an inter-professional manner. This situation requires the training of health professional students in community-based inter-professional education to gain skills in aspects such as collaborative practice for solving community health problems (Rhoda et al., 2016). The inter-professional healthcare team is an important component of community-based healthcare services and is most effective if skills of shared understanding and mutually respectful collaboration are developed during student training (Stubbs, Schorn, Leavell, Espiritu, et al., 2017). For example, implementing IPE on community-based pandemic mass vaccination exercises (Hays et al., 2018). Therefore, community-based inter-professional education becomes an alternative design for student training. Community-based inter-professional education occurs when students from two or more health professional backgrounds learn with, from, and about each other in the community setting (Hosny, Kamel, El-Wazir, & Gilbert, 2013). In the field, students could have the opportunity for active involvement in community health profession teamwork, to learn about collaboration, teamwork and roles in the health care team within a primary health care framework (McNair, Brown, Stone, & Sims, 2001a). The other benefit of inter-professional community education is students could engage and learn about the impact of social determinants of health directly in the community setting (De Los Santos, McFarlin, & Martin, 2014), which could also foster students' confidence (Healey, Cygan, Reed, & Huber, 2018). Barriers faced by community IPE implementation are overcoming logistics and scheduling issues, large class sizes, differing ages and skill levels of students, and creating sustainability (Luebbers, Dolansky, Vehovec, & Petty, 2017).

Value, understanding, and sharing roles and responsibility as well as communication, are important aspects of inter-professional collaboration, including in community care. Communication theory explains that when building interpersonal collaborations, there are four things that should be in mind. These four things include clear collaborative goals, clear division of roles and responsibilities, communication as a vehicle for interaction and responsibility, and respectful interpersonal relationships (Asakawa et al., 2017). To ensure goals are achieved, and collaboration is built and running well, the badly needed core competency is communication. Communication barriers will cause obstacles to collaboration,

and consequently, the goal of providing patient and family-centred health services will not be achieved. The influence of ethic and values and role responsibility with communication during the community-based IPE process should be evaluated to give an idea of how the three factors interact with each other in developing collaboration.

Four health education institutions in Indonesia implemented inter-professional training conducted in the community. Students engaged in the community, explored and solved community problems with a collaborative approach. This study aims to determine the extent to which the training affected the values of inter-professional communication.

Materials and Methods

This was a cross-sectional study involving 970 subjects from four universities located at Central Java province and at Yogyakarta Special Region. These four Universities are Universitas Gadjah Mada (UGM) Yogyakarta, Universitas Sebelas Maret (UNS) Surakarta, Universitas Diponegoro (UNDIP) Semarang and Universitas Islam Sultan Agung (UNISULA) Semarang. These universities were chosen because they implemented a similar curriculum program in the IPE community. All health profession students from these four universities were involved as subjects, the total subjects was 970 . The students were selected from four studies programs, which were medicine, nursing, midwifery, and nutrition. Data were collected in the year 2018. We used students' perceptions of inter-professional education instruments to collect the data, that included some aspects. Aspects that we measured in these instruments were values, roles and responsibilities, and communication, consisting of 19 items. Examples of items to measure values are: individuals in other professions appreciate the work carried out by my profession, as do individuals in my profession appreciate other professions in the IPE team; I will be able to provide input to IPE team members without offending them . Examples of items to measure roles and responsibilities are: the health professional team can better identify family health needs and problems through the IPE approach; the community will benefit more if health teams from various professions work together. Examples of items to measure communication on IPE are: each team member can communicate ideas and opinions well; the IPE team can resolve differences of opinion without causing disputes. This instrument has been tested for its validity and reliability, with Cronbach alpha 0.95 and item-total correlation 0.47-0.72. First we measured these variables on the numeric scale, but because the data was not normally distributed for these four variables (Kolmogorov smirnov <0.001), then we recoded the numeric scores into binary data. The exception was for the study program variable, we measured the study program on the categorical scale, divided into four categories, that is, School of Medicine, School of Nursing, School of Midwifery and School of Nutrition. Logistic regression analyses were used for data analysis.

Results and Discussion

Table 1: Subject Characteristics

| Characteristic | Frequency | Percentage |
|--------------------------------|-----------|------------|
| University | | |
| Universitas Gadjah Mada | 406 | 41.9 |
| Universitas Diponegoro | 219 | 22.6 |
| Universitas Sebelas Maret | 237 | 24.4 |
| Universitas Islam Sultan Agung | 108 | 11.1 |
| Study Program | | |
| School of Medicine | 566 | 58.4 |
| School of Nursing | 135 | 13.9 |
| School of Midwifery | 143 | 14.7 |
| School of Nutrition | 126 | 13.0 |

All faculties included in this study have the same level of accreditation from the Indonesian Health Profession Education Institutions Accreditation body, that is A level, the best level of accreditation. Most of the subjects were studying the medical study program. Table 2 explains the effect of values to communication on IPE, and the effect of roles and responsibilities to communication on IPE. We did not calculate the odds ratio for estimating the effect of the study program to communication on IPE, because we did not measure the study program on the binary categorical scale.

Table 2: Bivariate Analysis: Values, Roles and Responsibilities, Study Program and Communication on IPE

| Variable | OR | p | CI 95 % | |
|----------------------------|------|--------|-------------|-------------|
| | | | Lower bound | Upper bound |
| Values | 7.19 | <0.001 | 5.41 | 9.54 |
| Roles and responsibilities | 8.61 | <0.001 | 6.42 | 11.55 |
| Study program | | 0.008 | | |

Table 3: Multiple Logistic Regression Analysis: Values, Roles and Responsibilities, Study Program and Communication on IPE

| Variable | B | OR | p | CI 95 % | |
|----------------------------|-------|-------|--------|-------------|-------------|
| | | | | Lower bound | Upper bound |
| Constanta | | -1.40 | | | |
| Values | 1.28 | 3.59 | <0.001 | 2.59 | 4.95 |
| Roles and responsibilities | 1.56 | 4.78 | <0.001 | 3.45 | 6.62 |
| Study program | -0.08 | 0.93 | 0.268 | 0.81 | 1.06 |
| Hosmer and lemeshow test | | | 0.772 | | |

From Table 3, it can be seen that good values could improve good communication on inter-professional education significantly ($p < 0.001$, $OR = 3.59$), and good roles and responsibilities could improve good communication on inter-professional education significantly ($p < 0.001$, $OR = 4.78$). There is no significant effect between types of study program with communication on inter-professional education ($p = 0.268$). The Hosmer Lemeshow test result of 0.772 means that this logistic model is fit, and the Nagelkerke R Square of 35,7 means that values, roles and responsibilities and study program together will affect communication on inter-professional education as 35,7 %.

Inter-professional education implementation could increase health care quality because it will foster collaboration. Good health care quality could decrease medical errors (WHO, 2010). On the other hand, good collaboration practice could decrease medical financing in health care (Hardin, Kilian, & Spykerman, 2017). A previous study found that health care workers that graduated from educational institutions that implement IPE in their curricula have better collaboration skills than others that do not graduate from IPE curricula (Wilhelmsson, Svensson, Timpka, & Faresjö, 2013). This importance of IPE indicates that health education institutions should put IPE into their curricula. Some benefits of IPE implementation are providing the opportunity for health profession students to share knowledge and experience, develop inter-professional thinking, and accustom students to work in multi-professional teamwork. Implementation of IPE curricula could improve students' communication as well as collaboration, role and responsibilities, the collaborative patient and family-centred approach, conflict management and resolution, and team functioning significantly (Baker & Durham, 2013). Another previous study stated that IPE implementation could foster students' knowledge, attitudes, and behaviour towards working with other professions (McElfish et al., 2018). Building capability on communication could lead health profession teamwork into better inter-professional collaboration (Asakawa et al., 2017). However, coordination and harmonisation between more than two study programs is still a barrier in implementing IPE curricula (Homeyer, Hoffmann, Hingst, Oppermann, & Dreier-Wolfgramm, 2018). Another barrier in IPE implementation is poor communication (Carney et al., 2019). Until now, it has not been easy to build good communication between the various health professions, for example, between doctors and nurses. Doctors and nurses are often faced with stressful situations and long years of prevailing stereotypes or cultures, which would have an impact on their relationships (Ashworth, 2000; Price, Doucet, & Hall, 2014; Tan, Zhou, & Kelly, 2017). Doctors and nurses are trained differently, and they have a different style of communication (Foronda, MacWilliams, & McArthur, 2016). Each health profession has its own culture includes values, beliefs, attitudes, customs, and behaviours, and it could be a challenge to effective inter-professional teamwork (Hall, 2005). This different culture is still a strong barrier to implementing IPE (Visser, Ket, Croiset, & Kusurkar, 2017). To overcome this condition, all health professional educational institutions around the world would like to

implement IPE curricula in order to improve communication and interaction between future health care workers (Fallatah, 2016).

Values about IPE have an influence on students' communication on IPE. The previous study found that IPE community implementation could foster personal values (Ahmad, Bahri Yusoff, Zahiruddin Wan Mohammad, & Mat Nor, 2018). IPE implementation could minimalise the gap or distance between health profession students that actually exist. Students from various health professions can interact with each other. Teaching health profession students together in the IPE group is one strategy in order to reach better collaboration and communication in the future (Rosenthal, Gravrand, & Lisi, 2019). Community IPE curricula implementation could improve students' understanding of the value in inter-professional teamwork (McNair, Brown, Stone, & Sims, 2001b; Stubbs, Schorn, Leavell, Wong, et al., 2017). It would increase the value of students' knowledge about their profession's role in inter-professional work (Buff et al., 2015) and team functioning (Randita, Widyandana, & Claramita, 2019).

Roles and responsibilities could affect students' communication. Indonesia has issued some laws on health profession practices, namely Undang Undang Negara Republik Indonesia number 36 year 2014 about Health Care Workers, Undang-undang Negara Republik Indonesia number 29 year 2004 about Medical Practices, Undang-undang Negara Republik Indonesia number 4 year 2019 about Midwifery Practices, Undang-undang Negara Republik Indonesia number 38 year 2014 about Nursing Practices. One of these laws states that health care workers consist of medical workers (general practitioners, dentists, specialists), clinical psychologists, nurses, midwives, pharmacists, community health workers, environmental health workers, nutritionists, physical therapists, medical technician workers, biomedical technician workers, traditional health workers and others (Negara Republik Indonesia, 2006, 2014a, 2014b, 2019). Students could learn from these laws, about the roles and responsibilities of each health profession. Besides, in some health institution education programs, for example, Universitas Sebelas Maret, students are given lectures about health professions identity, so this could facilitate students to develop knowledge about the roles and responsibilities of their own profession and other health professions. Previous studies state that working with another profession could bring an opportunity to medical students to understand their community and the community's comprehensive roles of other professions, and reflect on their own roles (Haruta & Yamamoto, 2019).

There is no significant effect between types of the study program with communication on inter-professional education. The implementation of the IPE curriculum is still developing around the world, and challenges about scheduling are still faced by the health education institutions. IPE can occur for two or more study programs, and each study program already has their own curricula and time schedule. This difficulty with scheduling could have an



effect, which is the lack of students' interaction and communication, because it is difficult to meet each other during their own busy schedules. However, in this study, the health profession educational background does not have an influence on students' communication. Students from different study programs still have the opportunity to interact and communicate with each other, although maybe indirectly. They could interact via several media, for example, whatsapp group, email, or other. On the other hand, all universities collaborated in this study to provide lectures about roles and responsibilities to their students. We suggest that if students have enough and clear understanding of roles and responsibilities, it will minimalise communication problems between them. Also, effective and successful IPE implementation needs administrative support, inter-professional programmatic infrastructure, committed faculty, and the recognition of student participation (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011). Student collaboration could be challenging because of various schedule demands, and the students often begin the project without an understanding of the contribution that each discipline makes to the task (Isibel et al., 2018).

The limitation of this study is that, although the four universities have a similar design in community-based IPE curricula, there is still variation in detail, such as, differences in the duration of the program and steps on IPE design at each university. The program takes one semester at one university, for example, but takes two semesters or even three weeks at other universities.

Conclusion

Values, roles and responsibilities have an influence on student communication in IPE. The study program has no influence on student communication in IPE. It is very important to strengthen values and roles and responsibilities in order to improve students' communication in inter-professional education. Health professions education programs should emphasise values and roles and responsibilities when designing inter-professional education curricula. Future studies need to explore factors that could affect values and roles and responsibilities on community-based IPE.

Conflict of Interest

We would like to declare that there is no conflict of interest.

Acknowledgment

We would like to give gratitude for Indonesian Ministry of Higher Education and Research, for funding of this research on Indonesian Collaboration Research Scheme; Rector of Universitas Sebelas Maret Surakarta, Rector of Universitas Diponegoro Semarang, Rector of



International Journal of Innovation, Creativity and Change. www.ijicc.net
Volume 13, Issue 5, 2020

Universitas Gadjah Mada Yogyakarta and Rector of Universitas Islam Sultan Agung Semarang for support on this research.

REFERENCES

- Abd Hamid, N. Z., Abdul Rasid, S. Z., Maon, S., Mohd Hassan, N., & Suddin, L. S. (2016). Interprofessional Communication and Interprofessional Collaboration (IPC) among Health Care Professionals (pp. 427–433). <https://doi.org/10.15405/epsbs.2016.11.02.38>
- Ahmad, A., Bahri Yusoff, M. S., Zahiruddin Wan Mohammad, W. M., & Mat Nor, M. Z. (2018). Nurturing professional identity through a community-based education program: medical students experience. *Journal of Taibah University Medical Sciences*, 13(2), 113–122. <https://doi.org/10.1016/j.jtumed.2017.12.001>
- Asakawa, T., Kawabata, H., Kisa, K., Terashita, T., Murakami, M., & Otaki, J. (2017). Establishing community-based integrated care for elderly patients through interprofessional teamwork: A qualitative analysis. *Journal of Multidisciplinary Healthcare*, 10, 399–407. <https://doi.org/10.2147/JMDH.S144526>
- Ashworth, P. (2000). Nurse – doctor relationships : conflict , competition or. *Intensive and Critical Care Nursing*, 127–128.
- Baker, M. J., & Durham, C. F. (2013). Interprofessional education: A survey of students' collaborative competency outcomes. *Journal of Nursing Education*, 52(12), 713–718. <https://doi.org/10.3928/01484834-20131118-04>
- Behruzi, R., Klam, S., Dehertog, M., Jimenez, V., & Hatem, M. (2017). Understanding factors affecting collaboration between midwives and other health care professionals in a birth center and its affiliated Quebec hospital: A case study. *BMC Pregnancy and Childbirth*, 17(1), 1–14. <https://doi.org/10.1186/s12884-017-1381-x>
- Benner, P. (2012). Educating nurses: A call for radical transformation-How far have we come? *Journal of Nursing Education*. <https://doi.org/10.3928/01484834-20120402-01>
- Blue, A. V, Mitcham, M., Smith, T., Raymond, J., & Greenberg, R. (2010). Changing the future of health professions: Embedding interprofessional education within an academic health center. *Academic Medicine*, 85(8), 1290–1295. <https://doi.org/10.1097/ACM.0b013e3181e53e07>
- Bridges, D. R., Davidson, R. A., Odegard, P. S., Maki, I. V, & Tomkowiak, J. (2011). Interprofessional collaboration: Three best practice models of interprofessional education. *Medical Education Online*, 16(1). <https://doi.org/10.3402/meo.v16i0.6035>
- Buff, S. M., Jenkins, K., Kern, D., Worrall, C., Howell, D., Martin, K., ... Blue, A. (2015). Interprofessional service-learning in a community setting: findings from a pilot study. *Journal of Interprofessional Care*, 29(2), 159–161. <https://doi.org/10.3109/13561820.2014.934956>



- Carney, P. A., Thayer, E. K., Palmer, R., Galper, A. B., Zierler, B., & Eiff, M. P. (2019). The benefits of interprofessional learning and teamwork in primary care ambulatory training settings. *Journal of Interprofessional Education and Practice*, 15(March), 119–126. <https://doi.org/10.1016/j.xjep.2019.03.011>
- Centre for the Advancement of Interprofessional Education. (2016). *CAIPE: Interprofessional Education Guidelines 2016*. Centre for the Advancement of Interprofessional Education Founded, 26.
- Davidson, R. A., & Waddell, R. (2005). A historical overview of interdisciplinary family health: A community-based interprofessional health professions course. *Academic Medicine*. <https://doi.org/10.1097/00001888-200504000-00005>
- De Los Santos, M., McFarlin, C. D., & Martin, L. (2014). Interprofessional education and service learning: A model for the future of health professions education. *Journal of Interprofessional Care*, 28(4), 374–375. <https://doi.org/10.3109/13561820.2014.889102>
- Fallatah, H. I. (2016). Introducing interprofessional education in curricula of Saudi health science schools: An educational projection of Saudi Vision 2030. *Journal of Taibah University Medical Sciences*. Elsevier Ltd. <https://doi.org/10.1016/j.jtumed.2016.10.008>
- Foronda, C., MacWilliams, B., & McArthur, E. (2016). Interprofessional communication in healthcare: An integrative review. *Nurse Education in Practice*. Elsevier Ltd. <https://doi.org/10.1016/j.nepr.2016.04.005>
- Green, B. N., & Johnson, C. D. (2015). Interprofessional collaboration in research, education, and clinical practice: working together for a better future. *Journal of Chiropractic Education*, 29(1), 1–10. <https://doi.org/10.7899/jce-14-36>
- Hall, P. (2005). Interprofessional teamwork: Professional cultures as barriers. *Journal of Interprofessional Care*, 19(SUPPL. 1), 188–196. <https://doi.org/10.1080/13561820500081745>
- Hardin, L., Kilian, A., & Spykerman, K. (2017). Competing health care systems and complex patients: An interprofessional collaboration to improve outcomes and reduce health care costs. *Journal of Interprofessional Education and Practice*, 7, 5–10. <https://doi.org/10.1016/j.xjep.2017.01.002>
- Haruta, J., & Yamamoto, Y. (2019). Realist approach to evaluating an interprofessional education program for medical students in clinical practice at a community hospital. *Medical Teacher*. <https://doi.org/10.1080/0142159X.2019.1665633>



- Hays, A., Schriever, C., Rudzinski, J., Lynch, J. L., Genrich, E., & Schriever, A. (2018). Fostering Interprofessional Education Through a Multidisciplinary, Community-Based Pandemic Mass Vaccination Exercise, 108(3), 358–361. <https://doi.org/10.2105/AJPH.2017.304240>
- Healey, W. E., Cygan, H. R., Reed, M., & Huber, G. (2018). Physical Therapist Student, Nursing Student, and Community Partner Perspectives of Working Together in a Chicago Neighborhood After-School Program. *Journal of Physical Therapy Education*, 32(2), 191–198. <https://doi.org/10.1097/jte.0000000000000033>
- Homeyer, S., Hoffmann, W., Hingst, P., Oppermann, R. F., & Dreier-Wolfgramm, A. (2018). Effects of interprofessional education for medical and nursing students: Enablers, barriers and expectations for optimizing future interprofessional collaboration - a qualitative study. *BMC Nursing*, 17(1), 1–10. <https://doi.org/10.1186/s12912-018-0279-x>
- Hosny, S., Kamel, M. H., El-Wazir, Y., & Gilbert, J. (2013). Integrating interprofessional education in community-based learning activities: Case study. *Medical Teacher*, 35(SUPPL. 1). <https://doi.org/10.3109/0142159X.2013.765550>
- Irby, D. M., Cooke, M., & Brien, B. C. O. (2010). Calls for Reform of Medical Education by the Teaching: 1910 and 2010. *Academic Medicine: Journal of the Association of American Medical Colleges*, 85(2), 220–227.
- Isibel, D., Bennington, L., Boshier, M., Stull, S., Blando, J., & Claiborne, D. (2018). Building interprofessional student teams for impactful community service learning. *Journal of Interprofessional Education and Practice*. Elsevier. <https://doi.org/10.1016/j.xjep.2018.07.002>
- Körner, M., Göritz, A. S., & Bengel, J. (2015). Healthcare professionals' evaluation of interprofessional teamwork and job satisfaction / Evaluation der Teamarbeit und der Arbeitszufriedenheit von Gesundheitsfachberufen. *International Journal of Health Professions*, 1(1), 5–12. <https://doi.org/10.2478/ijhp-2014-0006>
- Luebbers, E. L., Dolansky, M. A., Vehovec, A., & Petty, G. (2017). Implementation and evaluation of a community-based interprofessional learning activity. *Journal of Interprofessional Care*, 31(1), 91–97. <https://doi.org/10.1080/13561820.2016.1237936>
- McElfish, P. A., Moore, R., Buron, B., Hudson, J., Long, C. R., Purvis, R. S., ... Warmack, T. S. (2018). Integrating Interprofessional Education and Cultural Competency Training to Address Health Disparities. *Teaching and Learning in Medicine*, 30(2), 213–222. <https://doi.org/10.1080/10401334.2017.1365717>



- McNair, R., Brown, R., Stone, N., & Sims, J. (2001b). Rural interprofessional education: Promoting teamwork in primary health care education and practice. *Australian Journal of Rural Health*, 9, 19–26. <https://doi.org/10.1046/j.1440-1584.9.s1.9.x>
- Negara Republik Indonesia. (2006). UU No. 29 Tahun 2004 Tentang Praktik Kedokteran, 157–180.
- Negara Republik Indonesia. (2014a). Undang-Undang Republik Indonesia Nomor 36 Tahun 2014 Tentang Tenaga Kesehatan. Menteri Hukum Dan Hak Asasi Manusia Republik Indonesia.
- Negara Republik Indonesia. Undang undang no 38 tahun 2014 tentang Keperawatan (2014).
- Negara Republik Indonesia. Undang-Undang Republik Indonesia Nomor 4 tahun 2019, Kebidanan Undang-Undang Republik Indonesia Nomor 4 Tahun 2019 § (2019). Retrieved from NDANG-UNDANG REPUBLIK INDONESIA NOMOR 4 TAHUN 2019
- Porter, L. A. (2016). Physician Trainee Collaborative Competency after Exposure to Interprofessional Education: A Quasi-Experimental Study Dissertation Manuscript Submitted to Northcentral University Graduate Faculty of the School of Education in Partial Fulfillment of the Re, (December).
- Price, S., Doucet, S., & Hall, L. M. G. (2014). The historical social positioning of nursing and medicine: Implications for career choice, early socialization and interprofessional collaboration. *Journal of Interprofessional Care*. <https://doi.org/10.3109/13561820.2013.867839>
- Randita, A. B. T., Widyandana, W., & Claramita, M. (2019). IPE-COM: A pilot study on interprofessional learning design for medical and midwifery students. *Journal of Multidisciplinary Healthcare*, 12, 767–775. <https://doi.org/10.2147/JMDH.S202522>
- Rhoda, A., Laattoe, N., Smithdorf, G., Roman, N., & Frantz, J. M. (2016). Facilitating community-based interprofessional education and collaborative practice in a health sciences faculty: Student perceptions and experiences. *African Journal of Health Professions Education*, 8(2), 225. <https://doi.org/10.7196/ajhpe.2016.v8i2.846>
- Rosenthal, B., Gravrand, H., & Lisi, A. J. (2019). Interprofessional collaboration among complementary and integrative health providers in private practice and community health centers. *Journal of Interprofessional Education and Practice*, 15(February), 70–74. <https://doi.org/10.1016/j.xjep.2019.02.007>
- Rutherford, G., Whiting, R., & Smits, H. (2008). Experiences of undergraduate education students in an interprofessional course. In *Journal of Educational Thought* (Vol. 42, pp. 321–337).



- Shrader, S., Kern, D., Zoller, J., & Blue, A. (2013). Interprofessional teamwork skills as predictors of clinical outcomes in a simulated healthcare setting. *Journal of Allied Health*, 42(1).
- Stubbs, C., Schorn, M. N., Leavell, J. P., Espiritu, E. W., Davis, G., Gentry, C. K., ... Wilkins, C. H. (2017). Implementing and evaluating a community-based, inter-institutional, interprofessional education pilot programme. *Journal of Interprofessional Care*, 31(5), 652–655. <https://doi.org/10.1080/13561820.2017.1343808>
- Tan, T. C., Zhou, H., & Kelly, M. (2017). Nurse–physician communication – An integrated review. *Journal of Clinical Nursing*. <https://doi.org/10.1111/jocn.13832>
- Thistlethwaite, J. E., Forman, D., Matthews, L. R., Rogers, G. D., Steketee, C., & Yassine, T. (2014). Competencies and frameworks in interprofessional education: A comparative analysis. *Academic Medicine*, 89(6), 869–875. <https://doi.org/10.1097/ACM.0000000000000249>
- Visser, C. L. F., Ket, J. C. F., Croiset, G., & Kusurkar, R. A. (2017). Perceptions of residents, medical and nursing students about Interprofessional education: A systematic review of the quantitative and qualitative literature. *BMC Medical Education*, 17(1), 1–13. <https://doi.org/10.1186/s12909-017-0909-0>
- WHO. (2010). Framework for Action on Interprofessional Education & Collaborative Practice. *Practice*, 1–63. <https://doi.org/10.1111/j.1741-1130.2007.00144.x>
- Wilhelmsson, M., Svensson, A., Timpka, T., & Faresjö, T. (2013). Nurses' views of interprofessional education and collaboration: A comparative study of recent graduates from three universities. *Journal of Interprofessional Care*, 27(2), 155–160. <https://doi.org/10.3109/13561820.2012.711787>