

## Review Article

# Indonesia health care system and Asean economic community

Joko Gunawan<sup>1</sup>, Yupin Aunguroch<sup>2\*</sup>

<sup>1</sup>PhD Student, Faculty of Nursing, Chulalongkorn University in Bangkok, Thailand

<sup>2</sup>Associate Professor, Faculty of Nursing, Chulalongkorn University in Bangkok, Thailand

**Received:** 13 May 2015

**Revised:** 14 May 2015

**Accepted:** 05 June 2015

### \*Correspondence:

Dr. Yupin Aunguroch,

E-mail: [yupin.a@chula.ac.th](mailto:yupin.a@chula.ac.th)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial

### ABSTRACT

ASEAN Economic Community (AEC) is a trend issue among ten member countries, including Indonesia. AEC is expected to bring ten member countries close together. To the success of AEC, Indonesia has a role in promoting trade areas and service across boundaries. However, the profile of the countries is needed in order to learn, work, and collaborate among member countries. Therefore, this paper aims to describe Indonesian country, its health system, the production and distribution of health professionals, and some concerns related to AEC.

Indonesia, with its population of over 250 million, has health problems and challenges related to health care system. Nowadays, Indonesia is in the process of effective decentralization and in the effort of achieving Universal Health Coverage. Indonesia has made some progress in increasing the life expectancy, and the maternal and infant mortality rate is dropped compared to previous years. In improving healthcare service, Indonesia has been increased the number of health professionals to meet the growth demand. However, the gap of number of physician and nurses still exist. Unequal distribution and shortage of physician and nurses are the major concerns, including the surplus of nurses. Indonesian government proposes the program of worker contract scheme or *Pegawai Tidak Tetap* (PTT) to solve unequal distribution of health professionals, and provide the program for nurse mobility to migrate to other countries such as Japan, United Emirate Arab (UEA), Kuwait, the Netherlands, Great Britain, Brunei, and other Middle East countries to decrease the number of surplus.

However, AEC, by looking at this challenges, is expected to improve health care system and service in Indonesia, and close the gap by collaborating among ten ASEAN member countries through 4 modes of AEC consisting of cross border supply, consumption abroad, commercial presence, and movement of natural persons.

**Keywords:** Indonesia, Health Care System, AEC, Nurse, Physician, and Mobility

### INTRODUCTION

To transform ASEAN into a single market production base, a highly competitive economic region, a region of equitable economic development, and a region fully integrated into the global economy are the four pillars of ASEAN Economic Community (AEC).<sup>1</sup> Involving seven professions (medical doctor, dentist, surveyor, architect, accounting, engineer, and nurse) under Mutual Recognition Arrangement (MRA) to have a free movement among ASEAN countries seems to be very challenging, especially for health professionals such as nurse, physician, and dentist.<sup>2</sup> Indonesia, one of ten member countries, has a role to the success of AEC particularly to

promote free trade and service across boundaries.<sup>3</sup> Therefore, preparing health care system and service as well as human resource on health (HRH) is seen to be a must in Indonesia. However, in order to learn, share, work, and collaborate among ten member countries, we need to know the profiles of ten ASEAN countries, especially for Indonesia. The aim of this paper is to provide knowledge about health care system and service of Indonesia including demographic and geographic data to explain the country profile, the context of nurses and physician, and some concern related to AEC. Through this paper, it is expected that health professionals in ASEAN countries may gain insight working in Indonesia.

### Indonesian Country and Health Profile

Indonesia is a country geographically located in Southeast Asia, archipelago between the Indian and Pacific Ocean. It is approximately 17,508 islands and administratively divided into 33 provinces and approximately 500 districts. There are five major islands in Indonesia consisting of Sumatera, Java, Kalimantan, Sulawesi and Irian Jaya or Papua bordering with Papua New Guinea. Indonesia has many ethnics group and more than 700 languages are used.<sup>4</sup> Indonesia is the world's largest Muslim country, but strongly espouses freedom of religion. Hindu, Christian or Buddhist is small sections. Indonesia's motto of 'strength in diversity' reflects the Republic's multiculturalism.<sup>5</sup> Despite the diversity of cultures, Indonesia is united by one language, *Bahasa Indonesia*, and by the national philosophy of *Pancasila*, based on belief in God, humanism, universal justice, national unity and democracy.<sup>6</sup>

Demographically, the number of population in Indonesia in 2014 is 253,609,643 with 0.95% population growth rate per year.<sup>4</sup> It is gradually increased when compared to the population in 2010 that 237,641,326 people. The increasing number of people in Indonesia might bring unfavorable impact, the burden of development, including development in health.<sup>7</sup>

Age structure of population can be depicted graphically in the form of the population pyramid, which males shown on the left and females on the right (See Figure 1). This pyramid shows the population also by age group. It can be seen that the large group of population is young population (0-14 years) although the birth rate 17.04 births/1,000 population in 2014 is lower than the birth rate in 2012, which was 17.76%. That number tells the needs to invest more in schools. Meanwhile, the rapid growth of population from 25-59 years, which is a working group that indicates the needs to provide more job opportunities; and the high percentages ages 65 and over need to invest more in health sector.<sup>4</sup>

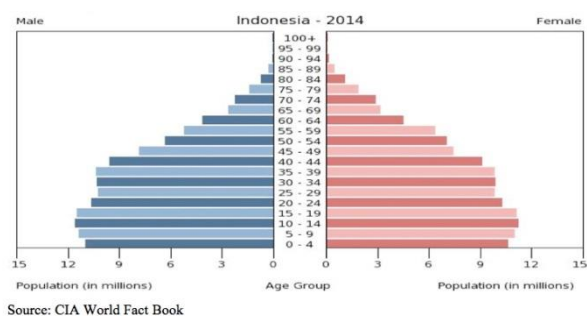
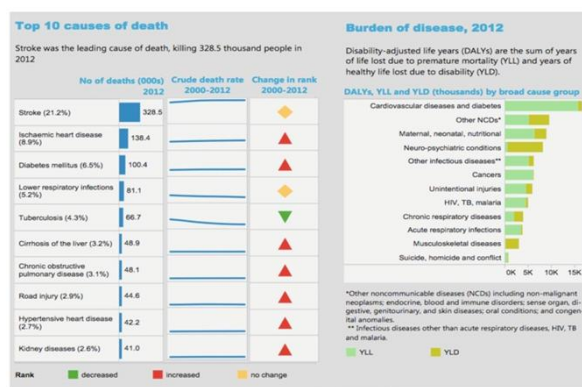


Figure 1: Pyramid of Indonesian Population.

Indonesia has achieved substantial and sustained progress in increasing life expectancy at birth rate, which is increased from 71.05 in 2010 to 72.17 years (male: 69.59 years and female: 74.88 years) in 2014.<sup>4</sup> It shows the better overall quality of life in the country. The infant

mortality rate also has fallen greatly from 62 deaths/1,000 live births in 1990 to 25.16 deaths/1,000 live births in 2014 (male: 29.45 deaths and female: 20.66 deaths/1,000 live births); and maternal mortality rate made some progress from 600 deaths in 1990 to 220 deaths/100,000 live births in 2010. Nonetheless, the government of Indonesia needs to work harder in decreasing the rate of infant mortality and maternal mortality.<sup>4</sup>

On the other hand, non-communicable diseases (NCDs) are becoming a major problem and an additional challenge for Indonesia, followed by communicable disease. This added burden of disease, associated with high levels of life lost due to premature mortality and disability, and it tells a need to further impoverishment. It could be seen in the Figure 2 that stroke is a leading cause of death, followed by ischemic heart disease, diabetes mellitus, lower respiratory infectious, and tuberculosis as five of the top ten causes of death in Indonesia; and cardiovascular disease and diabetes are the first burden of disease by using Disability-adjusted life years (DALYs).<sup>8</sup>



Source: WHO, last updated: January 2015

Figure 2: Top 10 Causes of death and burden of disease.

### Health Care System of Indonesia

Indonesia is engaged in the process of ensuring effective decentralization, which is implemented since 2001 to district level. Decentralization is the process of delegating authority from central government to local government. The type of decentralization is the implementation of the regional autonomy, which is widely given to the local government of regency and a city. Through decentralization, it is expected that government can improve health services as well as the welfare of the community as is stated in Law No. 32 of 2004 on Regional Government of Indonesia.<sup>9</sup> On the other hand, to achieve Universal Health Coverage (UHC), the population of Indonesia covered by health insurance is approximately 60%. It remains low compared to Thailand that covers entire population by social health insurance (SHI), and Malaysia that technically the entire population can use public health services funded via general taxation and low user charges.<sup>10</sup> However, the key financial

constraint to achieve UHC is low level of government spending and overall spending on health.<sup>11</sup> Indonesia relatively spends little on health services. Indonesia allocated 3% (less than 5%) of the gross domestic product (GDP) as expenditure on health in 2012; and Out of Pocket (OOP) is 45%. The World Health Organization argues that it is very difficult to achieve UHC if OOP as a percentage of total health spending is equal or greater than 30%.<sup>11</sup> Government needs to consider the health budgets to not only achieve, but also maintain of UHC. However, Indonesian government rolled out the *Badan Penyelenggara Jaminan Sosial (BPJS) Kesehatan* on January 1, 2014 with the aim of reaching the entire population of Indonesia by January 2019.<sup>12</sup>

### ***The Context of Physician and Nurse in Indonesia***

Most of developing countries, including Indonesia face the challenge of increasing the stock of trained health workers to meet growing demands.<sup>13</sup> Indonesia expands the number of medical school from 40 schools in 2001 to 72 schools in the provincial capital city in 2011 due to low capacity of acceptance, which is approximately 4,700 new students while received 80,000 applicants. By this expansion, in the period 2008-2010, the production was approximately 9,000 physicians. Meanwhile, Indonesia also increases the numbers of other health schools such as 27 dentistry schools, 728 midwifery schools, and 733 nursing schools. This represents a large increase over previous years. The total number of midwives has increased from around 80,000 in 2008 to almost 116,000 in 2011. This increase has been faster than the increase in the total population.<sup>14</sup> It is the same situation as the production of nurses, approximately 30,000 nurses per year.<sup>15</sup> However, despite increases the supply of physicians and nurses, there are different challenges between these two professions.

### ***Physician Context***

Although the supply of physician is increased, there is a gap between production and requirement, which the government target is to achieve 1 physician per 1,000 nationally by 2019 as recommended by WHO.<sup>16</sup> The gap is shown in the Table 1 that the gap number of physician approximately 43,162 in 2014, followed by estimated gap of 182,173 in 2017, and 230,813 in 2025. Therefore, the government needs to invest in improving the production capacity.

**Table 1: Estimated projection of physicians required.**

	2014	2019	2025
Target (per 1,000)	0.48	0.96	1.12
Required number of physicians	117,511	248,100	306,005
Gap	43,162	182,173	230,813
Production capacity	21,915	36,525	43,830

Source: BPPSDM 2011<sup>16</sup>

In line with this, another thing that needs to address is unequal distribution of medical doctors as well as nurses. There are only 4 provinces (DKI Jakarta, Yogyakarta, Bali, and North Sulawesi) of 33 provinces have WHO recommended ratio of 1 physician per 1,000 population. The other 29 provinces are below the standard.<sup>17</sup> The challenge being faced by Indonesia government is deploying and retaining health workers in rural and remote areas.<sup>13</sup> The gap between urban and rural areas remains very large. There is only 20 percent of physicians are based in rural areas.<sup>18</sup> On the other hand, there is approximately 60% of graduating physicians are female who may be facing particular barriers to deployment in rural and remote areas, particularly if there are limited schooling for their children or security concerns. Moreover, lack of salary and late budgeting are the other factors due to decentralization, which lead medical staff to have dual practice, and is allowed by government to compensate the low government salary.<sup>18</sup> The government regulates dual practice by allowing medical staff to practice at maximum at three sites to control time spent at public facilities. However, allowing dual practice has very likely affected the ability to fill rural positions, as physicians tend to seek employment in urban areas where they can earn lucrative income from the private practice.<sup>14</sup> In consequence, it may decrease the focus of physicians in providing medical care, and might impact to the patients. On the other hand, high number of Indonesian is mostly going abroad to have medical treatment. Singapore is often referred as medical help abroad, which some 30-40 percent of foreign patients in Singapore at any one time are Indonesian. In Singapore and Malaysia, Indonesian patients are happy to pay for expensive examinations as their conditions are explained thoroughly and doctors rarely keep them waiting.<sup>19</sup>

In line with that, the number and location hospitals; and medical schools are also factors influencing the unequal distribution of physician, especially specialist physician. For examples, large number of internal medicine specialists stays in urban hospitals, especially in Java compared to remote Maluku, Papua, and West Sulawesi; and the medical school, mostly 72 medical schools are located in provincial capital city in 2011. There are a few schools provide special programs for recruiting students from rural areas.<sup>14</sup> The same situation with the context of nurses, unequal distribution is a serious problem in Indonesia. Mostly, nurses concentrate in big cities and surrounding areas of java and other big islands. Lack of transportation, infrastructure facilities, and low salary in most areas outside of Java, Bali, and Sumatra islands cause rejection of nurses to be placement in those areas.<sup>20</sup>

Government of Indonesia, by looking at this problem, remains concern about providing care in remote and rural areas. The Ministry of Health initiated the health worker contract scheme or *Pegawai Tidak Tetap (PTT)*, which hired recent medical school graduates as contractors, not as civil servants, and required a period of service in underserved areas, particularly in three years.<sup>14</sup> After that,

PTT doctors had the opportunity to continue their education, work in the private sector, or become civil servants by taking the national civil service examination. Those PTT doctors who had served in remote or very remote areas through the PTT scheme would be a priority in the subsequent civil service recruitment process. At the same time, changes were made to the village midwife and nursing program, which also started recruiting midwives and nurses under PTT contract schemes. It is expected that the midwives and nurses would establish themselves as private providers after a number of years as contractors.<sup>14</sup>

Another strategy proposed by government is to allocate approximately Rp 1.7 trillion (US\$1.7 million) under the Ministry of Health (MoH) Regulation 7/2013 as incentive payments for health workers. An additional US\$485 per month for physician working in remote areas, and an additional US\$715 for working in very remote areas, which is significantly larger than the US\$205 their civil servant colleagues in urban areas earn. Local governments may also pay additional incentive stipends from its own budget, up to US\$1,000 extra per month for a physician in Morotai, North Maluku.<sup>14</sup> However, Indonesian Medical Association mentioned that financial incentive payments might not be the only or even the main factor influencing health workers' willingness to transfer to a remote location. Non-monetary factors such as lack of training opportunities, lack of education opportunities for their children, inability to continue practicing specialized skills, fear of being overlooked for promotion, lack of security, and unhealthy environment in remote provinces might affect their families.<sup>14</sup>

### Nursing Context

Despite having unequal distribution of nurses, Indonesia also faces the challenge of nurse surplus and nurse shortage. Nursing surplus means a discrepancy of nurse production and placement. Currently, 220,004 nurses serve about 237.5 million of Indonesia population. In term of the ideal proportion Indonesia should have 117 nurses for every 100.000 population.<sup>15</sup> The total prediction of nurse production is approximately 30,000 per year.<sup>15</sup> However, the total absorptive capacity by public and private health sector is low. Literatures indicated that this low absorption is due to the Government of Indonesia (GOI) low formation and budget allocation to placement new nurses in public hospital, public health center and other public health care facilities.<sup>20</sup> The GOI is only able to provide formation and budget allocation for maximum of 3,000 nurses yearly. While at the private health sectors, the placement of new nurses depends on the needs of each private hospital, clinic and other private health care facilities. It is predicted that private health sectors can only absorb approximately 2,500-3,000 new nurses yearly. Therefore, only 1/3 of the total production of new nurses in Indonesia can be recruited properly. Placement of remaining 2/3 (15,000) of the total nurse production is still uncertain.<sup>20</sup>

The large production should meet the demand of nurses in Indonesia. In fact, nursing shortage is also a problem. Minister of Health (MOH) estimates an additional 118,788 health workers were needed at hospitals in 2012. The shortage is calculated based on unfilled positions.<sup>14</sup> As Figure 3 above show that the largest shortfall was nurses: 87,874 additional nurses, or 74 percent of the total shortfall, were needed at hospital level. The second-largest cohort gap to be filled at hospitals was midwives: 15,311, or 12 percent of the total shortfall, were needed in 2012 before minimum-staffing levels could be met across Indonesia. An estimated 10,146 extra nurses are also needed at primary health care (*Puskesmas*) level, or 22 percent of the total shortfall as shown in Figure 4. Based on the situation, it demonstrates a large gap. It leads to the question why graduating nurses are not being employed in practice.<sup>14</sup> However, lack of research to draw conclusion from this situation.

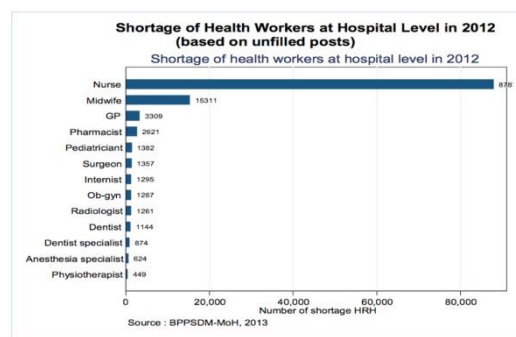


Figure 3: Shortage of health workers at hospital level in 2012.

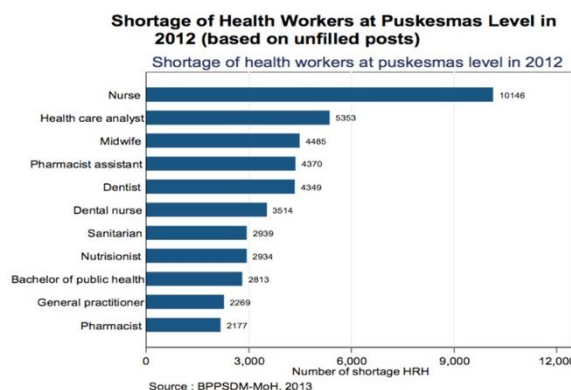


Figure 4: Shortage of health workers at puskesmas level in 2012.

By looking at this nursing situation in Indonesia, Government of Indonesia encourage *nurses to work abroad* for improving counties foreign reserves and reducing jobless in Indonesia.<sup>20</sup> There are some countries have been offering opportunities for nurses, medical doctors and other Human Resource for Health (HRH) to work there. This promotion has been sent to GOI and they have asked for having nurses and other HRH to work there with various kinds of criteria including test requirements.

For example, USA has offered unlimited nurses for 'S1' or at the level of bachelor in Indonesia and 'D-3' or the level of diploma in Indonesia. Saudi Arabia has also offered 1000 female nurses to work there with certain criteria.<sup>20</sup> There are also possibilities of working in other countries such as United Emirate Arab (UEA), Kuwait, the Netherlands, Great Britain, Brunei, and other Middle East countries since 1996. In addition, to support the program of sending nurses to other countries, Ministry of Health of Indonesia through Center of Planning and Management of Human Resources for Health also has a scheme between Indonesian Government and Japan Government. Japan government consistently offers quota of 200 nurses per year. Through IJEPA scheme, 363 nurses have been sent to Japan hospitals and clinics. This scheme started in year 2008 with total 104 nurses joined this program. This scheme expects nurses who return to Indonesia after working abroad will improve the quality of nursing care in Indonesia by sharing knowledge or providing training for nurses based on the experience or working overseas.<sup>21</sup> However, from these international recruitment programs, there only few nurses applied for the recruitment. It might be due to language barriers of nurses, or the nurse's competency is not good enough to work overseas. However, the research related to this issue is needed, particularly the international recruitment program, the intention of nurses to work overseas, and factors related. Therefore, GOI needs to have another strategy to deal with this challenge.

### **Some Concerns Related To AEC**

ASEAN Economic Community (AEC), a platform to have "Free Flow of Labor Skills",<sup>1</sup> is expected to address the physician and nursing context in Indonesia. In this platform, there are 4 modes of supplying service to a customer include: *Mode 1*: Cross border supply: supply of a service from the territory of one member into that of another member, i.e. staying in own countries and do some forms of telemedicine in another country; *Mode 2*: Consumption abroad: consumption of a service by consumers of one member who have moved into the territory of the supplying member, i.e. patients leaves their country and travel to other countries to have medical treatment; *Mode 3*: Commercial Presence: services are provided by foreign suppliers that are commercially established in the territory of another member, i.e. medical services provided by a foreign-owned hospital; *Mode 4*: Movement of Natural Persons: services are supplied by foreign natural persons, either employed or self-employed, who currently stay in the territory of another member (presence of natural persons), i.e. short-term employment of foreign doctors.<sup>22</sup> However, there are some concerns for Indonesia health care system related to AEC.

Firstly, AEC might not be directly related to health care system in Indonesia, particularly about unequal distribution of physician. It is the challenge of Indonesian government to fix health infrastructure, particularly the lack of transportation in rural and remote area.<sup>14</sup> The

authors noted that creating infrastructure that is suitable to Indonesia's geography seems to be appropriate, such as telemedicine that would enable Indonesians in remote areas access their local health center (*Puskesmas*) to gain access to modern diagnosis via Internet. However, it depends on having a good Internet connection, which is vital for modern health care.

Secondly, the data in the table 2 showed the estimated gap of number of physician needs a large number of physicians in the country. The increasing of production capacity seems to be a must, and AEC is such one of solution to meet the demand by accepting a number of physicians from other countries. It is possible to do when observing the high number of Indonesian visiting Singapore and Malaysia to seek medical help abroad. Four modes in AEC could be applied.

Thirdly, AEC will bring ten ASEAN member countries close together in order to learn, share, work, and even compete each other.<sup>2,3</sup> Therefore, GOI need to consider the policy related to dual practices of medical doctors that may cause the lack of performance of Indonesian physicians that may impact to patients and mistrust of society; The GOI may also prepare better health budgeting and effective decentralization.

Fourthly, despite having nursing surplus in Indonesia due to lack of absorption of nurses,<sup>20</sup> AEC is a gate to facilitate Indonesian nurses to migrate to other ASEAN countries and to reduce nursing jobless in Indonesia. However, nurses need to prepare themselves, in terms of standard competency, background of education required by country of origin, nursing examination, and culture.<sup>2</sup> Otherwise, if Foreign nurses who want to work or perform nursing practice in Indonesia, as stated on the *Law of the Republic of Indonesia No. 34 year 2014 on Nursing Act article 24*,<sup>23</sup> they should follow the evaluation process of their competencies. That evaluation is done by appraisal on the administrative completeness (appraisal on the validity of diploma by the minister that governing education affairs, and has a letter of statement on physically and mentally healthy, and make a statement of intention to obey and implement the ethical principle) and the ability to practice is proved by a letter that nurse has follow competency evaluation program and certificate of competency; and physician from ASEAN countries who want to work in Indonesia, they need to pass national examination in Indonesian Language, *Bahasa Indonesia*.<sup>24</sup>

Fifthly, GOI may invite trainers from ASEAN countries to provide training for Indonesian nurses, in terms of competency, develop new standard of education curricula based on ASEAN curricula, and improve English language for the success of AEC.

### **CONCLUSION**

Indonesia, the largest archipelago with large population, plays a role in the success of AEC. However, there are

many challenges being faced by Indonesian Government and these reflected to health statistics. Indonesia is dominated by Non-Communicable disease, followed by communicable disease seems to force us to improve health care system and services. Although there have been some progress in life expectancy, infant mortality, and maternal mortality; the GOI needs to put more effort to decrease the rate of infant and maternal mortality that still remain high. On the other hand, Indonesia also faces the challenge of unequal distribution of physician and nurses. To deal with that, GOI has increased the number of medical and nursing schools to produce a large number of physician and nurses. However, the gap between production and the demand of physician still exists. Therefore, GOI needs to increase the production capacity.<sup>14</sup> Meanwhile, the gap also exists in nursing context in Indonesia, but it is different from the context of physician. Indonesia has a large number of nurses but the total absorption of nurses remains low. So, nursing surplus is occurred.<sup>20</sup> It is also related to the nurse shortage due to unfulfilled position in hospital and health center. Therefore, the GOI need to consider about increasing the total absorption of nurses.<sup>14</sup>

To solve unequal distribution, GOI provides strategy of Contract scheme or *Pegawai Tidak Tetap* (PTT) to deployment of physician in remote and rural areas. GOI also increase the salary of those who want to work in rural area. On the other hand, GOI encourages nurses to work abroad, such as in Japan, UEA, Kuwait, the Netherlands, Great Britain, Brunei, and other Middle East countries. However, it does not seem enough to reduce the nursing surplus in Indonesia because the number of nurse applicants remains low.<sup>20</sup> AEC as a gate for nurse mobility is expected to be a good deal to reduce jobless in Indonesia, increase the quality of Indonesian nurses by providing training, develop nursing curricula, and improve the language proficiency and competency of nurses.

This paper has provided insights about health care system in Indonesia and ASEAN Economic Community. It is hoped that knowledge of how health care system works within it and the context of physician and nurses will invite a further research and lead to better improvement of Indonesian health care and contribute to the success of AEC.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. MRA. ASEAN Mutual Recognition Arrangement on Nursing Services. 2014; <http://www.asean.org/communities/asean-economic-community/item/asean-mutual-recognition-arrangement-on-nursing-services>.
2. Aunguroch Y, Gunawan J. Nurse Preparation towards ASEAN Economic Community 2015.

- International Journal of Health Sciences and Research. 2015;5(3):365-72.
3. Joko G, Yupin A. ASEAN mutual recognition arrangement for Indonesian nurses: is it a promise? *Int J Community Med Public Health*. 2015;2(2):77-80.
4. CIA. The World Fact Book: Indonesia. 2014; <https://http://www.cia.gov/library/publications/the-world-factbook/geos/id.html>.
5. DPPLN. Indonesia, an Official Handbook: Direktorat Pelayanan Penerangan Luar Negeri, Department of Information, Republic of Indonesia; 1981.
6. Gimon CA. Notes on Pancasila. 2001; <http://www.gimonca.com/sejarah/pancasila.html>.
7. MHRI. Indonesia Health Profile 2010. Jakarta: Ministry of Health Republic of Indonesia; 2011.
8. WHO, partners U. Country statistics and global health estimates. 2015; <http://www.who.int/gho/countries/idn.pdf?ua=1>.
9. WHO. Indonesia Country Website. 2012; <http://www.ino.searo.who.int/EN/Section3.htm>.
10. Guinto RL, Curran UZ, Suphanchaimat R, Pocock NS. Universal health coverage in 'One ASEAN': are migrants included? *Global health action*. 2015;8: 25749.
11. Minh HV, Pocock NS, Chaiyakunapruk N, et al. Progress toward universal health coverage in ASEAN. 2014; 7.
12. RI. The Law of the Republic of Indonesia Number 24/2011 about Social Security Administrative Bodies (Badan Penyelenggara Jaminan Sosial). Jakarta 2011.
13. WorldBank. Global Conference on Universal Health Coverage for Inclusive and Sustainable Growth: Lessons from 11 Country Case Studies a Global Synthesis. Washington, DC2013.
14. Anderson I, Meliala A, Marzoeki P, Pambudi E. The Production, Distribution, and Performance of Physicians, Nurses, and Midwives in Indonesia: An Update: The International Bank for Reconstruction and Development/The World Bank 2014.
15. Sekarsari R. Nursing Services in Indonesia. Bangkok, Thailand: International Symposium: Enhancing Nursing Education and Nursing Service in ASEAN. Faculty of Nursing, Chulalongkorn University; 2-4 July 2013 2013.
16. BPPSDM. Human Resources for Health Development Plan. Jakarta: Badan Pengembangan dan Perencanaan Sumber Daya Manusia, Board of Human Resources for Health Empowerment and Development;2011.
17. PODES. Indonesia: Potensi Desa (Survey of Village Potential). Central Bureau of Statistics;2011.
18. Rokx C, Giles J, Satriawan E, Marzoeki P, Harimurti P, Yavuz E. New Insight into the Provision of Health Services in Indonesia: A Health Workforce Study. *Directions in Development*. 2010; <https://openknowledge.worldbank.org/handle/10986/2434> License: CC BY 3.0 IGO.

19. IMTJ. INDONESIA: Why Indonesians go overseas for medical care. 2008; <http://www.imtj.com/articles/2008/indonesia-why-indonesians-go-overseas-for-medical-care/>.
20. Suwandono A, Muharso, Achadi A, Aryastami K. Human Resources on Health (HRH) for foreign countries: A case of nurse 'surplus' in indonesia: Asia-Pacific Action Alliance on Human Resources for Health;2005.
21. Efendi F, Purwaningsih M, Qur'aniati N, Kurniati A, Singka EJ, Chen C-M. Return migration of Indonesian nurses from Japan: Where should they go? *Journal of Nursing Education and Practice*. 2013;3(8):154.
22. Aldaba RM. ASEAN Economic Community 2015: Labor Mobility and Mutual Recognition Arrangements on Professional Services: Philippine Institute for Development Studies; 2013.
23. LRI. Law of the Republic of Indonesia No. 34 year 2014 on Nursing Act article 24: President of the Republic of Indonesia;2014.
24. Kittrakulrat J, Jongjatuporn W, Jurjai R, Jarupanich N, Pongpirul K. The ASEAN economic community and medical qualification. *Global health action*. 2014;7:24535.

**Cite this article as:** Gunawan J, Aunguroch Y. Indonesia health care system and Asean economic community. *Int J Res Med Sci* 2015;3:1571-7.