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Improving Nursing Education in the Republic of Uzbekistan

Seul Ki Choi
Bo-Eun Kim·Chin-Kang Koh·Salima Kasymova



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Improving Nursing Education in the
Republic of Uzbekistan

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Abstract

Improving Nursing Education in the Republic of Uzbekistan

1. Backgrounds and Purpose of Research

This study was conducted with the aim of improving the healthcare system in Uzbekistan as a part of the collaborative efforts between the Korea Institute for Health and Social Affairs and the National Chamber of Innovative Healthcare of the Republic of Uzbekistan. In Uzbekistan, the competence level of nurses is generally low, and education on basic concepts of nursing and patient care is lacking.

The development of nursing education to strengthen the competence of nurses is a major international healthcare issue, and there is a growing importance of professional nursing in healthcare. Nurses are a crucial part of the skilled workforce in the healthcare sector, rather than merely “doctors’ assistants.” Not only are they advocates for public health, but they are also health professionals with the capacity to meet the needs of the healthcare sector and to ensure people’s health.

In Korea, efforts have been steadily made to improve the nursing education system at the university level, establish nursing education standards, carry out evaluations for nursing education accreditation, and introduce a advanced practice

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nurse system among other things for the past century to develop and maintain the quality of nursing education. Based on these efforts to improve nursing education, Korea's nursing education system, curriculum, and training programs have been exported to developing countries to strengthen the competence of nurses in the private and public sectors.

In this report, we propose a direction for improving the nursing education system in Uzbekistan to improve the quality of nursing, based on cases of qualitative improvement of nursing education in Korea. Based on literature reviews and expert consultation, problems in the nursing education system of Uzbekistan were diagnosed (Chapter 3), and the history of the nursing education system and nursing education development in Korea was reviewed (Chapter 4). Based on this, Chapter 5 presents the short- and mid- to long-term plans proposed for the advancement of the nursing education system in Uzbekistan.

2. Research Results

The results of diagnosing the issues with the nursing education system in Uzbekistan are as follows:

Nursing graduates have a low level of knowledge and skills, especially in specialized fields other than basic nursing. It should be noted that this is attributed to the failure to adjust

the medical education curriculum according to the changes in professional demands and inadequate opportunities to complete a quality practicum.

Second, there is a shortage of people who have completed higher education. Most of the nurses in Uzbekistan are graduates from colleges (high school level), and this is different from Korea and major developed countries, which require nurses to complete nursing education at the university level. The reasons for this shortage of nursing university graduates include low admission quotas, limited employment opportunities after graduation, financial issues such as the burden from tuition, and geographic imbalance in that universities are located in only some cities. Also, since university graduates and college graduates perform the same job, and the difference in academic background does not lead to a difference in salary, there is a lack of motivation for those wishing to get into nursing to obtain higher education.

Third, the curriculum is inadequate to foster quality human resources. In the case of university curriculum, students acquire many credits from courses in the humanities, natural sciences, and preclinical courses, and fewer credits from nursing-related clinical courses. Considering the short education period (3 years), it is expected to be difficult for students to acquire basic knowledge of medicine and the principles of nursing based on scientific knowledge and to

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acquire knowledge in various fields and put it to practice at the same time. Furthermore, most of the nursing professors in medical schools are doctors, not nurses, and have limitations in teaching the principles and concepts of nursing and providing guidance on field skills and training.

3. Conclusions

The aim of this study is to propose short- and mid- to long-term plans for improving the nursing education system in Uzbekistan, based on the case of Korea where the nursing education system has advanced over the years.

The first short-term improvement plan is to systematize nursing jobs. Currently, nurses in Uzbekistan are unable to utilize their professional expertise and instead are mainly serving as assistants to doctors. It is necessary to foundation for nurturing quality nursing manpower by distinguishing the roles of nursing personnel and to set the scope of work suitable for the personnel system. There is also a need to distinguish the roles by overhauling occupational standards.

The second short-term improvement plan is to introduce nursing education standards. Providing standardized nursing education is essential for resolving the differences in education levels among regions and schools and cultivating professional nursing manpower. While preventing redundant education, an

emphasis should be placed on professional education focused on field work as well as education that cultivates essential competencies required of a nurse. Nursing education standards should also be developed with the participation of relevant experts.

The third short-term improvement plan is to establish an education and training system at hospitals. Nursing students and new nurses should be able to gain clinical practicum experience in medical institutions to improve their clinical skills.

The fourth short-term improvement plan is to increase the number of nurses who have completed higher education in nursing. In order to ensure the professional competence of nurses who are capable of providing professional nursing, there needs to be more nurses who have completed tertiary education. To this end, it is necessary to provide motivation for obtaining higher education, such as differentiation of job duties, preferential treatment to nurses who have completed higher education, and scholarships.

The first mid- to long-term improvement plan for the development of the nursing education system is to secure teachers who are capable of providing quality nursing education. Efforts must be made to increase the number of graduates of higher education in nursing, and it is necessary to sustain exchanges and training of foreign manpower through

international exchanges with foreign nursing universities and nursing associations in order to strengthen the competence of teachers in charge of fostering nursing manpower.

The second mid- to long-term improvement plan is to establish independent nursing universities. Independent nursing education makes it possible to provide evidence-based education focused on nursing and to improve nursing leadership and management capabilities. For the development of nursing science, quality nursing manpower, and nursing services, there is a need to improve the stature of nursing through the establishment of an independent nursing university.

The third mid- to long-term improvement plan is to cultivate experts who can respond to changes in the future. In Uzbekistan, the demand for workplace safety management and occupational health management is projected to rise in the future due to increasing prevalence of chronic diseases and senile diseases, occurrence of new infectious diseases, and economic development. Accordingly, there needs to be professional nursing manpower who can respond to such changes in society.

The fourth mid- to long-term improvement plan is to improve the status and role of nurses. Awareness of the importance of professional nursing should be raised both internally and socially in the healthcare field so that nurses can

gain stature in the field. In order to improve the status of nurses and ensure the quality of nursing education, nurse associations should take the initiative for the establishment of related policies and systems.

* Key words: Nursing Education, Nurse, Republic of Uzbekistan



I

Introduction

Section 1. Research Purpose

Section 2. Research Methods

I Introduction

Section 1. Research Purpose

With professional nursing becoming increasingly important in medical services, there is a growing emphasis on the need for education for improving the quality of nursing. Nursing encompasses “activities that directly help all individuals, families, and communities to equip themselves with the knowledge, energy, will, and resources necessary to restore health, prevent disease, and maintain and promote health” (Korea Nurses Association, n.d.-a), and quality professional nursing services are essential to improve the health of the people. Nurses are not just assistants to doctors but are advocates for public health and health professionals with the capacity to meet the needs of the healthcare sector and to ensure people’s health. Accordingly, the development of nursing education to strengthen the competence of nurses is one of the internationally important public health issues (WHO, 2016b).

Quality nursing education is associated with the advancement of the healthcare system. With the development of health technology and changes in disease patterns, the healthcare environment is becoming increasingly complex.

Under these circumstances, nursing personnel must apply medical knowledge and technology that are continually advancing in order to play diverse roles, from preventing diseases to engaging in medical practices that save lives. To do this, they are required to have more professional competence than in the past. However, low-quality nursing education and a shortage of higher education graduates can be an obstacle to providing professional nursing to patients. The Institute of Medicine in the United States reported, for instance, that improving the quality of education for nurses who account for a large portion of human resources in the healthcare system is paramount to health promotion, disease prevention, and provision of quality care across the life cycles of diverse population groups (Institute of Medicine, 2010).

In 2001, the World Health Assembly passed the resolution, WHA 54.12, urging each member state to strengthen the education of nurses and midwives as part of the efforts to boost the competence of health professionals. The subsequent WHA 59.23 resolution stressed the need to develop an international standard for the initial education of nurses and midwives to reinforce nursing services. Accordingly, the World Health Organization (WHO) established an international nursing education standard to provide quality education in response to the increasingly complex healthcare environment and contribute to the advancement of the healthcare system (WHO, 2009).

The WHO Global Standards for Initial Nursing and Midwifery Education encompass five key areas: (1) program graduates, (2) program development/revision, (3) program curriculum, (4) faculty, and (5) program admission. The section on program graduates defines the competencies and skills that human resources provided nursing education should have. The area of program development/revision defines the governance, accreditation, infrastructure, and partnerships of nursing education institutions. Program curriculum concerns curriculum design, core curriculum, curriculum partnerships, and assessment of students. As for faculty, it deals with the qualification standards, required competencies and skills, etc. for the academic and clinical faculties. The area of program admission includes admission policy and student selection process (World Health Organization, 2009).

The WHO Global Strategic Directions for Strengthening Nursing and Midwifery 2016-2020 suggests intervention programs to establish and strengthen national accreditation for nursing education and implement competency-based curriculum to respond to changes in regional and national healthcare needs, with an emphasis on qualitative improvement of nursing education (World Health Organization, 2016a). It also suggests the necessary competencies of faculty members providing nursing education to improve the quality of nursing education (World Health Organization, 2016b).

Uzbekistan is dedicating a great amount of efforts to develop its healthcare system such as partnering with Korea in the healthcare sector. Nurses are a major part of the healthcare workforce, and their number has steadily been rising in Uzbekistan. There were 341,300 nurses, as of 2016, and this is equivalent to 10.6 nurses per 1,000 people, which is more than the OECD average of 9.0 (2015). Despite the quantitative growth, there has been a lack of high-standard nursing education to achieve qualitative growth.

Nursing education in Uzbekistan is provided in colleges (3 years, high school level) and universities (3 years), which differs from Korea and major developed countries where three- or 4-year higher education is required of nurses. It has also been pointed out that most of the nurses in Uzbekistan are graduates of colleges and have not completed nursing education at the university level and that nursing education system needs to be improved to provide professional nursing services to patients. Various efforts have been made to raise the level of competency among nurses in Uzbekistan through international cooperation, such as official development assistance (ODA), but such efforts failed to produce any visible results in improving the quality of overall nursing education as they were limited in scope, involving only certain fields, schools, or nurses.

In Uzbekistan, there is a need for a nursing education system

for fostering nursing professionals according to the changes in the healthcare environment, such as changes in disease patterns and the paradigm shift from treatment-oriented care to preventive care. The prevalence and mortality rates of infectious diseases, which had been major health issues in the past, have steadily declined thanks to economic and healthcare development, but chronic diseases have been on the rise. Considering the importance of nursing manpower in the prevention and management of chronic diseases and maternal and child healthcare, it is necessary to improve the quality of nursing by improving the nursing education system. For capacity building of nurses, comprehensive theoretical education, laboratory training, and clinical practicum must be provided through university-level nursing education, but due to the reliance on the supply of nursing manpower by colleges (vocational schools) and the absence of nursing education standards are causing limitations in capacity building and the development of nursing education.

In Korea, the history of nursing education can be traced back to more than 100 years ago. Nursing education in Korea began with the establishment of a nurse training institution (precursor of the Ewha Womans University College of Nursing) at Bogu Women's Center by Margaret J. Edmunds, who was sent to Korea in 1903 by the United Methodist Mission of the United States for the purpose of providing nursing education (Ewha

Womans University College of Nursing, n.d.). About a century later in 2011, the duration of nursing education required for graduation was unified, and the nursing education accreditation system that began to be implemented since 2012 promoted systematic development of nursing education (Chitty & Black, 2011/2013). In other words, it took about 100 years from the introduction of nursing education in Korea to establish the present system.

As a result of the qualitative and quantitative development of nursing education over the past century, the number of nurses in Korea grew 249-fold from just 1,588 in 1950 to 394,627, as of 2018 (Table 1-1). This means that the number of nurses has increased 8.5% annually, on average, over the course of 68 years.

〈Table 1-1〉 Trends in the Number of Licensed Nurses (1950–2018) in the Republic of Korea

Year	1950	1959	1969	1979
Number of nurses	1,588	4,128	13,037	36,975
Average annual growth rate (%)	-	11.2%	12.2%	11.0%
Year	1989	1999	2009	2018
Number of nurses	82,657	150,067	258,568	394,627
Average annual growth rate (%)	8.4%	6.1%	5.6%	4.8%

Note: Average annual growth rate was calculated on a decade basis such as the 1950s and 1960s.

Source: Ministry of Health and Welfare (1995, 2007, 2019a)

In Korea, relentless efforts have been made to further advance nursing education by improving the nursing education system at the university level, introducing nursing education accreditation and an advanced practice nurse system, etc. Based on this experience, Korea has been exporting its nursing education system, curriculum, and training programs to developing countries to strengthen the competence of nurses in the private and public sector, attesting to the international recognition of the quality of nursing education in Korea.

This study is aimed at proposing measures to improve the nursing education system in Uzbekistan based on the development of nursing education in Korea, as part of Korea-Uzbekistan healthcare partnership. The partnership was formed in 2011, and with President Moon Jae-in's visit to Uzbekistan in 2019, collaborative projects began to be pursued at an accelerated rate (Ministry of Health and Welfare, 2019). Reinforcement of mutually beneficial development cooperation that can contribute to job creation and the national interest is one of the government policies. It is believed that this study aimed at proposing improving measures for the nursing education system in Uzbekistan will strengthen cooperation between the two countries in healthcare and lay the groundwork for the export of nursing education and nursing manpower exchanges in the public and private sectors in the future.

The purpose of this study is to present the direction of improving the nursing education system as a means to improve the quality of nursing in Uzbekistan, based on Korea's experience of improving nursing education. The specific goals are to (1) identify areas in need of nursing education improvement by analyzing the current state of nursing education in Uzbekistan and (2) improve the nursing education system in Uzbekistan based on cases of improving the nursing education system and the current status of quality control of nursing education in Korea.

Section 2. Research Methods

1. Outline

Chapter 2 of this report examines the current status of healthcare in Uzbekistan. Chapter 3 examines the current status of nursing manpower and the nursing education system in Uzbekistan and provides a diagnosis of the problems with the nursing education system. The diagnosis was made in reflection of the problems noted in previous research, the ever-changing healthcare system of Uzbekistan, and the international trends in nursing education. Chapter 4 examines the history of the nursing education system and the

development of nursing education in Korea. The development of the nursing education system in Korea was examined in depth from the historical and institutional perspectives and the aspect of the national nurse licensure examination system. Chapter 5 presents short-term and mid- to long-term plans for the development of the nursing education system in Uzbekistan based on the diagnosis of problems in the nursing education system of Uzbekistan and the implications derived in consideration of the development of the nursing education system in Korea.

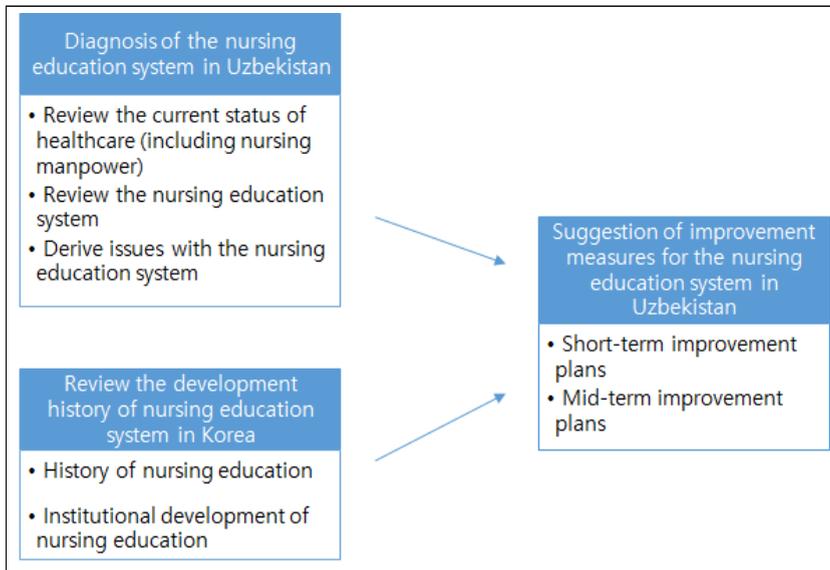
2. Research Methods

The development history of nursing education, the current status of nursing education, and the education quality control system in Korea were reviewed based on prior studies in Korea and a review of policies and laws related to the history of nursing education. The general status of Uzbekistan as well as its education system, nursing manpower, nursing education system, etc. were examined by collecting information from the Internet and reviewing previous research and reports published by international organizations. In addition, local information was collected with the help of the National Chamber of Innovative Healthcare of the Republic of Uzbekistan. We also had expert consultation to assess possibility of introducing

Korea's nursing education system to foreign countries based on ODA cases related to nursing education.

We originally planned to visit Uzbekistan to conduct interviews and surveys with local nurses and healthcare professionals. We also planned to figure the current status of and demand for nursing education system and the areas in need of improvement out based on the field research results. Due to the COVID-19 pandemic, however, field visits to Uzbekistan for further investigation became impossible, so most of the research was done through a literature review.

[Figure 1-1] Research Framework





II

Healthcare in the Republic of Uzbekistan

Section 1. Overview

Section 2. Healthcare System

II Healthcare in the Republic of Uzbekistan

Section 1. Overview

1. Overview of Uzbekistan

Uzbekistan is a country in Central Asia that was centrally located on the ancient Silk Road connecting China, the Middle East, and Rome. It was a part of Imperial Russia and the Union of Soviet Socialist Republics (USSR) for more than 200 years until it became independent in 1991 as a result of the dissolution of the Soviet Union (BBC News, 2018). It is adjacent to Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan.

Uzbekistan consists of one independent city (Tashkent, the capital), 12 provinces, and 1 autonomous republic (Karakalpakstan Republic) (Table 2-1). Samarkand, which had been the capital for a long time, has the largest population, and Fergana and Tashkent each have a large population as well. The capital city, Tashkent, is home to 2.25 million people, account for more than 50% of the urban population. Uzbekistan has a population of 33,508,353, ranking the 42nd in the world, but its population density is 79/km², which is 132nd largest in the world.

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(Table 2-1) Administrative Divisions of Uzbekistan

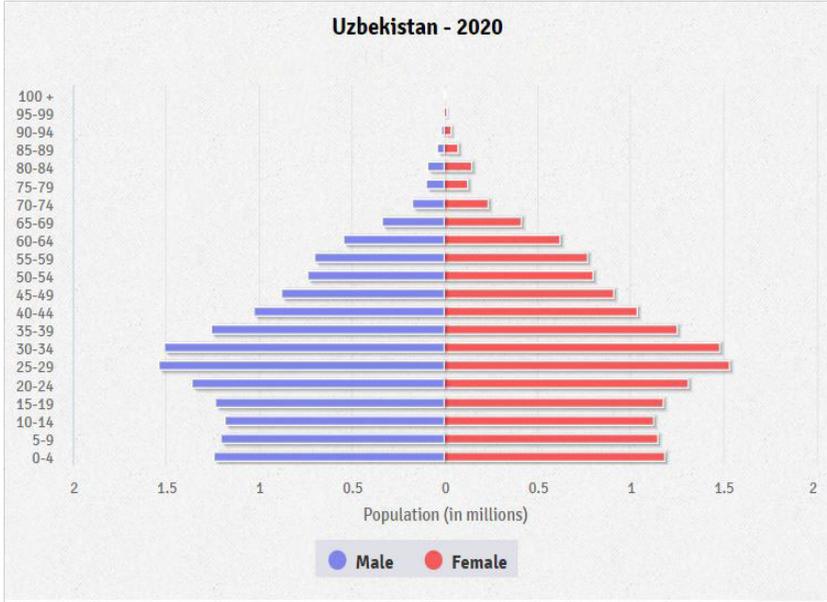
Administrative division (Viloyat)	Central city	Area (km ²)	Population (10,000)	Rural regions	Cities
Karakalpakstan Republic	Nukus	167.0	187.0	15	12
Tashkent (capital)	-	0.3	251.0	11	1
Andijan Province	Andijan	4.3	307.7	14	11
Bukhara Province	Bukhara	40.2	189.5	11	11
Jizzakh Province	Jizzakh	21.2	135.2	12	6
Kashkadarya Province	Karshi	28.6	321.3	13	12
Navoiy Province	Navoiy	111.1	98.0	8	6
Namangan Province	Namangan	7.4	275.3	11	8
Samarkand Province	Samarkand	16.8	380.0	14	11
Surkhandarya Province	Termez	20.1	257.0	13	8
Syrdarya Province	Gulistan	4.3	83.0	8	5
Tashkent Province	Tashkent	15.3	290.0	15	16
Fergana Province	Fergana	6.8	368.3	15	9
Khorezm Province	Urgench	6.1	183.6	10	3
Total	-	449.0	3,325.6	170	119

Source: State Committee of the Republic of Uzbekistan on Statistics (n.d.-a). Recited from Shin et al. (2019).

Similar to other Central Asian countries, Uzbekistan is a multi-ethnic state with about 125 ethnic groups. The ethnic composition is 82.9% Uzbek, 4.8% Tajik, 2.7% Russian, 0.7% Koryo-saram, and 8.9% others. The main languages are Uzbek and Russian. The vast majority of the population are Muslims, with 70% Sunni Muslims and 20% Shia Muslims while 10% are Greek Orthodox.

The median age in Uzbekistan is 30.1, as of 2020, indicating a relatively young population.

[Figure 2-1] Population Distribution by Age in Uzbekistan



Source: Central Intelligence Agency (n.d.)

2. Health Indicators

A. Life Expectancy

Life expectancy at birth in Uzbekistan has been rising, reaching 71.6 years of age (male: 69.4, female: 73.7), as of 2018, but this is lower than the world's average life expectancy (average: 72.6, male: 70.4, female: 74.9).

〈Table 2-2〉 Life Expectancy at Birth in Uzbekistan and Global Average Life Expectancy at Birth

(Unit: Year)

Category	1990	2000	2010	2015	2016	2017	2018
Life Expectancy at Birth, Uzbekistan	66.5	67.2	69.7	70.9	71.2	71.4	71.6
Life Expectancy at Birth, Male in Uzbekistan	63.4	64.0	66.9	68.7	69.0	69.3	69.4
Life Expectancy at Birth, Female in Uzbekistan	69.4	70.4	72.5	73.1	73.3	73.5	73.7
Global Average Life Expectancy at Birth, Total	65.4	67.5	70.6	71.9	72.2	72.4	72.6
Global Average Life Expectancy at Birth, Male	63.3	65.4	68.4	69.8	70.0	70.2	70.4
Global Average Life Expectancy at Birth, Female	67.8	69.9	72.8	74.3	74.5	74.7	74.9

Source: World Bank (n.d.-a, n.d.-b, n.d.-d)

B. Child and Infant Mortality

The child mortality rate in Uzbekistan has remained at a similar level since 2010, according to the domestic statistics, but it is on a downtrend, according to the United Nations Inter-agency Group for Child Mortality Estimation (UN IGME) estimates. As of 2018, the child mortality rate in Uzbekistan is 13.1 per 1,000 live births according to its own statistics and 21.5 per 1,000 live births according to UN IGME. This is lower than the world average of 38.6 per 1,000 live births reported by

the World Bank. The male child mortality rate is 14.5 per 1,000 live births according to the domestic statistics and 24.3 per 1,000 live births according to the UN IGME estimate, the female child mortality rate is 11.5 per 1,000 live births according to the domestic statistics and 18.4 per 1,000 live births according to the UN IGME estimate, which are also lower than the global average of 40.7 and 36.4 per 1,000 live births, respectively. When comparing urban and rural areas, it was found that the child mortality rate was higher in urban areas than rural areas.

A comparison of Uzbekistan's child mortality rate with those of neighboring countries shows that it is lower than that of Tajikistan based on the UN IGME estimates but higher than the average of the Russian Federation, Kazakhstan as well as Korea and the OECD average. Based on Uzbekistan's own statistics, the child mortality rate was lower than that of Kazakhstan and Tajikistan until 2013 but higher than that of Kazakhstan yet still lower than that of Tajikistan since 2014.

Uzbekistan's infant mortality rate has remained steady since 2010, similar to the child mortality rate, according to its own statistics, but it is declining according to the UN IGME estimates. As of 2018, the infant mortality rate in Uzbekistan is 9.9 per 1,000 live births according to its own statistics and 19.1 per 1,000 live births according to the UN IGME estimates. This is lower than the global average of 28.9 per 1,000 live births.

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〈Table 2-3〉 Under-Five Mortality Rates in Uzbekistan and Neighboring Countries

(Unit: per 1,000 live births)

Category	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total (Uzbekistan's own statistics)	14.8	14.1	13.8	13.4	13.9	15.1	14.1	15.4	13.1
Total (UN IGME)	36.4	34.2	32.0	29.8	27.8	25.9	24.2	22.7	21.5
Male (Uzbekistan's own statistics)	16.3	15.6	15.5	15.1	15.3	16.9	15.4	17.0	14.5
Male (UN IGME)	41.2	38.7	36.2	33.8	31.5	29.4	27.4	25.8	24.3
Female (Uzbekistan's own statistics)	13.3	12.5	12.0	11.5	12.5	13.1	12.7	13.5	11.5
Female (UN IGME)	31.4	29.4	27.4	25.6	23.9	22.2	20.7	19.5	18.4
Urban (Uzbekistan's own statistics)	18.3	17.1	16.8	16.2	16.4	17.3	15.9	17.5	14.7
Rural (Uzbekistan's own statistics)	12.2	11.8	11.4	11.0	11.8	13.3	12.6	13.6	11.7
Russian Federation (UN IGME)	10.4	10.1	9.9	9.5	8.9	8.2	7.6	6.9	6.3
Kazakhstan (UN IGME)	20.4	18.3	16.4	14.6	13.0	11.8	11.0	10.5	10.3
Tajikistan (UN IGME)	42.9	41.6	40.6	39.6	38.7	37.8	36.8	35.8	34.8
Republic of Korea (UN IGME)	4.1	4.0	3.8	3.7	3.6	3.5	3.4	3.3	3.3
OECD Average (World Bank estimates)	9.0	8.7	8.4	8.2	7.9	7.7	7.5	7.4	7.2

Source: State Committee of the Republic of Uzbekistan on Statistics (n.d.-b); UN Inter-agency Group for Child Mortality Estimation (n.d.); World Bank (n.d.-f)

The male infant mortality rate is 11.0 according to its own statistics and 21.8 according to the UN IGME estimates, while the female infant mortality rate is 8.8 according to its own statistics and 16.3 according to the UN IGME estimates. These are also lower than the global average of 31.0 and 26.7, respectively. When comparing urban and rural areas, the infant mortality rates in urban areas are higher than in rural areas.

As the child mortality rates, the infant mortality rate of Uzbekistan is similar with those of other countries. Based on UN IGME estimates, the infant mortality rate of Uzbekistan is lower than that of Tajikistan but higher than the Russian Federation, Kazakhstan as well as Republic of Korea and the OECD average. Based on its own statistics, the child mortality rate was lower than that of Kazakhstan and Tajikistan until 2014 but higher than that of Kazakhstan yet still lower than that of Tajikistan since 2015.

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〈Table 2-4〉 Infant Mortality Rates in Uzbekistan and Neighboring Countries

(Unit: per 1,000 live births)

Category	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total (Uzbekistan's own statistics)	11.0	10.4	10.2	9.8	10.8	11.4	10.7	11.5	9.9
Total (UN IGME)	31.8	29.9	28.1	26.3	24.6	23.0	21.5	20.2	19.1
Male (Uzbekistan's own statistics)	12.4	11.7	11.6	11.2	11.9	12.9	11.7	12.9	11.0
Male (UN IGME)	36.2	34.0	31.9	29.9	28.0	26.2	24.5	23.0	21.8
Female (Uzbekistan's own statistics)	9.6	9.0	8.8	8.3	9.6	9.7	9.5	10.0	8.8
Female (UN IGME)	27.2	25.6	24.0	22.4	21.0	19.6	18.3	17.2	16.3
Urban (Uzbekistan's own statistics)	13.7	12.9	13.0	12.6	13.3	13.8	12.8	13.7	11.8
Rural (Uzbekistan's own statistics)	8.8	8.4	7.9	7.4	8.7	9.4	8.9	9.6	8.4
Russian Federation (UN IGME)	8.9	8.7	8.4	8.1	7.6	7.1	6.5	5.9	5.4
Kazakhstan (UN IGME)	18.2	16.4	14.6	13.0	11.6	10.5	9.8	9.3	9.2
Tajikistan (UN IGME)	37.0	36.0	35.1	34.4	33.6	32.9	32.1	31.3	30.5
Republic of Korea (UN IGME)	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.9	2.8
OECD Average (World Bank estimates)	7.6	7.4	7.2	7.0	6.8	6.6	6.4	6.3	6.1

Source: UN Inter-agency Group for Child Mortality Estimation (n.d.); State Committee of the Republic of Uzbekistan on Statistics (n.d.-b); World Bank (n.d.-e)

C. Elderly Population

The ratio of the elderly (65 years and over) to the total population in Uzbekistan has remained relatively steady at around 4% since 1990. A comparison of the ratio of the elderly population of Uzbekistan with those of other countries in the region showed that it has been higher than that of Tajikistan since 1990 but lower than those of Russian Federation, Kazakhstan as well as Korea and the OECD average. Therefore, Uzbekistan has a relatively young population, and the ratio of the elderly population is expected to increase in the future with the rising life expectancy at birth.

〈Table 2-5〉 Elderly Population Rates in Uzbekistan and Neighboring Countries

(Unit: %)

Category	1990	2000	2010	2015	2016	2017	2018
Uzbekistan	4.1	4.6	4.5	4.1	4.1	4.3	4.4
Russian Federation	10.3	12.4	13.1	13.6	13.9	14.3	14.7
Kazakhstan	5.9	6.8	6.8	6.8	6.9	7.1	7.4
Tajikistan	3.8	3.6	3.3	2.9	3.0	3.0	3.0
Korea	5.2	7.2	10.7	12.9	13.3	13.9	14.4
OECD average	11.4	12.7	14.4	15.9	16.2	16.5	16.8

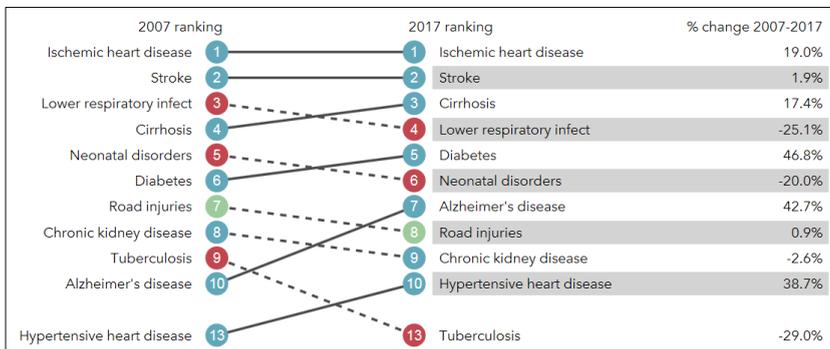
Source: World Bank (n.d.-g)

D. Leading Causes of Death

According to the Institute for Health Metrics and Evaluation

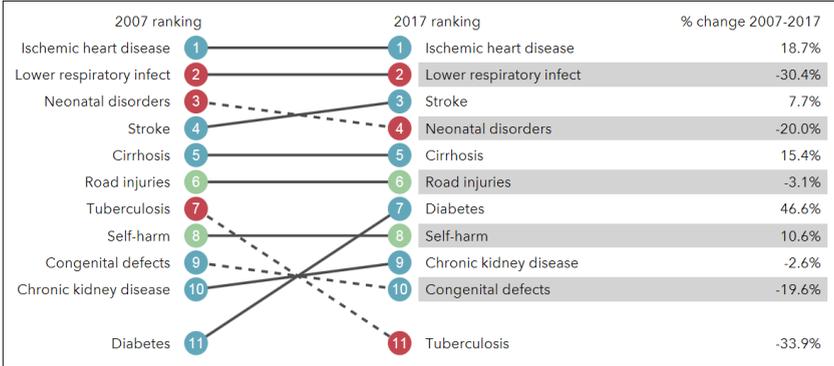
(IHME) at the University of Washington in the United States, the first and second leading causes of death were ischemic heart disease and stroke in both 2007 and 2017 in Uzbekistan. Compared to 2007, cirrhosis, diabetes, Alzheimer’s disease, and hypertensive heart disease climbed up in the rankings in 2017, but lower respiratory tract infections, neonatal disability, and traffic accident injuries dropped in the rankings. This seems to reflect the trend where there is a shift from infectious diseases to chronic diseases in terms of major diseases resulting from increased income levels (Figure 2-2). The main causes of premature death were similar to those of the 10 leading causes of death, but self-harm and congenital defects were also in the rankings (Figure 2-3).

[Figure 2-2] Ten Leading Causes of Death in Uzbekistan



Source: Institute for Health Metrics and Evaluation (n.d.), Recited from Shin et al. (2019).

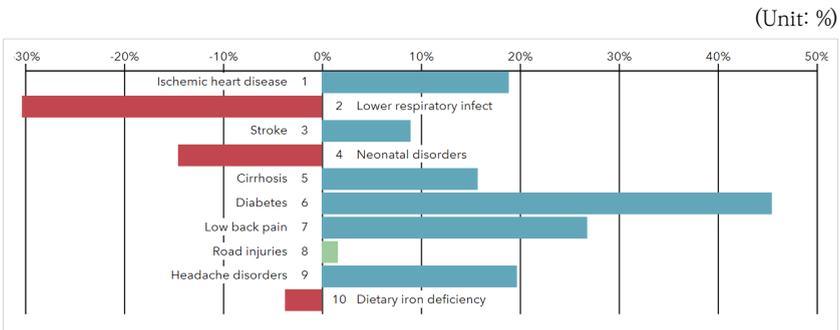
[Figure 2-3] Leading Causes of Premature Death in Uzbekistan



Source: Institute for Health Metrics and Evaluation (n.d.), Recited from Shin et al. (2019).

The disability-adjusted life years (DALY) was found to be the highest for ischemic heart disease, followed by lower respiratory tract infection and stroke.

[Figure 2-4] Comparison of Disability Adjusted Life Years (DALY) between 2007 and 2017



Source: Institute for Health Metrics and Evaluation (n.d.), Recited from Shin et al. (2019).

3. Education System

The education system in Uzbekistan is a mix of former Soviet and Western education systems. It has maintained public education, free education at institutions below secondary school, free education at some higher education institutions, and degree system, which are characteristics of the former Soviet education system, but it has incorporated the elements of the Western education system such as examinations, market principles, and paid education at some of the higher education institutions (Shin & Khan, 2007).

Article 41 of the Constitution of the Republic of Uzbekistan (1992) states, "Everyone shall have the right to education. The state shall guarantee free secondary education. Schooling shall be under state supervision." It has been found that free secondary education resulted in an increase in the enrollment rate for secondary education (Global Partnership for Education, 2019). According to a 2007 report, more than 75% of Uzbek adults have had secondary education, and the literacy rate is more than 99%, which is higher than other developing countries and not that different from developed countries (Shin & Khan, 2007).

A. School Education System in Uzbekistan

Uzbekistan's school education system is divided into preschool education, general secondary education, specialized secondary education, and higher education. Preschool education is provided at nurseries and kindergartens. General secondary education is compulsory education in elementary schools for children aged 7 to 10 (4 years) and general secondary schools for adolescents aged 11 to 15 years (5 years). After graduating from general secondary school, students can choose to enter an academic lyceum or a college. Lyceum, which is equivalent to a high school in Korea, is for students wishing advance to a higher education institution such as a university after graduation. Colleges provide education on majors related to a chosen profession. In specialized secondary education, colleges are more prevalent than lyceums. There are ten times as many colleges as lyceums (144 lyceums and 1,422 colleges). In some regions, there are no lyceum, thus colleges are the sole institutions providing specialized secondary education. As of the 2016/17 academic year, 101,300 students enrolled in lyceums, 1,358,100 in college, and 268,300 in higher education institutions (universities) (Shin & Khan, 2007; Global Partnership for Education, 2019). Colleges provide general secondary education as lyceums do. Additionally, they offer vocational training and impart practical and theoretical

knowledge and skills required in their chosen fields (Global Partnership for Education, 2019; Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan, n.d.).

B. Curriculum Reform

In Uzbekistan, the school education system had a 4-5-3 structure until 2016 after a curriculum reform in 2008. A total of 9 years of elementary and general secondary schooling was compulsory, while there was 3 years of specialized secondary education. With the curriculum reform in 2017, the school education system was changed into a 4-5-2 structure, with the compulsory education period increased to 11 years. Elementary and general secondary schools have the same curricula as in the past, but the curriculum prior to college admission is divided into three categories as follows according to the student's choice (Lee et al., 2007; Global Partnership for Education, 2019):

- ① General secondary education until the 11th grade;
- ② General secondary education until the 9th grade + 2 years of lyceum;
- ③ 11 years of general secondary education + 0.5-2 years of college.

The above three paths reflect changes in the specialized

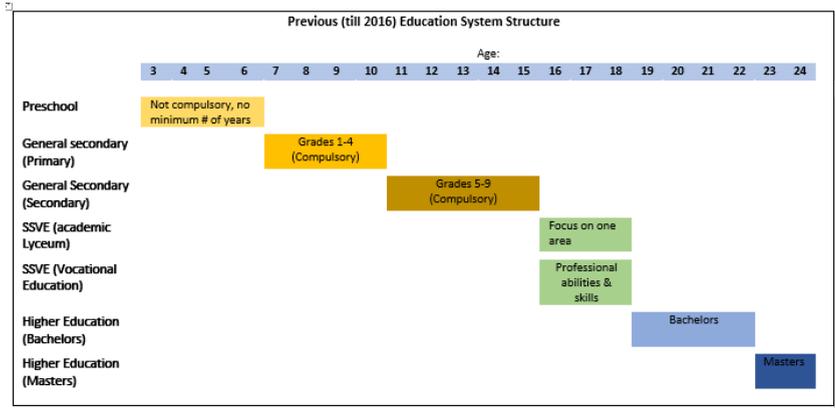
secondary education curriculum. One of the main objectives of the reform of the specialized secondary education curriculum is to provide flexible vocational education that can respond to the labor market. As a result, changes took place in lyceum and colleges. The lyceum curriculum was shortened from 3 years to 2 years, for example. In accordance with the Presidential Decree issued in 2017, lyceum graduates are allowed to receive not only a graduation diploma but also certificates (related to basic occupations such as secretaries and laboratory assistants) as college graduates do, thereby giving them a choice to either further their education or find employment after graduation. Vocational education curriculum has been changed so that only those who have completed compulsory general secondary education (11th grade) can enter. Vocational education entailed three years of schooling in colleges in the past, but after the reform, its duration was changed to 6 months to 2 years (Figures 2-5 & 2-6).

C. Higher Education (University)

Those who have completed secondary education can enter a higher education institute (university) by taking the national examination. As of the 2011/12 academic year, the most common academic major was pedagogy with pedagogy students accounting for more than half of all university students,

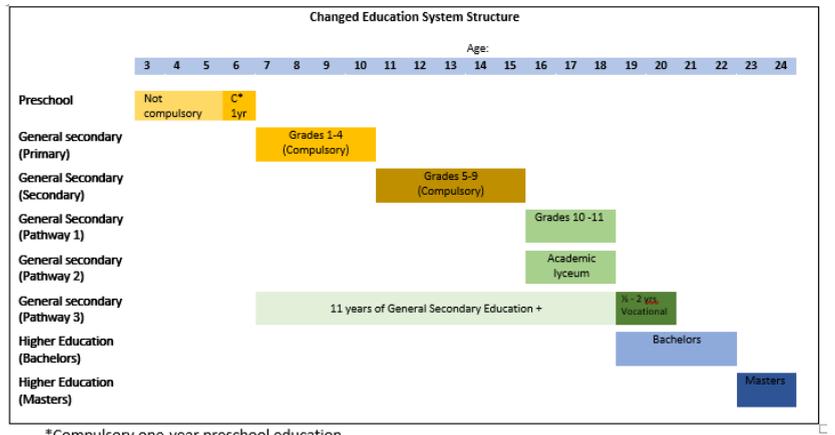
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[Figure 2-5] Former Education System in Uzbekistan



Source: Global Partnership for Education (2019). Figure 9A

[Figure 2-6] Education System in Uzbekistan After the Reform



Source: Global Partnership for Education (2019). Figure 9A

followed by industry and architecture and then healthcare (World Bank, 2014). Higher education courses include universities, specialized higher education institutions

(institute), and graduate schools after graduation from a specialized higher education institution (academy) (Eurastech, 2018).

For undergraduate programs, education standards are set by the government. Classes consist of lectures, training, experiments, counseling, seminars, and various other learning methods. Class hours are up to 54 hours per week, and for classroom instruction, the maximum hours are 36 hours per week. The training required for job skills is included in the curriculum (Shin & Khan, 2007).

Uzbekistan's university enrollment rate is 10%, which is low compared to other former Soviet Union countries (World Bank, 2020). This is due to the lack of access to higher education. There were many students receiving higher education free of charge with national scholarships in the past, but such opportunities are declining. With the introduction of paid education, the number of students enrolling in universities has dropped. In addition, regional accessibility is also low, as most higher education institutions are located in large cities. The quality of higher education has also been pointed out as a problem (Shin & Khan, 2007).

D. Education Structure & Labor Market

In Uzbekistan, the demand for skilled workers has been

growing due to economic growth and changes in the industrial structure change. Yet the labor market's needs for skilled manpower is not being met due to low higher education enrollment rate. According to a survey conducted in Kazakhstan, a neighboring country that has also maintained the former Soviet education system, employers prefer higher education graduates to vocational school graduates. However, in Uzbekistan's labor market, there is a gap between such market demands and the education level of job seekers. Most of those entering the labor market are mainly college graduates, but employers often require a higher level of skills beyond what is taught in vocational schools (World Bank, 2014).

Higher education graduates in Uzbekistan are often employed in fields that are unrelated to their major. The same goes for healthcare major graduates. This is speculated to be one of the reasons that graduates from a healthcare-related discipline cannot find a job related to their major. Another reason may be a lack of information on the needs of the labor market (World Bank, 2014).

In order for higher education to meet the needs of employers, cooperation between higher education institutions and medical institutions is necessary when it comes to course composition and practicums. However, higher education in the healthcare sector is managed by the Ministry of Higher Education, not the Ministry of Health, which poses limitations

to cooperation between medical institutions and relevant universities (World Bank, 2014).

Section 2. Healthcare System

1. Healthcare Policy¹⁾

The healthcare system of Uzbekistan was formed on the basis of the Semashko's model of the former USSR, a federal socialist state. In other words, it is a centralized structure in which the state supplies healthcare services and manages and controls most healthcare resources and organizations. However, due to the government's objective to achieve fiscal efficiency and the policy to expand primary healthcare, the self-pay method in secondary and tertiary care is steadily rising, and the direct funding of hospitals (self-financing) is also on the rise.

In Uzbekistan, the establishment, implementation, and regulation of the healthcare system are entirely led by the state (Ministry of Health). Since civic groups or professional associations play little to no roles, there is no self-regulation entrusted to the private sector. The government is both a major provider and a buyer of healthcare services, and almost all healthcare workers are paid by the government. However, the

1) This section is written based on the Chapter 2 of Shin et al. (2019).

state budget is not allocated to the private healthcare sector.

Health authorities in Uzbekistan are striving to make public health services universally available, while maintaining the main framework of “free medical care for all citizens,” which was the goal of the former Soviet Union. However, it has been pointed out that there was a lack of policy considerations for managing the quality of healthcare services.

To mitigate the issues, the government has been consistently pursuing healthcare reform by promulgating presidential executive orders since the early 1990s. The policy reform focused on primary and emergency healthcare services, while in the case of secondary and tertiary care, the focus has been on improving efficiency, rather than free healthcare services provided by the state.

A. Insurance System

Uzbekistan does not have a third-party payment system like the National Health Insurance of Korea, in which workplace and regional subscribers pay monthly premiums calculated differentially according to income and/or assets. Accordingly, the Uzbek government supplies and purchases healthcare services with the tax revenue, and the burden on the public for secondary and tertiary care, other than primary medical care, is increasing. However, similar to the medical benefits in

Korea, the state is bearing the cost for the economically poor, persons with disabilities, and those of national merit among others based on a basic security package.

B. Expenditure Structure

In Uzbekistan, the ratio of total healthcare spending to GDP has steadily increased from 5.0% in 2005 to 6.4% as of 2017.²⁾ The state's share of the burden in healthcare expenditure had risen for some time, but it has been decreasing since 2014.

(Table 2-6) Health Expenditure in Relation to Gross Domestic Product in Uzbekistan

Item	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017
Healthcare expenses, per capita purchasing power parity (\$)	106	136	232	256	297	320	325	375	417	448
Healthcare spending to GDP (%)	5.4	5.0	5.7	6.1	5.9	6.0	5.7	6.1	6.3	6.4
Government spending out of total healthcare spending (%)	47.0	45.2	48.0	48.2	50.2	50.4	52.2	49.8	46.0	43.3
Government spending on healthcare to total government spending (%)	6.1	6.5	8.0	9.0	9.8	9.8	9.5	10.1	10.1	10.2
Private healthcare spending out of total healthcare spending (%)	53.0	50.1	50.2	49.7	48.3	47.7	45.9	48.8	52.8	54.1
Ratio of out-of-pocket payments to total healthcare spending (%)	52.7	49.6	49.7	49.2	47.8	47.2	45.4	48.4	52.1	53.4

Source: World Health Organization. (n.d.)

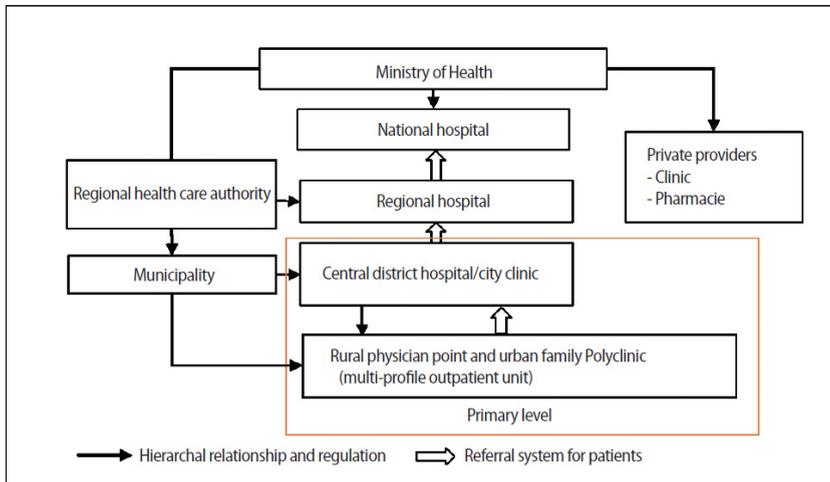
2) As of 2017, the ratio of total healthcare spending to GDP in Korea is 7.6%.

In contrast, the out-of-pocket expenses paid by the public decreased after 2000 but has been rising since 2014.

2. Healthcare Delivery System

For primary healthcare, rural clinics, which are the medical facilities at the lowest level of Uzbekistan’s healthcare system, and urban family polyclinics act as gatekeepers of the healthcare system. Central district hospitals and city clinics, on the other hand, provide more comprehensive healthcare services.

[Figure 2-7] Healthcare System and Relevant Organization in Uzbekistan



Source: Dronina, Moon, & Nam. (2017), p.260, Figure 2.

Regional hospitals provide healthcare services under the regulation of regional healthcare authorities, and national hospitals are regulated by the Ministry of Health. Private healthcare providers are mainly located in cities. Some of them provide redundant healthcare services due to a lack of information sharing and cooperation with public hospitals.

3. Healthcare Resources

A. Hospitals

Hospitals are general hospital-level medical institutions with inpatient beds (Shin et al., 2019). The number of hospitals in Uzbekistan has decreased since 1990, reaching 1,135, as of 2017. The number of hospitals in most administrative districts has declined since 1990, but it has been on the rise in Andijan Province and Tashkent. In 1990, Samarkand Province was the administrative district with the most hospitals, but the title was taken by Tashkent, the national capital, in 2017.

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〈Table 2-7〉 Hospitals in Uzbekistan

(Unit: number)

Administrative division (Viloyat)	1990	1995	2000	2005	2010	2015	2016	2017
Total*	1,373	1,357	1,162	1,149	1,158	1,071	1,106	1,135
Karakalpakstan Republic	100	105	88	75	50	42	42	41
Andijan Province	95	99	81	96	92	125	136	136
Bukhara Province	103	54	45	68	72	72	75	79
Jizzakh Province	82	73	67	60	63	58	58	60
Kashkadarya Province	116	111	107	107	104	90	86	82
Navoiy Province		57	48	44	43	29	28	29
Namangan Province	120	124	115	107	108	99	115	125
Samarkand Province	163	139	117	112	107	91	89	90
Surkhandarya Province	108	115	92	88	78	50	53	58
Syrdarya Province	55	52	36	33	36	34	33	33
Tashkent Province	152	144	101	104	91	74	78	81
Fergana Province	124	128	126	113	157	124	123	118
Khorezm Province	62	52	43	39	36	37	38	42
Tashkent (capital)	93	104	96	103	107	131	135	144

* Includes unassigned data to a region.

Source: State Committee of the Republic of Uzbekistan on Statistics. (n.d.-b).

B. Outpatient Clinics

Outpatient clinics are primary care clinics located in urban and rural areas that are dedicated to providing care to outpatients, do not have hospital beds, and are responsible for basic healthcare services (vaccination, consultation, and treatment) in their respective regions (Shin et al., 2019).

The number of outpatient clinics started increasing in 1990, reaching 5,296 as of 2017. In most administrative districts, the number of outpatient clinics increased after 1990 but fell in 2017, and only Tashkent saw a continued increase in 2017. Similar to hospitals, Samarkand Province was the administrative district with the most outpatient clinics in 1990, but Tashkent became the administrative district with the most outpatient clinics in 2017.

〈Table 2-8〉 Outpatient Clinics in Uzbekistan

(Unit: number)

Administrative division (Viloyat)	1990	1995	2000	2005	2010	2015	2016	2017
Total*	3,139	3,410	4,847	5,507	5,993	6,220	6,542	5,296
Karakalpakstan Republic	199	212	317	313	301	323	337	265
Andijan Province	281	272	416	527	464	529	528	383
Bukhara Province	284	222	440	444	523	539	567	456
Jizzakh Province	185	188	225	244	262	255	260	179
Kashkadarya Province	286	317	403	465	416	442	508	391
Navoiy Province	-	140	190	235	261	291	299	246
Namangan Province	212	229	376	432	395	393	418	352
Samarkand Province	328	392	539	562	577	574	589	433
Surkhandarya Province	221	281	353	371	393	375	384	268
Syrdarya Province	114	133	201	200	221	207	206	144
Tashkent Province	294	295	377	452	499	503	529	448
Fergana Province	327	363	483	542	567	558	596	458
Khorezm Province	162	163	216	256	302	291	321	270
Tashkent (capital)	246	203	311	464	770	853	914	926

* Includes unassigned data to a region.

Source: State Committee of the Republic of Uzbekistan on Statistics. (n.d.-b).

C. Hospital Beds

The number of hospital beds began increasing in 1990, but it declined starting in 1995 and has been steady since 2000. As of 2017, the number of hospital beds in Uzbekistan is 135,700. Since 1990, the administrative district with the largest number of hospital beds has been Tashkent.

(Table 2–9) Number of Hospital Beds in Uzbekistan

(Unit: 1,000 beds)

Administrative division (Viloyat)	1990	1995	2000	2005	2010	2015	2016	2017
Total*	254.9	177.5	138.6	142.4	139.6	129.7	132.0	135.7
Karakalpakstan Republic	15.5	10.8	7.2	9.4	8.6	7.3	7.3	7.3
Andijan Province	21.9	16.8	14.0	13.8	13.3	11.8	12.1	12.6
Bukhara Province	18.4	9.2	7.1	7.2	7.3	7.1	7.1	7.1
Jizzakh Province	9.2	4.5	5.0	5.0	4.7	4.8	4.9	5.0
Kashkadarya Province	19.0	12.9	10.9	12.5	11.3	10.5	10.4	10.8
Navoiy Province	–	5.5	3.7	4.2	4.3	4.0	4.0	4.0
Namangan Province	19.1	15.4	11.6	13.4	12.9	10.4	11.0	11.4
Samarkand Province	28.3	18.4	15.0	14.8	14.2	13.0	12.9	13.3
Surkhandarya Province	16.2	8.8	7.6	8.4	7.9	7.5	7.9	8.4
Syrdarya Province	7.7	5.2	4.2	4.2	3.8	3.7	3.6	3.6
Tashkent Province	27.1	15.9	11.2	11.0	9.9	9.2	9.5	9.9
Fergana Province	26.6	20.9	16.6	13.1	14.0	12.7	13.0	13.7
Khorezm Province	12.5	8.3	6.8	7.2	6.5	6.6	6.7	6.8
Tashkent (capital)	33.4	24.9	17.7	18.2	17.9	18.5	18.7	19.1

* Includes unassigned data to a region.

Source: State Committee of the Republic of Uzbekistan on Statistics. (n.d.-b).

D. Quality of healthcare

Since the late 1990s, Uzbekistan has been striving to improve medical facilities and equipment as well as training courses for medical personnel to improve the quality of healthcare. However, the level of healthcare services in Uzbekistan is still relatively low (Shin et al., 2019).

A study comparing healthcare access and quality index of countries around the world ranked Uzbekistan 100th in the world in 2016. This is higher than that of neighboring countries such as Kyrgyzstan (107th), Turkmenistan (104th), and Tajikistan (121st), but lower than Republic of Korea (25th), Russia (58th), as well as Kazakhstan (78th), Georgia (89th), Azerbaijan (92th), and some other nearby countries. What is notable is that healthcare access and quality scores for cardiovascular diseases were low (Fullman et al., 2018).

The lack of standard treatment procedures, old and outdated facilities and equipment, issues with the training process for healthcare workers, poor treatment (low wages, etc.) to healthcare workers are known to contribute to the low quality of healthcare (Shin et al., 2019).



III

Nursing Education in the Republic of Uzbekistan

Section 1. Current Status of Nursing Workforce

Section 2. Nursing Education System

Section 3. Diagnosis of Problems in the Nursing
Education System

III Nursing Education in the Republic of Uzbekistan

Section 1. Current Status of Nursing Workforce

1. Number of Nurses

In Uzbekistan, the number of nurses has steadily increased since 2011, reaching 367,700, as of 2018. This means there are 10.7 nurses per 1,000 people, which is higher than Korea's 6.9 (as of 2017) and the OECD average of 9.6 (as of 2017). The number of nurses per 10,000 people reached its peak at 108.2 in 2011 but has declined every year until 2016 when it began steadily rising again to 108.2 in 2018. The number of people per healthcare provider has been steady at around 92 to 94 since 2010.

〈Table 3-1〉 Current Status of Nursing Workforce

Number of nurses	2011	2012	2013	2014	2015	2016	2017	2018
Total nurses (1,000)	319.7	324.6	327.4	332.4	336.4	341.3	348.2	356.7
Per 10,000 population	108.2	108.2	107.4	107.2	106.5	106.3	106.6	108.2
Number of population per healthcare provider	92	92	93	93	94	94	94	92

Source: State Committee of the Republic of Uzbekistan on Statistics (n.d.-b). Social protection rights of mother and children. Retrieved from <https://stat.uz/en/>. Accessed on September 16, 2020.

Although there are no shortages of nurses in terms of absolute number, there are regional gaps due to the concentration of the workforce in urban areas. The number of nurses in Tashkent, for instance, was 37,200 in total, with 15.1 nurses per 1,000 people.

This is 1.4 times more than the national average (10.7 nurses per 1,000 people), and 3 times higher compared to the region with the fewest nurses (11,900 nurses). In most regions other than Tashkent, there are around 20,000 nurses in the workforce.

The number of nurses trained in educational institutions is known to exceed the demand. That is, the number of nurses produced by educational institutions is higher than the number needed by various institutions such as state hospitals, private hospitals, and educational institutions (Eurastech, 2016).

2. Job Duties of Nurses

The job description of a general nurse's job duties is as shown in Table 3-2. In addition, the job descriptions of midwives, chief nurses, nursery nurses, and nurse anesthetists working in rural clinics were reviewed (not reported).

The duties (tasks performed) and rights of nurses are specified in the job description. The job duties of a nurse commonly include providing healthcare services to patients,

performing routine management in relation to patient health, monitoring patient conditions, and managing tools for medical treatment. Health education for patients and local communities is also part of the job, which emphasizes the role of nurses in community health promotion and disease prevention. Nurses perform their job under the instructions of doctors, while in the case of chief nurses, they play a role in mediating between doctors at managerial levels (department heads, etc.) and general practitioners and between doctors and nurses, as a manager of nurses. It is a right and a duty of nurses to engage in education and training to improve their knowledge and skills. The job description describes the tasks performed by nurses in each field, but it does not specify the knowledge, skills, and competencies necessary to perform the tasks. Except the job description of chief nurses, job descriptions does not prescribe nurses' role as a participant in medical management, advocacy, research, and policy development.

〈Table 3-2〉 Job Description of General Nurses in Uzbekistan

<p>(Duties)</p> <ol style="list-style-type: none"> 1. Provide medical services to assigned residents (including individual patients and families) according to the doctor's instructions for disease prevention and treatment of common diseases; 2. Provide emergency medical services according to the guidelines and equipment before treatment by a doctor; 3. Implement measures to reduce morbidity, disability, and mortality among assigned residents, like general practitioners; 4. Implement comprehensive sanitation and infectious disease prevention measures for households in the assigned area;
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5. Conduct training for residents to develop a lifestyle and habits for wellness;
6. Organize home visit medical services and provide medical social welfare services for single, elderly, disabled, and chronic disease patients along with social workers;
7. Administer health checkups and examinations for children, adolescents, women of childbearing age, seniors and chronic disease patients along with general practitioners for the purpose of disease prevention;
8. Partake in preventive and therapeutic measures to eradicate diseases in society including tuberculosis, skin disease, sexually transmitted diseases, malignant tumors, hepatitis B and C, HIV/AIDS, other infectious and parasitic diseases, alcoholism and drug addiction;
9. Partake in and popularize measures to preserve and promote the health of assigned residents;
10. Fill out the established record sheets and reporting documents in a timely and appropriate manner;
11. Ensure safe storage and use of medical equipment, devices, medicinal supplies, and consumables;
12. General nurses shall independently perform a wide variety of tasks as follows under the supervision of a general practitioner (GP):
 - Make regular home visits to care for pregnant women and provide consultation in relation to maternal and child protection, reproductive health, prevention of unwanted pregnancy, breastfeeding, and nutrition during pregnancy as well as education to pregnant women and their families to prepare for childbirth;
 - Make home visits with a GP during the first 3 days after discharge from the delivery center to provide care for newborns, provide consultation on breastfeeding, child-rearing, and nutritional intake after childbirth, and make home visits to provide care according to the instructions of the GP;
 - Provide individual and group consultation to parents of children and distribute leaflets and materials on child health protection;
 - Organize a young mother's school and provide support for training activities;
 - Teach parents how to raise children, age-specific massage methods, making baby food, and feeding babies after stopping breastfeeding;
 - Implement measures to prevent rickets in children;
 - Provide individual consultation for children to enter kindergarten along with a GP;
 - Provide medical support prior to medical treatment for injuries or poisoning or other emergency treatment;
 - Monitor the health of assigned residents, including the psychomotor development of children, and keep patient medical record cards;
 - Make home visits to care for critically ill patients according to the doctor's instructions;

- Register people with diseases, disabilities, and chronic diseases in the community and monitor GP's care for registered patients according to the approved schedule;
- Monitor chronic patient conditions and keep records in the patient care cards;
- Keep records of the tasks performed in the nursing records;
- Make home visits to identify infectious disease patients, their contacts, and suspected cases and implement quarantine measures supervised by a family clinic;
- Manage the work rooms, equipment, and tools and organize patient care cards and prescription forms;

(Rights)

1. Form a labor organization, obtain medicinal supplies and consumables from the medical office and a medical bag for home visits, and make proposals for improvement of treatment to chief nurses and GPs;
2. Participation in meetings on prevention/treatment and administrative activities at family clinics;
3. Improve their qualifications and pass the qualification examinations according to the prescribed procedure.

Source: Provided by the National Chamber of Innovative Healthcare of the Republic of Uzbekistan.

3. Systems Related to Nursing Manpower³⁾

Currently, Uzbekistan does not have a healthcare profession licensing system, and this includes nurses (Eurastech, 2016). Instead of having a licensing system, all students in medical colleges (including nursing education) take a two-step national certification examination consisting theory (multiple choice test) and practical (Objective Structured Clinical Examination, OSCE) parts upon graduation. Those who have completed the

3) Content without citation is written based on the information provided by Ismailov, U.S., the Head of the Science and Education Bureau of the Ministry of Health of Uzbekistan (June 16, 2020).

medical college education, passed the field training (internship) program in their field of major and the subsequent practical exam, and passed the national certification exam are issued a graduation certificate in a prescribed format. It certifies that the recipient has been assigned a profession in accordance with the approved “classificator of areas of vocational education, specialties and professions.” Each graduate is assigned an employment code according to the degree code given at graduation, and the institution at which the person can be employed is determined according to this employment code.

Mid-level health professionals are required to undergo refresher training every three years at the Republican Center for Continuing Education and Specialization of Secondary Medical and Pharmaceutical Workers and regional offices. The qualification category earned after completing a refresher training course affects their pay.

In the public healthcare sector, salary is determined based on the job rank and qualification according to the regulations for public servants (Eurastech, 2016).

The Nursing Association of Uzbekistan provides nurse education, continuing education, and retraining. It also coordinates the activities of secondary medical education institutions and medical institutions in the country to provide quality nursing services. Also, a system to assess the job performance of patronage nurses was introduced in 2014.

Section 2. Nursing Education System

The main group of health professionals in Uzbekistan are medical doctors, nurses, dentists, and pharmacists. All educational institutions involved in the education of health professionals are public institutions. There is a separate curriculum for each of the four major professional groups (Ahmedov et al., 2014). Nursing education, in particular, is provided by colleges (equivalent to vocational high schools in other countries), which are specialized secondary education institutes, and medical schools (universities) under government regulation and supervision. Academic degrees that can be earned by nurses are college diploma, bachelor’s degree, and master’s degree. Although there is not a doctoral degree in

〈Table 3-3〉 Nursing Education System in Uzbekistan

	Educational Institution	Duration of Study
Basic nursing education	Colleges	3 years
Bachelor’s degree	University	3 years
Master’s degree (Nursing organization and management)	University	2 years
Doctoral degree (Health care and medical management)	University	3 years
Continuing education	Republican Center for Continuing Education and Specialization of Secondary Medical and Pharmaceutical Workers	1 month

Source: Provided by the National Chamber of Innovative Healthcare of the Republic of Uzbekistan.

nursing in Uzbekistan, it is possible for students to enter a doctoral degree program in healthcare and medical management. In addition, there is also refresher training for nurses (Table 3-3).

1. Nursing Education at Colleges

Nursing education in Uzbekistan takes place mainly in colleges. Colleges provide basic nursing training. Before the reform of the education system structure, those who completed general secondary education (9 years) entered colleges to receive nursing education. Students who completed only general secondary education studied in a 3-year college program, whereas students who completed lyceum studied in a 2-year college program (Adilova, Urazalieva, & Risbayev, 2016; Ahmedov et al., 2014; Kvak, 2014; Praxmarer-Fernande, Maier, Oikarainen, Buchan, & Perfilieva, 2017; Rechel, Richardson, & McKee, 2014; Uktamova, Mamatkulov, & Urazalieva, 2016). The State Test Center administers the entrance examination, and successful candidates are selected based on their exam results.

The Ministry of Health in Uzbekistan submitted a recommendation to the government to require students who have completed the 11th grade to be able to enter a medical college, taking into consideration the nature of the healthcare sector. The recommendation has accepted. Thus, only those who

completed in 11th grade can continue on into a medical college.

As of June 2020, there are 75 medical colleges in Uzbekistan. In accordance with Presidential Decree No. 2956, “Basic Reform Measures for the Medical Education System of Uzbekistan,” dated May 5, 2017, medical education has been divided into five programs (general nursing, preventive medicine, laboratory diagnostics, dentistry, and pharmacy). Before the education reform, the education period of medical colleges was 3 years (full-time). The education and professional programs at colleges are implemented based on the principle of mutual cooperation among specialized secondary education institutions, the Ministry of Health, and institutions affiliated with the healthcare system.

According to Presidential Decree No. 4666 dated April 7, 2020, 47 medical colleges were reorganized into technical schools of public health of Abu Ali ibn Sino for the 2020/21 academic year. A technical school has the function of a specialized secondary education institution, and the study period is 3 years. Education at public health technical schools is provided according to the curriculum and programs integrated with higher education institutions (universities), and technical school graduates can enroll in the second year of higher education institutions. The 28 medical colleges that have not been converted into public health technical schools will be operated as specialized secondary education institutions

with an education period of two years. The reorganized medical colleges will focus on valeology, nutrition, diet therapy, medical psychology, pharmacology, rehabilitation, pathology, exercise therapy, etc. Those who have completed university-level medical education will teach students as teachers and instructors.

Table 3-4 shows the number of medical colleges and programs available by region and Table 3-5 shows the faculty composition. Each college building is equipped with a preclinical practice room and each medical institution has an education room to ensure a practical education and training environment.

〈Table 3-4〉 Number of Medical Colleges and Programs by Region

Division	Number of medical colleges	Programs				
		Nursing	Preventive Medicine	Laboratory Diagnostics	Dentistry	Pharmacy
Total	75	75	35	47	28	59
Karakalpakstan Republic	6	6	3	3	2	5
Andijan Region	7	7	3	7	2	6
Bukhara Region	4	4	3	4	2	4
Jizzakh Region	4	4	4	4	2	4
Kashkadarya Region	4	4	3	1	2	3
Namangan Region	7	7	3	4	3	3
Navoiy Region	3	3	3	2	1	3
Samarkand Region	9	9	1	5	4	8
Surkhandarya Region	5	5	2	3	4	4
Sirdarya Region	3	3	2	3	2	2
Tashkent Region	6	6	4	4	3	5
Tashkent City	7	7	2	4	2	4
Fergana Region	9	10	3	8	3	6
Khorezm Region	2	2	2	1	1	2

Source: Provided by Ismailov, U.S., the Head of the Science and Education Bureau of the Ministry of Health of Uzbekistan (June 16, 2020).

<Table 3-5> Number of Faculty Members at Medical Colleges by Region

Division	Total	General subjects	Specialization subjects	Nurses completed higher education
Total	3442	465	2977	1565
Karakalpakstan Republic	290	35	255	88
Andijan Region	285	52	233	55
Bukhara Region	139	8	131	41
Jizzakh Region	158	28	130	18
Kashkadarya Region	207	27	180	36
Namangan Region	312	25	105	51
Navoiy Region	130	45	267	21
Samarkand Region	463	45	418	149
Surkhandarya Region	83	19	64	20
Sirdarya Region	209	37	172	48
Tashkent Region	183	55	165	57
Tashkent City	477	61	416	41
Fergana Region	405	55	350	175
Khorezm Region	101	10	91	38

Note: Teaching staff are divided according to whether they teach general and specialization subjects. The number of nurses who have completed higher education among the entire teaching staff are shown. Other faculty members include those with doctoral degrees, doctoral researchers, senior teachers, head teachers, teachers, etc.

Source: Provided by Ismailov, U.S., the Head of the Science and Education Bureau of the Ministry of Health of Uzbekistan (June 16, 2020).

2. Higher Nursing Program (University)

In 1999, a 3-year higher nursing program was introduced into the medical education system of Uzbekistan and is being carried out in medical universities (Alimov, 2014). The introduction of bachelor’s degree in nursing has led to a creation of a multi-level system of nursing education, allowing colleges to provide basic education and universities to provide

in-depth education (Adilova et al., 2016). The title of “chief nurse” was also introduced. For the first bachelor’s program in nursing, about 200 students enrolled (Ilkhamov & Jakubowski, 2001).

In the case of a bachelor’s degree program in nursing, only those who have earned a nursing diploma from a college are admitted. In the nursing education program, all students can choose one of four specialties in their final year: internal medicine, surgery, obstetrics and gynecology, and management.

Uzbekistan’s undergraduate medical programs are known to be of a relatively high quality, evidenced by the use of learning materials similar to those of developed countries. It has been noted, however, that health professionals lack the latest medical techniques and skills due to insufficient practice environment (Eurastech, 2016). It is presumed that the situation is the same with nursing education provided by medical schools.

We reviewed higher nursing programs offered by the Tashkent Medical Academy and the Samarkand State Medical Institute. Both schools have included general liberal arts courses in the humanities and social sciences in addition to clinical courses, preclinical subjects, and practicums in their programs.

In the case of bachelor’s in nursing program at the Tashkent

Medical Academy, each academic year consists of 44 weeks of classes. When the lecture time is divided by the number of weeks of classes and converted into a credit format applied in Korea, nursing students must obtain 9 credits in the humanities and natural sciences (7 credits excluding self-study), 29 credits in preclinical courses (16 credits excluding self-study), 80 credits in clinical courses (48 credits excluding self-study), 5 credits in elective courses (2 credits excluding self-study), and 7 additional credits (4 credits excluding self-study) for a total of 130 credits. About 40% (2327/5724) of the education hours is self-study, and actual class hours are estimated to be equivalent to a course load for 77 credits.

More than 5,000 nurses who specialized anesthesia, critical care, surgery, obstetrics, or management in a higher nursing program (bachelor's degree) have been produced as of May 2019 (Ministry of Health of the Republic of Uzbekistan, 2019). Nurses with bachelor's degrees mainly work in emergency medicine, anesthesia, obstetrics, operating rooms, and intensive care units, and perform nursing duties as intermediate-level managerial staff. They also perform the role of midwives and engage in hospital operation and nursing case management, or work as educators in colleges and universities. Some hospitals require a bachelor's degree in nursing as one of the qualification criteria for chief nurses and senior nurses.

3. Nursing Education at Graduate Schools

After the bachelor's degree program, there are master's degree programs in nursing education. A master's degree program in nursing has been established by some of the medical schools since 2001, and the enrollees can choose a specific major such as internal medicine, surgery, obstetrics and gynecology, and medical management. Two universities, Tashkent Medical Academy and Tashkent Pediatric Medical Institute, offer master's degree programs in organization and management in nursing (Adilova et al., 2016). By May 2019, about 100 nurses have obtained master's degrees (Ministry of Health of the Republic of Uzbekistan, 2019).

There is no doctoral degree program in nursing in Uzbekistan, but there is a doctoral degree program in health care and medical management.

4. Continuing Education

The framework of continuing education for nurses is similar to that of physicians. The main entity in charge of refresher training for nurses is the Republican Center for Continuing Education and Specialization of Secondary Medical and Pharmaceutical Workers, which aims to improve the knowledge, skills, and professional expertise of nurses and to

enable them to use the latest health technology with its refresher training. Nurses must attend a refresher training program every five years. This program is administered by 13 branches, with one in each region (Ahmedov et al., 2014). The recent Presidential Decree prescribes that mid-level health professionals must complete at least 140 credit hours (28 hours/year) of refresher training as compulsory continuing education.

A good example of continuing education provided to nurses are the seminars held through the Health 3 Project. The Health 3 Project Secretariat and the Nursing Association of Uzbekistan in cooperation with the Uzbekistan Ministry of Health have held more than 1,500 seminars to train more than 500 regional nurses. The seminars cover reproductive health, safe motherhood, the importance of breastfeeding, interpersonal communication, maternal and child protection, and the practical implementation of contemporary principles for preventing infectious diseases.

Not only that, workshops and seminars are held on a regular basis to strengthen the job competencies of nurses. For example, the Tashkent Medical Academy offers capacity building training for nurses and intermediate-level managers who have received higher education.

Section 3. Diagnosis of Problems in the Nursing Education System

In this section, we have diagnosed problems in the nursing education system of Uzbekistan based on a review of previous research on Uzbekistan's nursing education system.

1. Knowledge and Skills of Nursing Graduates

In the education system of Uzbekistan, concerns have been raised about the quality and skills of graduates, including nursing graduates. According to a World Bank report in 2014, many employers gave low ratings for the skills and qualifications of graduates from medical colleges and medical schools. While high scores were given for the proficiency in the Uzbek language and computer skills and willingness to provide help and an understanding to patients, their knowledge of relevant laws and management capacity were rated poorly. The inability to adapt the curriculum of medical education to the changing professional demands has been pointed out as the cause of the low level of knowledge and skills of graduates from the medical field (World Bank, 2014).

Lack of opportunities for training of a high standard can also be attributed to the poor knowledge and skills of graduates. Healthcare facilities in Uzbekistan collaborate with educational

institutions to provide practical training (practicum) to students in medical universities and medical colleges. This collaboration occurs within the framework of the provincial health programs. This is a result of highly centralized management, and healthcare providers generally do not cooperate with educational institutions unless mandated by government directives. As a result, a partnership between a medical institution and an educational institution becomes far more complicated when the educational institution is affiliated a ministry other than the Ministry of Health (World Bank, 2014).

Considering the concentration of medical institutions in urban areas, there is a possibility that students in universities and medical colleges in some of the regions may face difficulties practicing in an ideal training environment, as opposed to students in metropolitan areas. In addition, there is also a possibility that students may not have enough opportunities to practice in private hospitals equipped with modern medical facilities.

According to the evaluation of the quality of care provided by patronage nurses, some of their competencies have continuously improved, while others still have room for improvement. The ability to perform basic tasks such as measuring blood pressure and body temperature, finding diarrhea symptoms and other noticeable symptoms, and breastfeeding education has improved. The areas where they

lack, on the other hand, are caring for pregnant women, delivery, newborn care, health promotion, emergency medical treatment, and care for persons with disabilities and seniors. It has also been reported that nurses lack knowledge and skills in specialized fields (Alimov, 2014). UNICEF cited the unclear accountability structure and poor quality of training as reasons for such inadequate knowledge and skills of patronage nurses (United Nations Children's Fund, 2016).

2. Lack of Higher Education Graduates

As noted earlier, professionals who have obtained higher education at the university level are essential in the healthcare sector. Nevertheless, most of the nurses who are currently in the workforce in Uzbekistan are graduates from colleges, and this is different from Korea and developed countries where nursing education at the university level is required of nurses.

There is generally a shortage of qualified health professionals in medical facilities in Uzbekistan. Despite the high demand for professionals with university degrees in the medical field(it requires about 80-90% of healthcare professions completed higher education), colleges produce the vast majority of nursing graduates under the current education system, while only a small number of health professionals are produced by universities and higher educational institutions. The shortage

of higher education graduates is attributable to limited admission quotas, limited employment opportunities after graduation, financial issues such as the burden from tuition, and geographic imbalance in that universities are located in only some cities (World Bank, 2014).

Not only that, despite the shortage of qualified medical professionals, medical institutions are not taking it upon themselves to find and recruit graduates whose knowledge and skills are of the highest standard. They instead rely on regional or national administrative agencies to assign them fresh graduates (World Bank, 2014).

In the current healthcare environment in Uzbekistan, the job areas of nurses and doctors are not clearly distinguished, and nurses are more of an assistant to doctors rather than the doctors' fellow health professionals. Moreover, the fact that university graduates and college graduates perform the same nursing tasks, and the difference in the academic background is not reflected in the salary are factors deterring college graduates from entering university (Kvak, 2014; Rechel et al., 2014).

3. Lack of Higher Education Programs to Foster Quality Manpower

At present in Uzbekistan, college students who specialized in

nursing and university students in nursing become qualified to work as nurses after passing the national certification exam. While it is expected that the curriculum is structured based on the subjects of the national certification exam, it is unclear whether the current curriculum is appropriately structured for real-life applications in the healthcare field.

The number of credits required for a typical higher education nursing program is estimated to be 130 credits, which are obtained over the course of 3 years, but this drops to 77 credits when credits allocated for self-study are excluded. This is incomparable to the nursing university graduation requirement in Korea, which is 120 to 140 credits over the course of 4 years.

The number of credits becomes even higher when self-study credits are included. Even when the fact that a bachelor's in nursing program in Uzbekistan is 3 years is taken into consideration, it should be noted that there are relatively many credits required from the humanities and natural sciences courses (9 credits in total but 7 credits excluding self-study) and preclinical courses (29 credits in total but 16 credits excluding self-study), while the number of credits required from nursing-related clinical courses is low. Since the education period is relatively shorter at 3 years, it is expected to be difficult for students to gain basic knowledge of medicine and the principles of nursing based on scientific knowledge

and to acquire knowledge in various fields and put it to practice at the same time.

In the case of medical colleges, which were three years long, practical nursing education was insufficient because 9th grade graduates would enroll in the school to study what they would have studied in a lyceum as well. Since the curriculum reform, the number of years spent in a college has been shortened to two years, but intensive education is provided to students in their field of study, so the problems noted above are expected to be resolved in the future.

Another problem that should be noted is that many of the teachers who teach nursing at medical schools are doctors, not nurses.⁴⁾ Teachings from nurses are essential in lectures on the principles and concepts of nursing and guidance on field skills and training, but such education is currently lacking.

⁴⁾ At TMA, for instance, more than half of the faculty members are doctors. (See <https://dn.nursing.tma.uz/about-us/people>)



IV

History of Nursing Education in the Republic of Korea

- Section 1. Historical Aspect of Nursing Education
- Section 2. Institutional Aspect of Nursing Education
- Section 3. Aspect of National Examination System for Nursing
- Section 4. Development of Nursing Education and Role of the Korean Nurses Association

IV History of Nursing Education in the Republic of Korea

Section 1. Historical Aspect of Nursing Education

1. Overview

The history of nursing education in Korea can be divided into the introductory phase from 1903 to 1945, the growth phase after liberation from Japanese colonial rule until the 1990s, and the maturity phase in and after the 2000s. The introductory phase was a time when nursing education was first introduced in Korea, but there were limitations in enhancing the independent educational capacity with Japanese colonial rule over Korea. Therefore, it can be said that nursing education in Korea began to develop in full swing only after liberation. Starting with Ewha Womans University in 1955, department of nursing offering a 4-year undergraduate program was established at Yonsei University in 1957 and Seoul National University in 1959, and this served as the cornerstone for the development of nursing education in the country (Ewha Womans University College of Nursing, n.d.; Yonsei University College of Nursing, n.d.; Seoul National University College of Nursing, n.d.-b). From then on, nursing education in Korea

underwent significant quantitative growth all the way until the 1990s. Then, in the 2000s, the Korea Accreditation Board of Nursing (renamed as the Korea Accreditation Board of Nursing Education, KABONE, in 2012) was established in 2001 to conduct accreditation of nursing education institutes, and the present-day nursing education system finally emerged with the standardization of the compulsory nursing education period as 4 years, in accordance with the amended Higher Education Act that took effect in 2011 (KABONE, n.d.-a). This laid the foundation for the qualitative development of nursing education, so the 2000s and thereafter can be said to mark the maturity phase of nursing education in Korea.

2. Introductory Phase (1903–1945)

A. 1903–1910

The first-ever Western-style hospital established in Korea was Jesaeng Hospital founded by a Japanese in Busan in 1876 (Busan Medical Center, n.d.). The first Western-style hospital established by the Joseon government, on the other hand, was the royal hospital called Gwanhyewon, founded in 1885 based on the proposal by Allen (later renamed as Jejungwon). At the time, Mrs. Underwood performed the nursing work alone at the hospital, and there were obstacles to opening and operating a

nursing school to train additional nurses (Koh et al., 2017).

Under these circumstances, in 1903, Margaret J. Edmunds, who was a nurse, established Korea's first nurse training institution at Bogu Women's Center, which was a women's hospital, and served as the first director (Korean Nursing Association, 2003). As the precursor to the College of Nursing at Ewha Womans University, it not only provided nightingale nursing education, but also used the name "nurse (ganhowon)" for the first time (Chitty & Black, 2011/2013). Three years later, in 1906, Esther Shields, a missionary nurse, established a nursing education institution at Severance Hospital (Korean Nurses Association, 2003). It can be said that nursing education regulated by the government officially began as the Department of Nursing at the Daehan Clinic School of Medicine, which was established following the promulgation of the Administrative Law on Daehan Clinic in 1907 (Chitty & Black, 2011/2013). The nursing department and midwifery department offered two-year programs, but they did not produce formal nurses until 1910.

B. 1910–1929

With the annexation of Korea by Japan in 1910, Daehan Clinic was renamed as Jungang Clinic and then as the Clinic of the Japanese Government-General of Korea. Then, the medical

school affiliated with Daehan Clinic was downgraded to a medical school affiliated with the Japanese Government-General of Korea, and the total length of study for students in the midwifery department was the same as before at 2 years, but the that of the department of nursing was shortened from 2 years to 1.5 years (Seoul National University College of Nursing, 1997). It was around this period, of that nursing education began to be administered by the Japanese through the Clinic of the Japanese Government-General of Korea in the case of Seoul and the provincial branches of Jahye Clinic in other regions (Koh et al., 2017). On the other hand, it was difficult for nursing education to undergo advancement due to the control policy implemented by Japan, such as not granting accreditation to private schools of missionary education institutions (Chitty & Black, 2011/2013).

In 1914, the Rules on Nurses, which could be described as the first nursing-related law, was enacted and promulgated. The significance of the Rules on Nurses that it stipulates the standards for nursing manpower and acknowledges the differentiation of nursing from other occupations by licensing (Lee, 2000). However, it should be assigned too much significance, as it was essentially a law enacted by Japan as a means to provide nursing manpower to suit their own needs. At the time, the Rules on Nurses restricted the qualifications of nurses to women aged 18 years or older, and the license to

practice as a nurse was granted to those who passed the nurse qualification examination, but those who graduated from an educational institution designated by the Japanese Government-General of Korea were licensed without passing the exam.

In 1922, Edna Lawrence was appointed as the Director of the Training Center for Nurses and Midwives affiliated with the Severance Medical School (hereinafter referred to as the Severance Nurse Training Center), and it was operated as a 3-year Western-style education institute focusing on clinical nursing. In 1924, accreditation was given by the Japanese Government-General of Korea (Koh et al., 2017), and as a result, graduates from the Severance Nurse Training Center were able to obtain a nursing license without examination.

C. 1930–1945

During the Sino-Japanese War (1937) and the Pacific War (1941), Imperial Japan coerced Koreans to visit Shinto shrines, and missionary hospitals and nursing education institutions that resisted were shut down one after another. When there was inadequate manpower to mobilize for the war efforts, the Japan accredited a nursing school at each provincial clinic, accredited an increasing number of private nursing schools, and established nursing departments in 68 general girls' high

schools nationwide for students to obtain a nursing license after graduation. It was clear that these measures would inevitably lead to changes the contents of nursing education, nursing activities in hospitals, and nursing practices such as private health nursing programs (Lee Y. J., 2000). Nursing education during this period of time was reduced to a means of training nursing manpower necessary for mobilization for Japan's war efforts, and for this reason, it can be said that it marked the regression phase of nursing education in Korea.

3. Growth Phase (1945–1999)

This was the period when Korean nursing education developed in full swing after liberation from Japanese colonial rule in 1945. The period from 1945 to 1948 was a time of U.S. military government, and this was when the foundation of nursing education in Korea was laid. From the 1950s to the 1970s, a 4-year bachelor's degree program in nursing was newly established, and master's and doctoral programs were also introduced, based on which it can be said that the system of nursing education began to be created during this part of history. It was also during this period that the national nurse licensure examination system was introduced. In the 1980s and 1990s, 4-year bachelor's degree programs as well as master's and doctoral programs continued to rise in number, and

nursing programs as a self-education major were opened, resulting in quantitative growth of nursing education.

A. 1945–1949 (U.S. Military Government period)

In 1945, the U.S. Military Government reorganized the Sanitation Division of the Metropolitan Police Board from the Japanese colonial period into the Health and Welfare Bureau and then promoted it to Ministry of Health and Welfare in 1946 (Yi, 2013). The Nursing Service Bureau was established along with the Medical Bureau and Preventive Medicine Bureau within the Ministry of Health and Welfare (Korea Nurses Association, 1997). The Nursing Service Bureau was the first central administrative organization dedicated to the nursing service and played a critical role in paving the foundation of nursing education in Korea after liberation. The Nursing Service Bureau had the Nursing Service Advisory Committee composed of experts to deliberate on important matters related to nursing education, such as screening and accreditation of nursing schools and curriculum establishment for nursing education. There were six departments operating under the bureau: Nursing Education, Hospital Nursing Administration, Midwifery, Public Health Nursing, Registration, and General Affairs (Yi, 2013).

Meanwhile, the nursing community, including the Korean

Nursing Association, continuously insisted on the abolition of the nurse licensing system that granted licenses to those who passed the nurse qualification examination that began to be administered by the Japanese (Korean Nurses Association, 1997). The reason was that the qualification examination, through which a person who did not receive any formal nursing education could become a licensed nurse, did not meet the conditions of “regular education and national license” required of regular member states by the International Council of Nurses, and it hindered professionalization of nursing. Thus, the system was abolished in 1946 (enforced in 1949) but was temporarily revived by the National Medical Act and the Regulations on Qualification Examinations in 1951 due to war. Then, as a result of the nursing community organizing a powerful movement to call for its withdrawal in 1962, it was finally abolished when the National Medical Act was amended.

Provincial hospitals and other hospital-affiliated training centers were scrapped and reorganized into nursing high schools (3-year program), and a total of 18 schools, including Seoul National University Hospital Nursing High School and Severance Nursing High School, were accredited. This led to the beginning of a nursing education system centering on a 3-year higher nursing education institutes (Shin et al., 2009). Also, in 1947, the minimum admission criteria for nursing education institutions, which had varied in the past, were

standardized to accept middle school graduates, and the education period was standardized as three years (Kim, 1980).

B. 1950s–1970s

1) Overview

From the 1950s to the 1970s, nursing education underwent full-fledged growth with the establishment of an institutional foundation for Korean nursing education. Not only were 4-year bachelor's degree program opened, but master's and doctoral degree programs were also made available, and its status was promoted from "nursing department of college of medicine" to "college of nursing," making independent development possible. In addition, with the introduction of the national nurse licensure examination system during this period, there were changes in nursing education and the licensing system.

2) Opening of 4-Year Bachelor's Programs and Graduate School Programs

The 1950s was when the department of nursing began to be established as a 4-year undergraduate program in Korea, thereby laying the groundwork for the quantitative and qualitative growth of nursing education. The Department of Nursing was established at Ewha Womans University in 1955,

Yonsei University in 1957, and Seoul National University in 1959 (Jeong et al., 2012). In the 1960s, the number of schools offering 4-year bachelor's degree programs in nursing began to increase gradually. Catholic University of Korea (1964), Woosuk University (1967), and Kyung Hee University (1968) also established 4-year bachelor's degree programs in nursing. It served as an impetus for further advancement. Although there were only eight schools offering a 4-year bachelor's degree program in nursing in 1969, the number increased to 14 by 1979, and the number of students increased by 85.9% from 1,437 in 1969 to 2,672 in 1979 (Ministry of Education, 1970; Ministry of Education, 1980).

A master's degree program in nursing began to be offered in the 1960s, with Ewha Womans University establishing a related program in 1963, Yonsei University in 1963, and Seoul National University in 1964, 1980). and this led to the era of graduate school education in nursing. In the 1970s, the Ministry of Education, with the aim of improving the quality of university education, advised that faculty members of universities and graduate schools obtain a doctoral degree and increased the quota for master's and doctoral degree programs by more than 10 fold as a means to cultivate intellectuals and talents. Moreover, Korean nursing professors began participating in international nursing associations and international conferences, through which they had a chance to experience

the academic advances in nursing on the international stage. As a result, there was consensus within the nursing community with respect to a need for a doctoral degree program in order to improve the quality of nursing and reach the international level. The quantitative expansion of graduate school education and the demand for nursing care acted as a catalyst for the establishment of doctoral degree programs in nursing. The first doctoral degree program in nursing was opened at Yonsei University in 1978, followed by Ewha Womans University in 1979 and Seoul National University in 1984 (Oh et al., 2014). In 1969, there were four schools offering master’s programs with only 20 students enrolled, but a decade later, fourteen schools offered master’s programs, and the number of students increased 6-fold to 121 (Ministry of Education, 1970; Ministry of Education, 1980).

〈Table 4-1〉 Number of Nursing Education Departments and Students (1960s to 1970s)

Year	Bachelor’s		Master’s		Doctorate		Junior college (3-year)	
	Number of Departments	Number of Students	Number of Departments	Number of Students	Number of Departments	Number of Students	Number of Departments	Number of Students
1969	8	1,437	4	20	0	0	25	5,136
1979	14	2,672	14	121	2	12	38	4,710

Note: The number of departments and students in junior college programs are nursing school data from 1969.

Source: Statistical Yearbook on Education (1970, 1980) (Ministry of Education, 1970; Ministry of Education, 1980)

3) Changes in the Nursing Technical High School

Nursing high school, which was reorganized during the U.S. military government period, was renamed as nursing technical high school (3-year high school program) in 1957. In the 1950s, a 3-year high school programs and a 4-year bachelor's programs began to be operated in parallel in the nursing education system.

The nursing education system was changed considerably by the amended Education Act in 1962. The nursing technical high school was promoted to a 3-year diploma program admitting only those who at least graduated from high school (Kim, 1980). At this time, 19 of the 23 nursing technical high schools nationwide were promoted to nursing schools under the category of "various schools" with accreditation given in accordance with the Ordinance on Associate Degrees, and four schools were abolished (Jeon, 1983). Although nursing technical high schools were temporarily re-established and operated in areas outside the capital in 1973, measures to unify the admission criteria for nursing education institutions as "high school graduation or above" were legislated, and in 1976 the nursing technical high schools were abolished once and for all. Nursing schools operated since 1962, became nursing vocational schools in 1971 and were promoted to nursing junior colleges in 1979, giving students an opportunity to transfer to a 4-year university (Chitty & Black, 2011/2013).

Therefore, in the 1960s and 1970s, there was a structural development in nursing education system, with high school graduation being the minimal standard for admission. At the same time, 3-year nursing schools (nursing vocational school) and 4-year bachelor's degree programs in nursing coexisted, until the former was reorganized into a junior college in 1979.

〈Table 4-2〉 Comparison of Associate Degree Program, Vocational School, and Diploma program

	Associate degree nursing program	Vocational school	Diploma program
Duration of study	2 years	2-3 years	3 years
Admission criteria	High school graduate who passed the preliminary university entrance examination	High school graduate, irrespective of whether the applicant passed the preliminary university entrance examination	High school graduate, irrespective of whether the applicant passed the preliminary university entrance examination
Class days/year	210 days or more	210 days or more	210 days or more
Faculty composition criteria	19 other than the dean	19 other than the dean	18 other than the dean
School building criteria	6,479m ²	-	4,488m ²
School classification	Regular school	Regular school	Regular school

Source: Yang & Choi (1971)

4) Promotion to College of Nursing

In 1968, the nursing departments of Yonsei University and

Ewha Womans University were promoted from the Department of Nursing at the College of Medicine to the College of Nursing, and the era of nursing colleges began (Jeong M. S. et al., 2012). This promotion to the college status was an opportunity to ensure academic and administrative independence of nursing and change the public or university perception of nursing more positively (Park, 1995).

5) Implementation of the National Nurse Licensure Examination System

Meanwhile, in 1962, the National Medical Act was renamed the Medical Service Act, with substantial amendments. Through the amendments, the system that granted licenses to those who graduated from schools designated by the competent minister without examination and those who did not graduate from a nursing education institution but passed the qualification examination was completely abolished (Korean Nurses Association, 1997). Introduced in its place was the national nurse licensure examination system, and this led to a great deal of changes in the system related to the nursing license. To be more specific, the amended Medical Service Act that came into force in 1962 stipulated that a nursing license is granted only to those who completed the designated nursing education and passed the national examination, and this allowed the level of nursing workforce to be managed at the government level (Lee, 1977).

C. 1980s–1990s

1) Overview

The 1950s to 1970s was a time of laying the institutional foundation for nursing education in Korea, while the 1980s and 1990s were a period of full-fledge quantitative growth based upon that foundation. The opening of 4-year bachelor's degrees and graduate programs as well as junior college (3-year) programs occurred at an accelerated rate, resulting in a significant increase in the number of nursing students and graduates.

2) Quantitative Growth of Nursing Education

The 1980s and 1990s can be described as the period of quantitative growth of nursing education. In 1980, the Armed Forces Nursing School was renamed as the Armed Forces Nursing Academy and was promoted to the status of a university program. In 1983, the nursing junior colleges affiliated with the Chonnam National University College of Medicine and Chonbuk National University College of Medicine were promoted to the Department of Nursing, and Gyeongnam Nursing Junior College was promoted to the Department of Nursing of Gyeongsang National University College of Medicine (Chitty & Black, 2011/2013).

The 1990s was a time when there was an explosive growth in the number of bachelor's degree programs, graduate school programs, and junior college (3-year) programs in nursing and their students. The number of bachelor's degree programs in nursing and the number of nursing students in 1989 were only 1.3 times that of 1979, but they increased 3.5 times and 3 times, respectively, in 1999 compared to 1989 (Ministry of Education, 1980; Ministry of Education, 1990; Ministry of Education, 2000). The average annual growth rates in the 1980s were 2.5% and 2.7%, respectively, while the average annual growth rates in the 1990s reached 13.3% and 11.7%. The total number of students in junior college (3-year) programs, 4-year bachelor's degree programs, and graduate school programs was 7,515 in 1979, but the number reached 20,490, a 2.7-fold increase, in 1989 and it doubled to 40,483 students in 1999.

〈Table 4-3〉 Number of Nursing Education Departments and Students (1980s to 1990s)

Year	Bachelor's		Master's		Doctorate		Junior college (3-year)	
	Number of Departments	Number of Students	Number of Departments	Number of Students	Number of Departments	Number of Students	Number of Departments	Number of Students
1979	14	2,672	14	121	2	12	38	4,710
1989	18	3,501	14	178	6	81	45	16,730
1999	63	10,612	31	893	13	371	78	28,607

Source: Statistics Yearbook on Education (1980, 1990, 2000) (Ministry of Education, 1980; Ministry of Education 1990, Ministry of Education 2000)

3) Bachelor's Degree Programs for 3-Year Program Graduates

In 1979, the number of junior college (3-year program) students was 4,710, which was 1.8 times the number of 4-year undergraduate program students at 2,672 and in 1989, it reached 16,730, 4.8 times the number of 4-year undergrad students (Ministry of Education, 1980; Ministry of Education, 1990; Ministry of Education, 2000). In the 1990s, the number of junior college students was 2.7 times (28,607) the number of 4-year counterparts despite the significant increase in the number of 4-year bachelor's degree programs.

In light of this situation, a larger number of bachelor's degree programs for junior college (3-year program) graduates were opened in the 1990s (Chitty & Black, 2011/2013). In 1992, a nursing major was established in the self-education major program introduced in 1990, and as a result students who have graduated from a junior college (3-year program) or who have completed three or more years of schooling in a 4-year nursing department were able to obtain a bachelor's degree after passing the final fourth stage (comprehensive examination). Korea National Open University began recruiting transfer students in 1992, and Yonsei University opened a special nurse bachelor's degree program (Registered Nurse-Bachelor of Science in Nursing, RN-BSN) for nurses working in clinical settings after graduating from a junior college (3-year program).

4) Mandatory Refresher Training

The concept of refresher training was first introduced in the Medical Service Act in 1973. What is notable is that it only made it mandatory for the national association to provide compulsory education, but it did not make it mandatory for health professionals to complete the refresher training. It was in 1981 that the provisions making it mandatory for health professionals to complete refresher education were newly established in the amended Medical Service Act (Article 28 ③ of the Medical Service Act), and with the establishment of Article 21-2 of the Enforcement Rule of the Act in 1982, the mandatory refresher training for more than 10 hours per year was finally stipulated (Ministry of Government Legislation, n.d.-a). As a result, the Korea Nurses Association began providing more than 10 hours of refresher training every year for nurses. The required duration of refresher training was changed to “at least 8 hours” in the amended Medical Service Act that took effect in 2004, and this still applies today (Article 30 of the Medical Service Act and Article 20 of the Enforcement Rule of the Act). What is taught in the refresher training course includes professional ethics, professional expertise improvement, job performance improvement, compliance with the laws and regulations related to healthcare, trends in advanced health technologies, and other matters deemed necessary by the Minister of Health and Welfare to improve the

quality of health professionals (Article 20 ① of the Enforcement Rule of the Act).

4. Maturity Phase of Nursing Education (2000s and Onward)

A. Overview

In the 2000s and onward, the quantitative growth of nursing education continued on from the 1990s. At the same time, the implementation of the nursing education accreditation system through the establishment of the Korea Accreditation Board Of Nursing (KABONE) and the standardization of nursing education programs as a 4-year nursing education program laid the cornerstone for qualitative growth of nursing education.

B. Main Details

1) Continued Growth of Nursing Education

Even in the 2000s and onward, the number of departments operating bachelor's degree programs, graduate school programs, and junior college programs as well as the number of nursing students continued to grow. From 1999 to 2018, for instance, the number of departments offering bachelor's

degree programs increased by 4.4% a year, on average, and the number of students in bachelor's degree programs increased by 8.1% a year, on average (Ministry of Education, 2000; Ministry of Education, 2010; Ministry of Education 2019). As a result, the number of departments offering bachelor's degree programs in 2018 was 143, 2.3 times higher than in 1999, and there were 46,519 nursing students in bachelor's programs, 4.4 times higher than in 1999.

〈Table 4-4〉 Number of Nursing Education Departments and Students (After 2000s)

Year	Bachelor's		Master's		Doctorate		Junior college (3-year)	
	Number of Departments	Number of Students	Number of Departments	Number of Students	Number of Departments	Number of Students	Number of Departments	Number of Students
1999	63	10,612	31	893	13	371	78	28,607
2009	123	22,795	72	2,198	30	474	99	32,103
2018	143	46,519	97	2,962	49	963	158	58,061

Note 1. The number of departments and students in junior college programs are the sum of the degree programs and the intensive specialization programs.

Note 2. The number of junior college programs in 1999 and 2009 pertains to 3-year programs, whereas the number of junior college programs in 2018 is the sum of 3- and 4-year programs.

Source: Ministry of Education, 2000; Ministry of Education, 2010, Ministry of Education, 2019

The total number of nursing students in bachelor's degree programs, graduate school programs, and junior college programs was 40,483 in 1999, but since then, it has increased by 5.3% annually until 2018, reaching 108,505, which was 2.7

times that of 1999 (Ministry of Education, 2000; Ministry of Education, 2010; Ministry of Education, 2019).

2) Standardization of Nursing Education as 4-Year Programs

Nursing education had been provided as a two-track manner: 4-year bachelor’s degree programs and 3-year junior college program. The difference in the duration of nursing education between the two tracks led to various problems from the aspects of quality of nursing education and social perception. Accordingly, the amendment of the Higher Education Act in 2011 prepared the legal basis for increasing the duration of nursing education in junior colleges to 4 years (Article 50-3 of the Higher Education Act) (Ministry of Government Legislation, n.d.-b). With the introduction of a “4-year nursing department” in junior colleges, the total length of study in nursing education was standardized as 4 years. Also, in order for junior college to operate 4-year nursing programs, they were required to meet certain educational conditions, undergo a review and evaluation, and be designated by the Minister of Education.

〈Table 4-5〉 Number of Junior Colleges Designated for 4-Year Nursing Programs (2012–2019)

School Year	2012	2013	2014	2015	2016	2017	2018	2019	Total
Number of designated junior colleges	32	7	6	12	13	5	6	3	84

Source: KABONE (n.d.-b)

3) Operation of KABONE

The Korea Accreditation Board of Nursing was established in 2001 with the aim of undertaking nursing education accreditation evaluation, administering national nursing examination, and managing advanced practice nurse qualification examination (KABONE, n.d.-a). In 2003, it was newly launched as the Korea Nursing Evaluation Institute, and in 2004, it was approved by the Ministry of Health and Welfare as a foundation corporation. In 2012, it was renamed as the Korean Accreditation Board of Nursing Education (KABONE). With the establishment and operation of KABONE, it was possible to not only sustain the quantitative growth of nursing education that had been achieved since the 1950s but also raise the quality of nursing education in Korea through systematic management.

The first evaluation and accreditation of nursing departments were conducted by KABONE in 2004, but it was not until 2011 that it was designated by the Ministry of Education, Science and Technology as a “nursing college evaluation and accreditation institution” (KABONE, n.d.-a). Since 2012, the accreditation board conducts evaluation and accreditation of nursing education once in the first half and another in the second half. Not only that, evaluation of educational institutions for advanced practice nurses has been conducted since 2004, and in 2011, it was designated as the “designated institution for

review and evaluation of 4-year nursing departments of junior colleges” (Ministry of Education, Science and Technology). Based on the evaluation and accreditation of KABONE, a total of 84 nursing schools have been accredited (Minister of Education).

〈Table 4-6〉 History of the Korean Accreditation Board of Nursing Education

July 2000	Launched the Preparation Committee for the Establishment of the Korea Accreditation Board of Nursing (KABON)
July 2001	Launched the 1st Steering Committee of the KABON
October 2003	Holding inaugural assembly of the KABON
March 2004	Commenced accreditation of nursing departments
July 2004	First implementation of evaluation of educational institutions for advanced practice nurses
October 2004	First implementation of review for designation of educational institutions for advanced practice nurses
August 2005	The 1st advanced practice nurse qualification examination
January and March 2009	Written evaluation of RN-BSN
June 2011	Designated as an institution for review and evaluation of 4-year nursing departments of junior colleges (Ministry of Education, Science and Technology)
October 2011	Implementation of a review for designation of 4-year nursing departments of junior colleges for the 2012 academic year
November 2011	Designated as an institution for evaluation and accreditation of nursing colleges (Ministry of Education, Science and Technology)
June 2012	Renamed as the Korean Accreditation Board of Nursing

	Education (KABONE)
November 2016	Re-designated as an institution for evaluation and accreditation of higher education programs (Ministry of Education)
February 2017	Selected to be entrusted with the evaluation and designation of nurse aide education and training institutions
June 2018	Selected to implement the Nursing College Practicum Support Program as a contractor (Ministry of Health and Welfare)
August 2019	Re-designated as an institution for evaluation and accreditation of higher education programs (Ministry of Education)
January 2020	Selected to be entrusted with the evaluation and designation of nurse aide education and training institutions

Source: KABONE (n.d.-a).

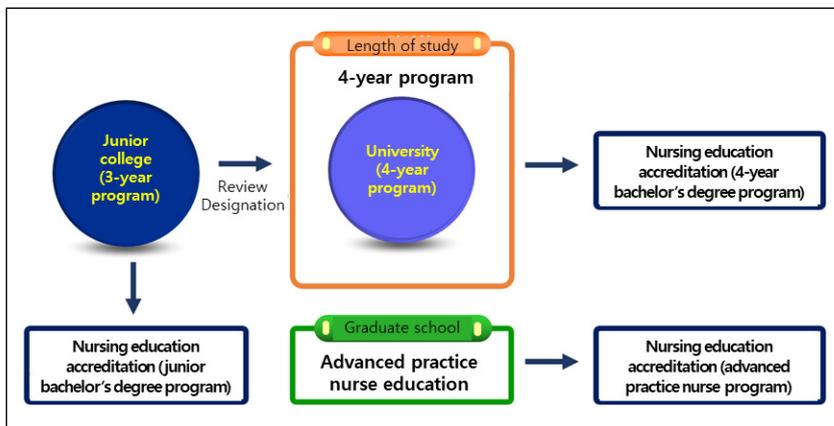
Section 2. Institutional Aspect of Nursing Education

1. Overview

The characteristics of the nursing education system in Korea are that it is a 4-year program; there is an advanced practice nurse program; and there is nursing education evaluation and accreditation. The advanced practice nurse system was established by the amendment of the Medical Service Act in 2000, and the standard 4-year program was established by the amendments of the Higher Education Act in 2011. However, in

order for a junior college to establish a 4-year nursing program, it must undergo a review by KABONE and be designated by the Minister of Education. In addition, junior colleges may run an intensive specialization program, the completion of which is recognized as a bachelor's degree for graduates (approved by the Ministry of Education). Any 4-year bachelor's degree programs and junior bachelor's degree programs in nursing as well as advanced practice nurse education programs must be evaluated and accredited by KABONE.

[Figure 4-1] Nursing Education System in Korea



2. Length of Nursing Education

A. Overview

Nursing education in Korea was provided in a two-track system: after liberation from Japanese colonial rule nursing high school, nursing technical high school, nursing school, and junior college had a 3-year nursing program; a 4-year nursing education program began in 1955. Then, with the amendment of the Higher Education Act in 2011, the length of nursing education was standardized as 4 years. To put it more accurately, current length of nursing education is based on a 4-year system, but there still exists a 3-year system. The nursing departments of junior colleges that operate on a 3-year curriculum basis can establish a 4-year nursing program only after receiving the necessary designation from the Minister of Education based on an evaluation of their educational conditions. Therefore, until all nursing departments of junior colleges become designated by the Minister of Education to provide 4-year nursing programs, the 4-year and 3-year programs coexist. In October 2011, 33 junior colleges received the designation of “4-year nursing department for the 2012 academic year,” and as of 2018, 51.3% (81 out of 158) of junior colleges with nursing programs have received the designation of “4-year nursing department.” (Ministry of Education, 2019;

KABONE, n.d.-b). In 2019, three additional junior colleges were designated for a total of 84, but since the designation of 33 junior colleges in 2012, about 7 schools have been designated each year.

〈Table 4-7〉 Number of Junior Colleges Designated for 4-Year Nursing Programs as of 2019

Number of designated junior colleges (A)	Number of junior colleges offering nursing programs (B)	Ratio (A/B)
81*	158*	51.3%

Note: The ratio is calculated based on the 2018 data (the total number of designated junior colleges reached 84 in 2019).

Source: Ministry of Education, 2019; KABONE, n.d.-b

B. Related Laws and Regulations

The Higher Education Act stipulates that the length of education provided by junior colleges should be 2 to 3 years (Article 48 ① of the Act), but the Enforcement Decree of the Act sets the length of study for nursing students at 3 years (Article 57 ① of the Enforcement Decree) (Ministry of Government Legislation, n.d.-c). According to the Enforcement Decree, there are 9 departments at junior college for which the length of study has been set at 3 years, and they include the Department of Nursing, Department of Radiology, and Department of Clinical Pathology. Despite these provisions, the Higher Education Act was amended to allow the establishment of a 4-year program at junior colleges as a means to cultivate

health professionals, thereby laying the foundation for standardizing the length of nursing education as 4 years (Article 50-3 ① of the Act) (Ministry of Government Legislation, n.d.-b). However, junior colleges wishing to offer 4-year programs need to have their educational conditions be evaluated by the Minister of Education for designation (Article 50-3 ② of the Act) in order to minimize the potential side effects. The evaluation for the designation of a 4-year program is entrusted by the Ministry of Education to a related institution (Article 50-3 ③ of the Act), and the evaluation related to nursing education is carried out KABONE.

〈Table 4-8〉 Article 50-3 of the Higher Education Act

<p>Article 50-3 (Special Cases concerning Duration of Courses and Degree of Courses for Training Medical Personnel)</p> <p>① Notwithstanding Article 48 ①, departments having a 4-year course in junior colleges designed to train medical personnel pursuant to Article 2 ① of the Medical Service Act may be established.</p> <p>② To operate a 4-year course pursuant to paragraph ①, the junior colleges shall obtain designation from the Minister of Education by satisfying the standards prescribed by Presidential Decree relating to educational circumstances.</p> <p>③ The Minister of Education may entrust relevant institutions or organizations with evaluations required to receive the designation referred to in paragraph ②.</p> <p>④ Notwithstanding Article 50 ①, any person who has completed a 4-year course determined by school regulations in the department referred to in paragraph ① shall receive a bachelor's degree.</p> <p>⑤ Types of degrees under paragraph ④ and matters necessary for the conferment thereof shall be prescribed by Presidential Decree.</p>
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Source: Ministry of Government Legislation (n.d.-b).

C. Establishment Criteria and Review of 4-Year Programs in Junior Colleges

1) Establishment Criteria

The Enforcement Decree of the Higher Education Act stipulates the ratios of full-time faculty members and school buildings as part of the education conditions for the establishment of a 4-year program for training medical personnel (Article 58-5 ② and Attached Table 3 of the Enforcement Decree of the Act) (Ministry of Government Legislation, n.d.-c).

〈Table 4-9〉 Attached Table 3 of the Enforcement Decree of the Higher Education Act (Related to Article 58-5 ②)

	Item	Criteria
Entire college	% of secured full-time faculty	50
	% of secured school buildings	100
Unit of recruitment	% of secured full-time faculty	60
	% of secured faculty (including full-time and part-time faculty, and visiting scholars)	100

Source: Ministry of Government Legislation (n.d.-c).

2) Review Items

The Enforcement Decree of the Higher Education Act prescribes that the head of a junior college wishing to be

designated for a 4-year program must submit an operation plan to the Minister of Education seven months before the start of the following academic year (Enforcement Decree Article 58-5 ①). (Ministry of Government Legislation, n.d.-c). The operation plan should include information on the department to be established (for the 4-year program), recruitment quota and student quota per class, number of faculty members and instructors, program operation plan, and plan for self-evaluation of operational performance (KABONE, n.d.-c). The information provided in the operation plan is reviewed, and in the case of the nursing department, in particular, 22 items listed in Table 4-10 are reviewed.

〈Table 4-10〉 Items Reviewed for 4-Year Program Designation

Area		Review item (22 items)
Curriculum	Theory education	Establishment of nursing education goals in reflection of core competencies of nurses
		Required courses in the field of major and in liberal arts and required credits for graduation
		Learning objectives and evaluation of theoretical courses
		Number of students per class in theoretical courses
	Clinical practice education	Learning objectives and evaluation of clinical practice courses
		Composition and use of the clinical practice guide
		Organization of clinical practice hours and operation of practical training
		Placement of basic nursing practice and operation of autonomous practice
		Student placement and guidance in clinical practice
		Fee for lab and clinical practice per student

Area	Review item (22 items)
Students and faculty members	Student guidance system
	Scholarships
	Full-time faculty qualification and class assignment
	Securing clinical educators and facilitators
	Support professional development for educators
Administration, finance, and educational facilities	Administrative personnel and autonomy of department operation
	Security and operation of departmental finances
	Securing and maintaining essential educational facilities and amenities
	Securing clinical lab facilities and equipment
	Securing clinical placement places for each course in the major field of study
Educational outcomes	Effort to improve department operation and the curriculum
	Pass rates on the national exam and employment rate

Source: KABONE (n.d.-c)

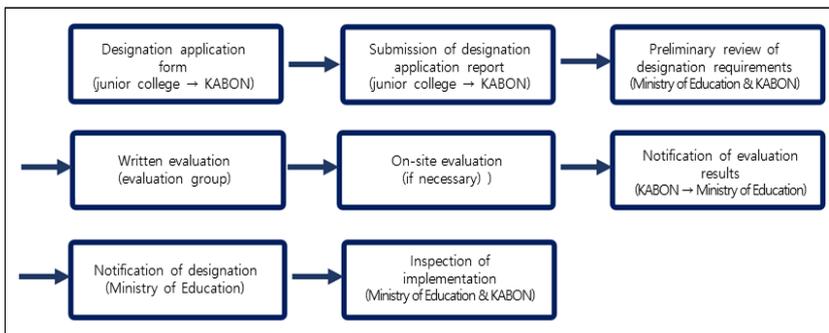
3) Review Procedure

The review procedure for designating a nursing department to run a 4-year program can largely be divided into application, report preparation and submission, evaluation, evaluation result notification, and follow-up management. The application stage is where the president of the junior college, who intends to open a nursing department offering a 4-year program applies for the designation by submitting a designation application to the Korea Accreditation Board Of Nursing (KABONE) (KABONE, n.d.-d).

The junior college then fills out and submits a designation

application report, after which the Ministry of Education and KABONE conduct preliminary review and written evaluation based on the requirements for designation and visit the institution, if necessary. KABONE then reports the evaluation process and results to the Ministry of Education, and the Ministry of Education announces the result of the designation evaluation, which concludes the process. Once designated, the junior college is subject to ongoing follow-up management, with reviews performed to see whether the plan submitted at the time of application for designation is being implemented in relation to the educational conditions such as student quotas, teachers, and faculty members and whether supplementary matters for the result of screening for eligibility of department operation and program are being implemented.

[Figure 4-2] Review Procedure for Designation of 4-Year Nursing Programs



Source: KABONE (n.d.-d)

3. Advanced practice nurse System and Education

A. Changes in the System

Medical Service Act In recognition of the need for professional nursing in certain areas, the Medical Service Act was amended in February 1973 to introduce a “nurse specialist” system (Kim & Kim, 2009). Three healthcare fields, public health nursing, anesthesia nursing, and psychiatric nursing, were specified in the Enforcement Rule of the Medical Service Act (Ministry of Government Legislation, n.d.-e).

In June 1989, a home visit nursing program was introduced to reduce medical expenses, improve hospital bed turnover, and improve convenience in using healthcare services for patients by inducing early discharge of chronically ill and inpatients (Kwun, 2000). Accordingly, in January 1990, with the amendment of the Enforcement Rule of the Medical Service Act, home health nursing was added as of the specialization fields. The qualification criteria for nurses in the four fields are listed in Table 4-11 (Ministry of Government Legislation, n.d.-e).

〈Table 4-11〉 Qualification Criteria for Nurses in the Four Fields (1973-1999)

<p>1. Nurses in the field of public health nursing</p> <p>① Graduated from a nursing college or a nursing department of a university</p> <p>② Completed at least one year of a public health nursing program at the Graduate School of Public Health</p> <p>③ Completed at least one year of a public health nursing program at an institution recognized by the Minister of Health and Social Affairs</p> <p>④ Qualified as a public health nurse under a foreign standard recognized by the Minister of Health and Social Affairs</p> <p>2. Nurses in the field of anesthesia nursing</p> <p>① Completed more than one year of anesthesia nursing program at a general hospital designated as a training hospital for anesthesiologists or a hospital approved by the Minister of Health and Social Affairs</p> <p>② Qualified as an anesthesia nurse under a foreign standard recognized by the Minister of Health and Social Affairs</p> <p>3. Nurses in the field of psychiatric nursing</p> <p>① Completed at least one year of a psychiatric nursing program at a general hospital designated as a training hospital for psychiatrists or a hospital approved by the Minister of Health and Social Affairs</p> <p>② Qualified as a psychiatric nurse under a foreign standard recognized by the Minister of Health and Social Affairs</p> <p>4. Nurses in home health nursing</p> <p>① Completed more than one year of home health nursing program at an institution recognized by the Minister of Health and Social Affairs</p> <p>② Qualified as a home health nurse under a foreign standard recognized by the Minister of Health and Social Affairs</p>
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Source: Ministry of Government Legislation (n.d.-e).

Until 1999, nurse specialists were more of nursing professionals working in specific fields rather than nursing professionals with professional expertise in specific fields. With the growing emphasis on the need for professional nursing in specific fields, the Medical Service Act was amended January 2000 to introduce an advanced practice nurse system (Kwon, 2000; Ministry of Government Legislation, n.d.-d). At the beginning, however, the only change was in the name from

“nurse specialists” to “advanced practice nurses” (Ministry of Government Legislation, n.d.-d). The qualification categories of advanced practice nurses remained the same as four fields: public health, anesthesia, psychiatric, and home health nursing. The qualification criteria were also the same, and there were no qualification exams or training programs. The advanced practice nurse system changed significantly by an amendment of the Enforcement Rule of the Medical Service Act in October 2003 (Ministry of Government Legislation, n.d.-f). The qualification categories of advanced practice nurses were increased to ten fields by adding six fields, i.e. infection control, occupational health, emergency, geriatric, critical care and hospice nursing, to the existing four fields of public health, anesthesia, psychiatric, and home health nursing. Qualification examination system was also introduced, and it categorized into a written test as the first step, followed by an oral or skills test.

〈Table 4-12〉 Changes in the Advanced Practice Nurse System

Year	Description of changes
1973-1999	<ul style="list-style-type: none"> • Amendment of the Medical Service Act • Introduction of nurse specialists (public health, anesthesia, psychiatric, and home health nursing)
January 2000	<ul style="list-style-type: none"> • Amendment of the Medical Service Act • Changed the name (advanced practice nurse) but no changes in the qualification categories
October 2003	<ul style="list-style-type: none"> • Amendment of the Enforcement Rule • Added 6 subspecialty areas (infection control, occupational health, emergency, geriatric, critical care, and hospice nursing) • Introduced a qualification examination system
July 2006	<ul style="list-style-type: none"> • Establishment of the Advanced Practice Nurse Rules (Ministry of Health and Welfare Ordinance) • Added 3 more fields (oncology, clinical, and pediatric nursing) and reinforced the program and length
March 2018	<ul style="list-style-type: none"> • Amendment of the Medical Service Act, with a new provision requiring advanced practice nurses to perform nursing tasks in their respective fields

Source: Ministry of Government Legislation (n.d.-d), Ministry of Government Legislation (n.d.-f), Ministry of Government Legislation (n.d.-g), Ministry of Government Legislation (n.d.-h).

In July 2006, the provisions concerning the advanced practice nurse system that had been divided into the Enforcement Rule of the Medical Service Act and the Ministry of Health and Welfare notices, were integrated into the Rules for the Recognition of Advanced Practice Nurse Qualifications, etc. (hereinafter referred to as the Advanced Practice Nurse Rules) (Ministry of Government Legislation, n.d.-g). At this

time, the fields of oncology, clinical, and pediatric nursing were added to the qualification categories of advanced practice nurses for a total of 13 fields, as is the case today. In contrast to the previous years, a training program for advanced practice nurses was to be conducted by an advanced practice nurse training institution designated by the Minister of Health and Welfare, and the training period was extended to more than two years. In March 2018, with the amendment of the Medical Service Act, a provision on allowing those qualified as an advanced practice nurse to perform nursing work in the relevant field (Article 78 ③) was newly established for the purpose of promoting the advanced practice nurse qualification system and raising the efficiency of utilizing health professionals (Ministry of Government Legislation, n.d.-h). The advanced practice nurse system has been developed on the basis of the expansion of professional nursing fields in reflection of the healthcare needs for professional nursing and the changing disease patterns among the general public.

〈Table 4-13〉 Current Provisions on Advanced Practice Nurses (Article 78 of the Medical Service Act)

<p>Article 78 (Nurse Practitioners)</p> <p>① The Minister of Health and Welfare may accredit a licensed nurse as an advanced practice nurse.</p> <p>② Any person who intends to become an advanced practice nurse shall comply with any of the following and obtain accreditation of qualification from the Minister of Health and Welfare after passing a qualification examination for advanced practice nurses implemented by the Minister of Health and Welfare:</p> <ol style="list-style-type: none">1. A person who completes the educational courses for advanced practice nurses prescribed by Ordinance of the Ministry of Health and Welfare;2. A person holding a foreign license for advanced practice nurses in the relevant area accredited by the Minister of Health and Welfare. <p>③ An advanced practice nurse shall conduct nursing practices in the relevant area for which his/her qualification is accredited pursuant to paragraph ②.</p> <p>④ The types of qualifications, standards for qualification, qualification examinations, certificates of qualification, and scope of duties of advanced practice nurses and other necessary matters shall be prescribed by Ordinance of the Ministry of Health and Welfare.</p>
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Source: Ministry of Government Legislation (n.d.-i).

B. Details of the Advanced Practice Nurse System

Matters related to qualification categories, qualification criteria, and qualification examinations for advanced practice nurses are set forth in the Advanced practice nurse Rules. The Advanced practice nurse Rules categorize the qualifications of advanced practice nurses into 13 categories including public health, anesthesia, psychiatric, home health, infection control,

occupational health, emergency, geriatric, critical care, hospice, oncology, clinical and pediatric nursing (Article 2 of the Rules) (Ministry of Government Legislation, n.d.-g). Moreover, it stipulates that a person who can be qualified as advanced practice nurse is a person who has completed the training program stipulated in Article 4 of the Rules or has a foreign advanced practice nurse qualification recognized by the Minister of Health and Welfare (Article 3 of the Rule).

C. Operation of the Advanced Practice Nurse Education Program

1) Education Period and Designation of Educational Institutions

The advanced practice nurse education program is conducted by a professional nursing education institution designated by the Minister of Health and Welfare and the education period is 2 years or longer (Article 4 ① of the Rules) (Ministry of Government Legislation, n.d.-g). Professional nursing education institutions must be a university with a nursing department and graduate programs, a special graduate school, or a specialized graduate school with a nursing specialization. The criteria for designation are shown in Table 4-14 (Article 5 ① of the Rules).

〈Table 4-14〉 Designation Criteria of Educational Institutions for Advanced Practice Nurse

Qualification Category	Practicum/training partner institution (※ Must satisfy all the corresponding requirements)	Instructors	
		Full time faculty	Adjunct faculty for clinical practice
Public health	Two or more of the following: public health center, public health branch, and public health clinic	At least one per ten students	At least one per five students
Anesthesia	Medical institution designated as anesthesiology training hospital		
Psychiatric	1. A medical institution designated as a psychiatric training hospital 2. At least one of the following: rehabilitation facilities for patients with mental diseases, mental health facilities, and public mental health centers		
Home health	1. General hospital under the Medical Service Act that provides home health nursing services 2. Public health center conducting home health nursing programs		
Infection control	General hospital with more than 300 beds and an infection control office		
Occupational health	1. An institution designated as an occupational medicine training hospital 2. A workplace where a doctor or nurse is designated as a dedicated health manager		
Emergency	A medical institution designated as an emergency medicine training hospital		
Geriatric	1. At least one of the following: medical welfare facility for seniors (excluding geriatric hospitals) and home care facility for seniors 2. Geriatric hospital or general hospital under the Medical Service Act		
Critical care	Comprehensive medical care institution		
Hospice	1. Hospitals with a hospice ward (including industrial accident ward) 2. Medical institutions running a home hospice program		

Qualification Category	Practicum/training partner institution (※ Must satisfy all the corresponding requirements)	Instructors	
		Full time faculty	Adjunct faculty for clinical practice
Oncology	General hospital with more than 300 beds		
Clinical	Comprehensive medical care institution		
Pediatric	Comprehensive medical care institution		

Source: Ministry of Government Legislation (n.d.-g).

In order to be designated as a professional nursing education institution, the application form for designation of a professional nursing education institution and required documents such as the education plan and curriculum table must be submitted to the Minister of Health and Welfare. If the applicant meets all the designation criteria, it will be designated as a advanced practice nurse educational institution (Article 5 ② and ③ of the Rules). Since the introduction of the advanced practice nurse system in 2000 and designation of the first professional nursing education institution in 2004, there have been 37 educational institutions (86 programs) designated as professional nursing education institutions to date, as of 2020, and the student registration quota is 687 (Ministry of Health and Welfare, 2020).

〈Table 4-15〉 Educational Institutions by Advanced Practice Nurse Field in 2020

	Number of institutions	Registration quota
Home health	5	37
Infection control	8	75
Geriatric	25	210
Anesthesia	1	8
Occupational health	1	10
Pediatric	1	10
Emergency	4	26
Clinical	5	50
Psychiatric	9	52
Oncology	10	84
Critical care	7	50
Hospice	10	75

Note: A total of 37 educational institutions, 86 programs, and student registration quota of 687. There are no designated educational institutions for public health nursing.

Source: Ministry of Health and Welfare (2020).

For follow-up management of designated educational institutions, the Minister of Health and Welfare may cancel the designation or order corrective action if the institution designated as a professional nursing education institution fails to meet the designation criteria or selects the student quota for each specialized field. (Article 7-3 of the Rules) (Ministry of Government Legislation, n.d.-g).

2) Courses and Credits

The professional nursing education operated at the general master's program level with a differentiated curriculum. Courses are divided into common course, theory courses in the major field of study, and practice courses in the major field of study. There are 6 common courses (13 credits), including Nursing Theory and Nursing Research, while a minimum 10 credits must be earned from the theory courses in the major field of study and the practice courses in the major field of study each for a total of at least 33 credits (Article 7 ①, and attached Table 3 of the Rules) (Ministry of Government Legislation, n.d.-g). In order to maintain the quality of education by providing a basic framework for the operation of the professional nursing education programs, KABONE has proposed the Guidelines for the Operation of Professional Nursing Education Programs and a standard curriculum for each field (KABONE, n.d.-e).

〈Table 4-16〉 Required Number of Credits of Curriculum for Advanced Practice Nurse (Article 7 ①, Attached Table 3 of the Rules)

Category	Subject	Credit
Common courses	Nursing theory	2
	Nursing research	2
	Advanced practice nurses' role and policy (including laws and ethics)	2
	Advanced health assessment	2 for theory

Category	Subject	Credit
		1 for practice
	Pharmacology	2
	Pathophysiology	2
Theory courses in the major field of study	Theory courses in the major field of study according to specialization	At least 10 credits
Practice courses in the major field of study	Practice courses in the major field of study according to specialization	At least 10 credits
Total		At least 33 credits

Note: Credits acknowledgment criteria are based on the criteria set forth by the education institutions for advanced practice nurses.

Source: Ministry of Government Legislation (n.d.-g).

D. Qualification Examination

The advanced practice nurse qualification examination is conducted at least once a year. However, taking into account the supply and demand of health professionals, a qualification examination may not be conducted for certain fields (Article 8 ① of the Rules). Qualification examinations are divided into a written test (first step) and a skills test (second step), of which the second test can only be taken by those who passed the first test. One must score at least 60% in each test in order to pass (Article 10 of the Rules).

Since the first qualification examination was conducted in 2005, it has been administered once a year, except for in 2006 when it was administered twice. The examination may be administered and managed by an institution designated by the

Minister of Health and Welfare (Article 8 ② of the Rules).

E. Graduation of Advanced Practice Nurses

Since the introduction of the advanced practice nurse system in 2000, a total of 15,239 advanced practice nurses have been produced by 2018 (Ministry of Health and Welfare, 2019). This is 3.9% of 394,627 licensed nurses in 2018. By field, home health nursing was the most common field of specialization with 6,435 advanced practice nurses, accounting for 42.2% of the total, followed by 2,285 geriatric nurses (15.0%) and 2,002 public health nurses (13.1%).

〈Table 4-17〉 Number of Advanced Practice Nurses as of 2018

Specialization	Graduates		Specialization	Graduates	
	N	%		N	%
Public health	2,002	13.1	Emergency	302	2.0
Anesthesia	621	4.1	Oncology	868	5.7
Home health	6,435	42.2	Critical care	692	4.5
Psychiatric	583	3.8	Hospice	553	3.6
Infection control	366	2.4	Pediatric	99	0.7
Geriatric	2,285	15.0	Clinical	280	1.8
Occupational health	153	1.0			
Total : 15,239 advanced nurses (3.9% of 394,627 licensed nurses)					

Source: Ministry of Health and Welfare (2019b).

4. Nursing Education Evaluation and Accreditation

A. History of the Evaluation and Accreditation System

Nursing education evaluation and accreditation was first implemented in 2004 by KABONE (Korea Nursing Evaluation Institute at the time) with the aim of improving the quality of nursing education based on ongoing improvement of nursing education programs. The Korea Nursing Evaluation Institute was established under the Korean Nurses Association (KNA) in July 2001 for the purpose of achieving qualitative improvement of nursing education, and it separated from the KNA to be operated independently in October 2003. One of the main functions of the Korea Nursing Evaluation Institute at the time was evaluation and accreditation of nursing education (Kim et al., 2006).

The first major turning point in the nursing education evaluation and accreditation, which had been undertaken by the nursing community on its own for quality control of nursing education, was the amendment of the Medical Service Act in 2012. Previously, anyone who has graduated from a university or junior college majoring in nursing could take the national nurse licensure examination, but according to the amended Act, only those who have graduated from an accredited university or junior college were qualified to take the exam

(enforced in February 2017 and started applying the qualification criteria to students enrolling in 2018) (Ministry of Government Legislation, n.d.-j). Prior to this, in November 2011, KABONE was designated as a nursing college evaluation and accreditation institution by the Ministry of Education, Science and Technology. As a result, the legal basis for nursing education evaluation and accreditation by KABONE was created, and the department of nursing at each university made effort to obtain the nursing education accreditation because otherwise, the enrolling students would not be able to take the national nurse licensure examination, leading to the closure of the department.

<Table 4-18> Article 7 of the Medical Service Act

<p>Article 7 (Licenses for Nurses)</p> <p>① A person who intends to become a nurse shall meet any of the following qualifications and be licensed by the Minister of Health and Welfare after passing the national examination for nurses prescribed in Article 9:</p> <ol style="list-style-type: none"> 1. A person who has graduated from a university, college, or junior college (including a former vocational school or nursing school under the old system) with a major in nursing which is certified by an accrediting institution: 2. A person who has graduate from a foreign school which falls under subparagraph 1 (referring to schools that meet the accreditation standards determined and publicly notified by the Minister of Health and Welfare) and has been licensed by the competent foreign authority. <p>② Notwithstanding paragraph ①, a person who entered a university, college, or junior college with a major in nursing science which is certified by an accrediting institution as at the time of admission: has graduated from the</p>
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relevant university, college, or junior college; and has received the relevant degree therefrom, shall be deemed a person falling under subparagraph 1 of the same paragraph.

Source: Ministry of Government Legislation (n.d.-j).

Due to the amendment of Article 7 of the Medical Service Act, the nursing department of each university was in a situation where they had to actually obtain nursing education accreditation, but under the Higher Education Act, accreditation was still not mandatory. Under these circumstances, the Higher Education Act (Article 11-2) was amended in December 2015, making it mandatory for schools operating education programs for health professionals such as a nursing science program to be evaluated and accredited by an accrediting agency (enforced in June 2016). Matters necessary for evaluation and accreditation of higher education institutions are stipulated in the Regulations on the Evaluation and Accreditation of Higher Education Institutions (hereinafter referred to as “Higher Education Evaluation Regulations” Presidential Decree No. 29032), and the accreditation procedure is set forth in Article 2-2 of the Regulations (Ministry of Government Legislation, n.d.-k). Nursing education evaluation and accreditation and related matters are also stipulated in the Regulations on the Evaluation and Accreditation of Nursing Education (hereinafter referred to as Nursing Education Evaluation Regulations) based on the Higher

Education Evaluation Regulations.

Accordingly, this led to the establishment of the current system, which makes it mandatory for universities and junior colleges that operate nursing programs to receive evaluation and accreditation from a designated agency (KABONE) pursuant to Article 11-2 of the Higher Education Act and which grants qualification to take the national nurse licensure examination to only those who graduated from a accredited university, etc. (Ministry of Government Legislation, n.d.-1).

<Table 4-19> Article 11-2 of the Higher Education Act

<p>Article 11-2 (Evaluation, etc.)</p> <p>① Schools shall conduct a self-inspection and evaluation on education and research, organization and operation, facilities and equipment, etc., as prescribed by Ordinance of the Ministry of Education, and publicly announce the findings thereof.</p> <p>② An institution accredited by the Minister of Education (hereinafter referred to as “accredited institution” in this Article) may, at the request of a university or college, evaluate or certify the overall management of a university or college and operation of curricula (including colleges, departments and majors). That an institution having the curricula falling under medicine, dentistry, Chinese medicine or nursing shall obtain an evaluation and certification from an accredited institution as prescribed by Presidential Decree.</p> <p>③ The Minister of Education may designate a relevant specialized evaluation institution, a school consultative body under Article 10, and an organization or a group, etc. designed for the promotion of academic research as an accredited institution.</p> <p>④ Where the Government intends to provide a university or college with administrative and financial support, it may utilize the outcomes of evaluation</p>
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or certification conducted under paragraph ②.

- ⑤ Necessary matters for the evaluation or certification under paragraph ②, designation of an accredited institution under paragraph ③ and utilization of the outcomes of evaluation or certification under paragraph ④ shall be prescribed by Presidential Decree.

Source: Ministry of Government Legislation (n.d.-b).

B. Details of the Current Evaluation and Accreditation System

1) Target of Evaluation and Accreditation (Article 4 of the Nursing Education Evaluation Regulations)

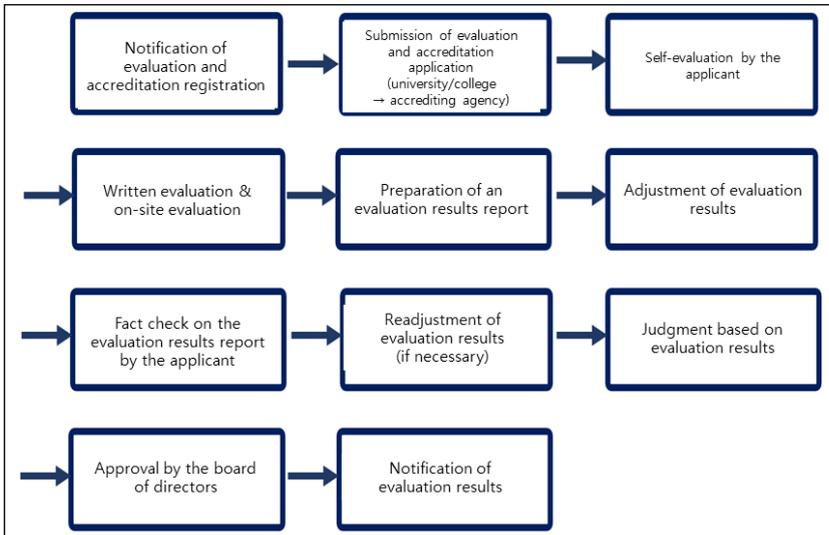
The target of nursing education evaluation and accreditation are 4-year bachelor's degree programs and junior bachelor's degree programs in nursing, special bachelor's degree program in nursing (RN-BSN), and professional nursing education programs in graduate schools. This applies to all nursing education programs that have been produced graduates more than once (KABONE, 2020).

2) Evaluation and Accreditation Procedure

The detailed procedure of nursing education evaluation and accreditation is shown in Figure 4-3 (Article 15 ① of the Nursing Education Evaluation Regulations). Nursing education evaluation and accreditation methods include self-evaluation

by the applicant providing nursing education, a written evaluation by an evaluation team based on the self-evaluation report submitted by the applicant, and an on-site evaluation where the evaluation team visits the applicant to check the written evaluation details and run an inspection (Article 8 of Nursing Education Evaluation Regulations) (Korea Nursing Education and Assessment Service, 2020).

[Figure 4-3] Nursing Education Evaluation & Accreditation Procedure (Article 15 ① of the Nursing Education Evaluation Regulations)



Source: KABONE (2020).

Schools with medical science programs such as nursing science must apply for evaluation and accreditation to an accrediting agency within three months from the start of the relevant program (Article 2-2 ① of the Higher Education

Evaluation Regulations) (Ministry of Government Legislation, n.d.-k). An accrediting agency is designated by the Minister of Education upon submission of application, and the institution that wishes to be designated as an accrediting agency needs to submit an application form, along with the business plan, budget details, basic policies for evaluation and accreditation, implementation guidelines, evaluation standards, evaluation and accreditation methods, procedures, regulations concerning valid institutions, etc. to the Minister of Ministry of Education (Article 6 ① of Higher Education Evaluation Regulations). The validity period of the designation as an accredited institution is not more than 5 years (Article 6 ④ of the Higher Education Evaluation Regulations), and in order to be redesignated, the institution must apply for redesignation 6 months before the expiration of the previous designation (Article 7 of the Higher Education Evaluation Regulations). In the case of nursing education, KABONE was designated as an accrediting agency in November 2011 and was redesignated by the Ministry of Education in November 2016 (KABONE, n.d.-a).

Accrediting agencies must complete the evaluation for accreditation within the time period that they themselves have set that is not more than 2 years from the date of the application and must conduct the evaluation according to the standards, methods, and procedures proposed in the application documents they submitted to be designated as an

accrediting agency (Article 2-2 ② of the Higher Education Evaluation Regulations)(Ministry of Government Legislation, n.d.-k). Schools operating medical science programs such as nursing science that have been accredited need to apply for evaluation and accreditation within the application period determined by the accrediting agency that is not more than two years before the expiration of their current accreditation (Article 2-2 ③ of the Higher Education Evaluation Regulations). In the case of nursing education evaluation and accreditation, applications are required 2 years to 6 months before the expiration of the accreditation period (Article 7 ① of Nursing Education Evaluation Regulations). The accrediting agency that has received an application for accreditation must complete the evaluation and make a decision on accreditation before the expiration date of the accreditation granted to the applicant. Schools that failed to have their medical science programs accredited must apply for evaluation and accreditation within the period determined by the accrediting agency that is not more than one year from the date on which the results are notified (Article 2-2 ④~⑤ of the Higher Education Evaluation Regulations).

3) Types of Results in Accreditation Evaluation (Article 18 of the Nursing Education Evaluation Regulation)

The types of results that can be given for an accreditation

evaluation of nursing education are classified into Accreditation (5 years), Accreditation (3 years), Temporary Accreditation and Accreditation Denied. However, Temporary Accreditation cannot be provided two consecutive times (KABONE, 2020):

① Accreditation (5 years): The applicant is maintaining the quality of its nursing education by meeting the accreditation standards across all items and areas;

② Accreditation (3 years): The applicant does not meet the accreditation criteria in some of the items and areas and there is room for improvement, but improvement is possible within a short period of time;

③ Accreditation denied: The applicant does not meet the accreditation criteria in multiple items and areas, and improvement is impossible within a short period of time;

④ Temporary accreditation: The applicant does not meet the accreditation criteria in several items and areas and intensive improvement is required for a certain amount of time.

4) Disclosure and Utilization of Evaluation and Accreditation Results

An accrediting agency must immediately notify the school of the result of the evaluation and accreditation, and the head of the school must disclose the result via the school website. In this case, the head of the school must also disclose the result in

the student recruitment guidelines every school year. The accrediting agency may disclose the results of evaluation and accreditation on its website, etc. (Article 3 of the Higher Education Evaluation Regulations) (Ministry of Government Legislation, n.d.-k).

The results of nursing education evaluation and accreditation can be used as data for promoting qualitative development of nursing education and for supporting and cooperating with nursing education institutions. KABONE may also provide the evaluation and accreditation results and related information so that they can be taken into consideration in the government's financial assistance projects or in the establishment of nursing education institutions (Article 26 of Nursing Education Evaluation Regulations) (KABONE, 2020).

5) Maintaining Accreditation (Article 22 of the Nursing Education Evaluation Regulations)

In the case of nursing education programs, the education institutions have an obligation to continuously maintain the quality of education during the accreditation period in order to maintain their accreditation (KABONE, 2020). To this end, those that have received a 5-year accreditation must submit a self-inspection report to KABONE within 6 months from the date on which 2 years has elapsed from the date of accreditation and notify KABONE if there are any significant

changes in relation to the accreditation. If an accredited nursing education institution no longer meets the accreditation criteria during the accreditation period, appropriate corrective actions may be recommended. On the other hand, accreditation may be withdrawn if it is found that the application documents have been falsified, or the recommended corrective action is not implemented.

〈Table 4-20〉 Nursing Education Accreditation Standards (Bachelor/Associate Degree in Nursing Program)

Area(6)	Item(14)	Indicator(28)
I. Vision and governance	1.1 Vision and educational objectives	Educational goals and objectives
		Establishment of program learning outcomes
		Development and operation of the developmental plans
II. Curriculum	1.2 Administration and finance	Operation system and support
		Security and operation of departmental finances
		Efforts for improving the governance process
II. Curriculum	2.1 Outcome-based curriculum framework	Outcome-based curriculum framework
		Subject completion system and credits
		2.2 Outcome-based curriculum and student assessments
II. Curriculum	2.2 Outcome-based curriculum and student assessments	Theory education
		Clinical lab practice
		Clinical practice education
II. Curriculum	2.3 Improvement in the curriculum	Guidance for clinical practice placement
		Effort to improve the curriculum
		III. Students
Student support program		
III. Students	3.2 Student welfare and safety	
		Safety management for clinical placement
		IV. Faculty

Area(6)	Item(14)	Indicator(28)
		Teaching hours and subjects of full-time educators Securing clinical educators and facilitators
	4.2 Professional development of the nursing faculty	Support professional development for educators
V. Facilities and equipment	5.1 Educational facilities	Securing essential educational facilities and amenities
	5.2 Clinical lab facilities and equipment	Provision for clinical lab facilities and equipment Securing clinical placement places
VI. Educational outcome	6.1 Student competencies	Assessment of program learning outcomes Evaluation of core nursing skills Pass rate on the national exam and employment rate
	6.2 Graduate competence	Graduate competence and satisfaction

Source: KABONE (2017).

C. Current Status of Accreditation

As of December 18, 2019, there are 203 departments that received accreditation for nursing education programs, accounting for 67.4% of all 301 nursing departments (as of the end of 2018) (KABONE, n.d.-b; Ministry of Education, 2019). As for 4-year bachelor’s degree programs in nursing, 118 departments equivalent to 82.5% of all 143 departments were accredited (as of the end of 2018). Among the accredited departments, 87.3% (n=103) are accredited for 5 years.

In the case of junior colleges that were granted approval to run 4-year programs, all 84 departments have received the

nursing education accreditation evaluation, and 71 departments (84.5%) are accredited for 5 years. Only one school has undergone an accreditation evaluation for a junior bachelor's degree program. The reason is 14 departments, including the Department of Nursing at Gangdong University, have been switched to a bachelor's degree accreditation programs in the 2017-2019 academic years.

<Table 4-21> Status of Accredited Nursing Education Programs as of December 18, 2019

(Unit: number of programs)

Category	Number of nursing programs ¹⁾	Accreditation period			
		Total	5 years	3 years	Other
Bachelor's degree program (university)	143	118	103	14	1 ²⁾
Bachelor's degree program (junior college)	84	84	71	13	-
Junior bachelor's degree program (junior college)	74	1	- ³⁾	-	1 ²⁾
Total	301	203	174	27	1

1) The total number of nursing departments of universities (n=143) and junior colleges (n=158) are based on the year 2018; the number of nursing departments of junior colleges designated to operate 4-year nursing programs (n=84) is based on the year 2019; and the number of nursing departments of junior colleges that are not designated to operate 4-year nursing programs was calculated by subtracting the number of nursing departments of designated junior colleges (n=84) from the number of nursing departments of junior colleges (n=158).

2) Woosong University's Department of Nursing (bachelor's degree) was accredited for one year (June 11, 2020 - June 10, 2021), and the Kookje University Nursing Department (junior bachelor's degree) was accredited for two years (June 13, 2018 - June 12, 2020)

3) The junior bachelor's degree programs of 14 schools were switched back to bachelor's degree accreditation programs for the 2017-2019 academic year.

Source: Ministry of Education, 2019; KABONE, n.d.-b.

Section 3. Aspect of National Examination System for Nursing

1. Changes in the Nurse Licensure System

A. 1951–1962

The Rules on Joseon Nurses established and promulgated in 1914 allowed women aged 18 and over to become a licensed nurse by passing the nurse examination (qualification examination) or graduating from a nursing educational institution recognized by the Japanese Government-General of Korea (Seoul National University College of Nursing, 1997). In 1946, a decision was made to abolish the qualification exam-based nurse licensure system initiated by the Japanese, and it was abolished in 1946. In 1951, however, the nurse qualification examination was revived under the Regulations on Qualification Examinations and the National Medical Service Act in order to mobilize more nursing manpower during war (Korean Nurses Association, 1997). The National Medical Service Act (enacted on September 25, 1951, came into effect on December 25, 1951) allowed those who passed the qualification examination to obtain a nursing license even if they did not graduate from a school designated by the competent minister or receive regular nursing education (Ministry of Government Legislation, n.d.-m). From then on, the

KNA and the nursing community began a strong movement calling for abolition of the qualification examination (Korean Nurses Association, 1997).

B. 1962–2012

In 1962, the National Medical Service Act was renamed to the Medical Service Act and wholly amended. The amended Act granted the nursing license to those who have graduated from a school designated by the Minister of Health and Social Affairs and passed the national nurse licensure examination (Korea Nursing Association, 1997). As a result, the first national nurse licensure examination was administered in 1962, and it has continued to this day (60th time in 2020).

The implementation of the national examination system greatly contributed to the development of nursing practices and nursing education by presenting the standards for the basic level of competence required of nurses and defining the goals and scope of nursing education (Kim, 1977). Recognizing the importance of the national examination system, KNA formed the National Examination Revision Committee and proposed it to the government. From 1977, the association gathered nursing professors from all over the country to hold a national examination evaluation workshop and a workshop to improve the examination questions (Korean Nurses Association, 1997).

The amended Medical Service Act of 1987 newly contained a provision allowing the management of national examinations for health professionals to be entrusted to related specialized institutions (Article 9 ②). For this, KNA considered establishing the National Examination Center for Korean Nurses, but the government decided to establish an organization to oversee the national examinations of all health professionals (Korean Nurses Association, 1997). As a result, the Korea Health Personnel Licensing Examination Institute, a private evaluation institution, opened its doors in 1998 and began administrating and managing national examinations for health professionals supervised by the government, including the national examination for nurses (Korea Health Personnel Licensing Examination Institute, n.d.).

〈Table 4-22〉 Article 14 of the National Medical Service Act (Enacted on September 25, 1951 and Came into Effect on December 25, 1951)

Article 14 A person who intends to become a public health professional, midwife or nurse shall be a person who has the qualifications falling under any one of the following paragraphs and must obtain a license as determined by the competent minister:

1. Graduated from a school designated by the competent minister;
2. Passed the qualification examination;
3. Graduated from a foreign school recognized by the competent minister and passed the qualification examination administered by the competent minister;
4. A foreigner who has graduated from a school recognized by the competent minister and passed the qualification examination administered by the competent minister.

Source: Ministry of Government Legislation (n.d.-).

C. 2012 and Afterwards

The biggest change in the nurse licensure system due to the amendment of the Medical Service Act in 2012 is that only those who have graduated with a nursing degree from a university or junior college that has received accreditation from the accrediting agency are eligible to take the national nurse licensure exam (The amended Article 7 of the Medical Service Act was to take effect five years after promulgation) (Ministry of Government Legislation, n.d.-j).

The amended Article 7 of the Medical Service Act required nursing departments to receive nursing education evaluation and accreditation, yet it did not become fully mandatory until the Higher Education Act (Article 11-2) was amended in December 2015 and entered into force in June 2016 (Ministry of Government Legislation, n.d.-k).

Meanwhile, the amended Medical Service Act of 2015 provided the legal basis for the Korea Health Personnel Licensing Examination Institute to take charge of the national nursing license examination, and the Korea Health Personnel Licensing Examination Institute Act was enacted to provide the necessary legal framework for managing the national examinations for health professionals including nurses.

(Table 4-23) Legal Basis for the National Nurse Licensure Examination Management Agency

Previous legislation	Current legislation (Medical Service Act amended on June 22, 2015)
<p>Article 9 (National Examinations, etc.) ② The Minister of Health and Welfare may entrust the management of the national examinations, etc. to a specialized organization recognized as competent for the management of such examinations, as prescribed by Presidential Decree.</p>	<p>Article 9 (National Examinations, etc.) ② The Minister of Health and Welfare may entrust the management of the national examinations, etc. to the Korea Health Personnel Licensing Examination Institute established under the Korea Health Personnel Licensing Examination Institute Act, as prescribed by Presidential Decree.</p>

Source: Ministry of Government Legislation (n.d.-v)

2. Changes in the Subjects of National Nurse Licensure Examination

Prior to the 1970s, there were seven subjects in the national nurse licensure examination: internal medicine nursing, surgical nursing, obstetrics and gynecological nursing, pediatric nursing, neuropsychiatric nursing, sociology in nursing, public health nursing, and health and medical-related laws and regulations (Article 8 of the Enforcement Rule of the Medical Service Act, amended and took effect on October 17, 1973).

〈Table 4-24〉 Subjects in the National Nurse Licensure Examination Prior to the 1970s (Article 8 ① of the Enforcement Rule of the Medical Service Act)

Subject	Remarks
Internal medicine nursing	Includes infectious disease nursing, physiotherapy, and dermatology/urology nursing
Surgical nursing	Includes dental nursing, otorhinolaryngology nursing, operating room nursing
Obstetrics and gynecological nursing	
Pediatric nursing	
Neuropsychiatric nursing	
Sociology in nursing	Includes nurses, nursing ethics, nursing administration, and professional ethics
Public health nursing	
Health and medical-related laws and regulations	Limited to the Infectious Disease Control and Prevention Act, Medical Service Act, Narcotics Control Act, Quarantine Station Act, and Public Health Clinic Act

Source: Ministry of Government Legislation (n.d.-w), Korea Health Personnel Licensing Examination Institute (2012).

In the 1980s, the subjects tested on the national nurse licensure examination were reorganized into 8 subjects: fundamental nursing, adult health nursing, maternity health nursing, pediatric mental health nursing, community health nursing, psychiatric nursing, nursing management, and health and medical-related laws and regulations (Article 8 of the Enforcement Rule of the Medical Service Act, enacted on December 31, 1982 and entered into force on January 21, 1983). The national nurse licensure examination revised and implemented in 1983 has remained the same in terms of the

number of subjects tested, while the number of questions from each subject and the weight thereof have changed. The exam subjects have been stipulated in Article 1 of attached Table 1 of the Enforcement Regulations of the Medical Service Act since September 27, 1994.

3. Number of National Nurse Licensure Examination Takers and Passing Examinees

The number of the national nurse licensure examination takers (passing examinees) was 837 (824) in 1966, but it increased by 1.8-fold to 1,524 (1,506) in 1970. In 2000, number of exam takers (passing examinees) was 11,973 (10,546), 7.8 times that of 1970. In 2018, the number of applicants was 20,731, of whom 19,927 (96.1%) passed the exam. For 52 years from 1966 to 2018, the number of exam takers increased by 6.4% per year, on average.

〈Table 4-25〉 Number of Applicants and Those Who Passed of the National Nurse License Examination

	1966	1970	1980	1990	2000	2010	2015	2018	Average annual growth rate
Applicants	837	1,524	3,581	6,617	11,973	12,738	16,285	20,731	6.4%
Passing examinees	824	1,506	3,364	6,373	10,546	11,857	15,743	19,927	6.3%
Pass rate(%)	98.4	98.8	93.9	96.3	88.1	93.1	96.7	96.1	

Source: Ministry of Health and Welfare (1997), Ministry of Health and Welfare (1997), Ministry of Health and Welfare(2011), Ministry of Health and Welfare (2019a).

Section 4. Development of Nursing Education and Role of the Korean Nurses Association

The ongoing activities and efforts of the nursing community, with KNA playing a central role, contributed significantly to the qualitative and quantitative development of nursing education in Korea. The Korean Nurses Association is a national association of nurses formed pursuant to Article 28 of the Medical Service Act, with the aim of contributing to the development of the national nursing industry by improving the qualifications of nurses, advocating rights, and promoting public health and social welfare (Academy of Korean Studies, 2014). In addition, in accordance with Article 28 (3) of the Medical Service Act, all nurses naturally become members of the Korean Nurses Association and must adhere the articles of association (Ministry of Government Legislation, n.d.-y). Among the activities of the Korean Nurses Association for the development of nursing education, the activities to abolish the nurse qualification test, which was an important event in the process of establishing the current nursing education system, and to introduce a advanced practice nurse system and standardize the length of study will be described in this section.

1. Establishment of the Korean Nurses Association and Major Activities in the Early Stages

A. Establishment of the Korean Nurses Association

Modern nursing in Korea began in 1891 with the dispatch of nursing manpower by the British Anglican Mission. In 1908, Western graduate nurses in Korea founded the Graduate Nurses' Association in Korea, and it was renamed the Western Graduate Nurses' Association in Korea in 1911 (Korean Nurses Association, 1997). In 1923, the Korean Nurses' Association, the precursor to the Korean Nurses Association, was formed with Korean and Western graduate nurses (Chitty & Black, 2011/2013). In order to independently join the International Council of Nurses (ICN), the Korean Nurses' Association dispatched three representatives to the 6th General Assembly of the ICN (Montreal, Canada) in 1929. However, the efforts were futile, and the association became an affiliate of the Japanese Imperial Nurses' Association. Afterwards, the activities of the Korean Nurses' Association became stagnant, and its official activities stopped in 1937 (Koh et al., 2017).

After liberation, in 1946, the Nursing Service Bureau of the Health and Welfare Department of the U.S. Military decided to launch a new Korean Nurses' Association along with the representatives of 15 organizations, including general hospitals

and nursing education institutions in Seoul, and held the first regular general assembly (Korean Nurses Association, 1997). Then, the Korean Association of Nurses began organizing chapters (Korean Nurses Association, 1999). In 1949, the association became a full member at the 9th General Assembly of ICN held in Stockholm, Sweden (Park, 2003). In 1957, it was registered as a corporation and became the national association of nurses according to the Public Healthcare Ordinance (Korean Nurses Association, 1999).

B. Independence of the Ministry of Health and Movement to Prevent the Downgrading of Nursing-Related Departments

From December 1948, marking the beginning of the establishment of the Korean Nurses Association, until the end of March in the following year, a movement to prevent the downgrading of nursing-related departments following the independence of the Ministry of Health (Korean Nurses Association, 1997). Under the U.S. Military Government, there was the Nursing Service Bureau within the Ministry of Health and Welfare, but after the establishment of the Government of the Republic of Korea in 1948, it was downgraded to the Nursing Service Division. After the reorganization of the Ministry of Health and Welfare into the Health Bureau within the Ministry of Social Affairs, nursing-related affairs were

carried out at the section level (Jeon, 1983). The Korean Nurses Association actively participated as a member of the Ministry of Health and Welfare Independence Promotion Committee comprised of mainly health professionals (Korean Nurses Association, 1997). Eventually, in March 1949, an amendment to the Governmental Organization Act regarding the independence of the Ministry of Health was confirmed. As a result, the newly established Ministry of Health consisted of three bureaus: Medical Affairs, Pharmaceutical Affairs, and Quarantine. The Division of Midwifery and Nursing was established within the Medical Affairs Bureau, so although it did not completely regain the “bureau” status from the days of the U.S. Military Government, it was able to maintain its “division” status.

C. Changes in the Title of “Nurse” in Korean

Immediately after liberation from Japanese colonial, the term used for nurse was changed from “ganhobu,” which had been used during the Japanese occupation period, to “ganhwon.” The new title was defined as the official title of nurses by the Public healthcare Ordinance established in 1951 (Korean Nurses Association, 1997). However, official institutions continued using the term, “ganhobu,” instead of “ganhwon,” which was because the corresponding job category was not

effectively changed in Article 11 of the Ordinance on Appointment of Public Servants. Their issue was related to improving the status of nurses, and thus the Korean Nurses Association made an official suggestion to the Ministry of Health and Social Affairs to rectify this problem. Not only that, all records that were officially kept during the Japanese occupation period were revised by replacing “ganhobu” with “ganhowon,” and as a result, the official title for nurses became standardized as “ganhowon” (Korean Nurses Association, 1997). Also, at the 2nd International Nursing Conference held in 1980, discussion commenced in regard to the use of a new title, “ganhosa,” after which the Korean Nurses Association urged the government to officially change the title as such (Korean Nurses Association, 2014). As a result of these efforts, the title was changed from “ganhowon,” which had been used since 1951, to “ganhosa,” with the amendment of the Medical Service Act in 1987 (Korean Nursing Association, n.d.-b).

2. Major Activities Related to Nursing Education by the Korean Nurses Association

A. Abolition of the Nurse Qualification Examination

The nurse licensure system based on a qualification examination that was initiated by the Japanese qualification

examination system was revived under the National Medical Service Act of 1951 and the Regulations on Qualification Examinations of 1952 (Korean Nurses Association, 1997). Accordingly, the Korean Nurses Association made a resolution at the general assembly in May 1954 to bring an end to the nurse qualification examination and made a recommendation to the National Assembly and the government, but it was not accepted. Then, in 1957, the Korean Nurses Association again brought this matter directly to the President's and the Minister of Health and Social Affairs' attention. This issue began to be discussed again after the April 19 Revolution of 1960 when a new government was established.

The relentless efforts made by the Korean Nurses Association led to the amendment of the Medical Service Act in 1962 and the abolition of the nurse qualification examination (Korean Nurses Association, 1997). The amended Act instead stipulated that a nursing license can only be obtained by those who graduated from a school designated by the Minister of Health and Social Affairs and passed the national nurse licensure examination.

B. Introduction of the Advanced Practice Nurse System

The specialization of nursing was legally recognized by the state for the first time through the “nurse specialist,” which was

introduced by the amended Medical Service Act of 1973 (Ministry of Government Legislation, n.d.-z). However, the system did not operate as intended due to a number of issues: there were few types of nursing specialization fields; there were no policy-based sanctions or control devices for training institutes that avoid training such nurses; and the compensation for those who completed the education program was inadequate (Lee, 2001).

At the time, the Enforcement Rule of the Medical Service Act stipulated only three specialization fields: public health nursing, anesthesia nursing, and psychiatric nursing (Ministry of Government Legislation, n.d.-z). Accordingly, the Korean Nurses Association benchmarked the cases of developed countries, made preparations for institutionalization of home health nursing services, and made specific plans, based on which the field of home health nursing was added to the list with the amendment of the Enforcement Rule in January 1990 (Lee, 2001).

It was in 1994 that the Korean Nurses Association began to prepare the advanced practice nurse system in full swing (Lee, 2001). In 1994, the Korean Nurses Association formed the Subcommittee on the Preparation of Improvement Measures (draft) for the Advanced Practice Nurse System and came up with the initial draft of the institutional direction. In 1997, the Special Committee on Advanced Practice Nurse System and

Standards Development was formed with eleven members, after which system improvement measures and education programs (24 credits) for geriatric nursing were developed and submitted to the Ministry of Health and Welfare in 1998. Following the process of re-examination and coordination, the Korean Nurses Association selected 9 types of advanced practice nurses and made a proposal to the Ministry of Health and Welfare. As a result of these efforts, when the Medical Service Act was amended in 2000, the term “nurse specialist” was changed to “advanced practice nurse,” resulting in legal recognition of the term, “advanced practice nurse.”

However, this was a mere name change from “nurse specialist” to “advanced practice nurse,” as the qualification categories (public health, anesthesia, psychiatric, and home health nursing) and qualification criteria remained the same, and there was no provisions for any exclusive qualification examinations or educational programs for advanced practice nurses, making effective quality control infeasible. The Korean Nurses Association thus made continuous efforts to improve the advanced practice nurse system, and in 2003, six categories including infection control, occupational health, emergency, geriatric, critical care and hospice nursing came to be included in the advanced practice nurse qualification categories, along with public health, anesthesia, psychiatric, and home health nursing, and a qualification examination system was

introduced in the amended Enforcement Rule of the Medical Service Act (Korean Nurses Association, 2012a). In 2006, oncology, clinical, and pediatric nursing were added to the qualification categories of advanced practice nurses for a total of 13 fields, as is the case today. In 2011, the Korean Nurses Association established three subcommittees under the Policy Committee to develop the scope and standards of advanced practice nurses' work and has been holding a number of international seminars and workshops, conducting research to develop a payment system for advanced practice nurses, holding National Assembly hearings, and making proposals to the government (Korean Nurses Association, 2012a). As a result, in 2018, the Medical Service Act was amended, a provision on allowing those qualified as an advanced practice nurse to perform nursing work in the relevant field (Article 78 ③) was newly established, thereby preparing the legal basis for the scope of work for advanced practice nurses.

C. Standardization of the Length of Study in Nursing Education

Nursing education in Korea was provided in a two-track system: after liberation from Japanese colonial rule, a 3-year program was provided by nursing high school, nursing technical high school, nursing school, and junior college had a

3-year nursing program; and after then, a 4-year program was provided.

Nursing education in Korea was provided in a two-track system: 3-year nursing education programs provided by higher nursing school after liberation from Japanese colonial rule and a 4-year nursing education program that began in 1955. The nursing community, with the Korean Nurses Association playing a central role, began making efforts to standardize the dualized nursing education programs to a 4-year program in the 1970s (Korean Nurses Association, 2012b). In 1979, with the first 10-Year Long-Term Project Plan, a long-term goal of “standardizing nursing education with a 4-year education program” was set forth, and it was officially declared at the General Assembly of the Representatives of the Korean Nurses Association in 1981. In 1990, a suggestion in writing was submitted to the Ministry of Education, and in 2003, a petition campaign was initiated. Then, in 2010, at the nursing policy proclamation ceremony, the “standardization of nursing education as a 4-year education program” was announced as the top priority. In the process, a special committee was organized in 1989, 2004, and 2010 to propose and systematically promote policy alternatives with respect to the standardization, and public hearings were held to present a reasonable plan and bring the nursing community to a consensus.

There was a need for the nursing community to push ahead with the “standardization of nursing education as a 4-year education program” in the following aspects (Korean Nurses Association, 2012b). First, there was a tendency to require nurses exchanged between countries to have at least a bachelor’s degree as a basic condition and in major countries such as the United States, United Kingdom, and Canada, a bachelor’s degree was required as a basic condition for a nurse license. Second, improving nursing education could enhance patient safety and contribute to the health promotion for Koreans. Third, nurses who have graduated from a 3-year program experienced disadvantageous in promotion, etc., thus it resulted in internal conflicts. They were also obtaining bachelor’s degrees through other programs (e.g. Korea National Open University), thus it was resulting in unnecessary social cost.

There were many other factors, such as the increased importance of nurses’ role due to changes in the healthcare environment and an increase in nurses finding employment abroad. All of these factors contributed to the internal demand for “standardization of nursing education as a 4-year education program.”

Due to such internal demands and need, the Korean Nurses Association continued promoting the standardization in the 1970s, and as a result, the amended Higher Education Act that

includes provisions on the “standardization of nursing education as a 4-year education program” was passed by the National Assembly in April 2011 (Korean Nurses Association News, 2015).



V

Conclusion

Section 1. Improvement Measures for the
Nursing Education System in the
Republic of Uzbekistan

V Conclusion

Section 1. Improvement Measures for the Nursing Education System in the Republic of Uzbekistan

Until recently, in Uzbekistan, nurses have been perceived as mid-level staff who could only work under the directions from a doctor. However, the perception of nurses' activities has changed dramatically, with increased interest in the professional expertise of nurses. Considering that this is a time of increased awareness of the professional expertise of nurses, it could be described as a window of opportunity to improve the nursing education system to provide quality nursing education.

The Uzbekistan government is making ongoing efforts to improve the quality of medical care and medical education. The Presidential Decree on the Comprehensive Measures to Fundamentally Improve the healthcare System of Uzbekistan, which came into force in December 2018, noted the lack of education for health professional and the lack of integration of clinical settings, education, and science to reflect the latest health technology as factors inhibiting the advancement of the healthcare system. Among the nine comprehensive measures to improve the healthcare system proposed by the Presidential

Decree, “improvement of the quality and accessibility of healthcare” and “development of an education and refresher training system for health professionals” are aimed at improving the quality of healthcare by ameliorating the education system. Major tasks for the development of the education system for health professionals include developing education programs that meet international standards, accrediting medical education institutions, and cooperating with foreign educational institutions (Table 5-1) (Shin et al., 2019). Accordingly, this study was carried out to propose short-term and mid- to long-term plans for improving the nursing education system of Uzbekistan based on the case of Korea achieving advancement of the nursing education system.

〈Table 5-1〉 Direction of Medical Education and Major Tasks Among Comprehensive Measures to Fundamentally Improve the Healthcare System in Uzbekistan

Direction	Major task
Development of education and refresher training system for health professionals	<ul style="list-style-type: none"> • Improve the medical education curriculum and develop training programs that are in accordance with international standards • Strengthen cooperation with foreign medical education institutions • Pursue high-level scientific development and strengthen education • Promote medical education and medical education institution accreditation according to international standards
Improvement of the quality and accessibility of healthcare	<ul style="list-style-type: none"> • Modernize communication in which medical education–practice–science are at work and strengthen education for the human resources in health care in higher medical education institutions

Source: Shin et al. (2019).

Since the composition of the nursing education system is closely related to the status and rights of nurses and systems and institutions related to nursing, the proposed improvement plans includes not only improving the education system but also the managing the nursing manpower and improving related institutions and systems.

1. Short-Term Improvement Plan

A. Systematization of Job Duties of Nursing Manpower

A task that must be performed with the utmost priority in order to improve the nursing education system is the systematization of job duties of nursing manpower. Currently, in Uzbekistan, nursing is perceived only aiding medical practice, and the professional expertise of nursing manpower is not being utilized in full. This perception and practice may be related to the absence of systematic designation of job duties of nursing manpower based on their education level.

In the healthcare system of Uzbekistan, the job duties of nursing manpower are not very diverse, and the roles and remuneration among other things do not differ across nurses according to their level of education. That is, graduates with a nursing degree from a medical school perform similar tasks as college graduates and even receive similar levels of pay. This is

one of the factors deterring vocational (high school) school graduates from obtaining tertiary education (Kvack, 2014; Rechel et al., 2014), and in the long term, it will hinder the cultivation of advanced nursing manpower. In Korea, nursing manpower is categorized into nurse aides (practical nurses), nurses, and advanced practice nurses, and they differ in terms of roles and responsibilities, scope of work and authority. In addition, a license (nurse) and certification (nurse aide) are legally distinguished to clarify and recognize the difference.

〈Table 5-2〉 Comparison of Qualification Criteria of Nursing Workforce in the Republic of Korea

Category	Qualification criteria
Nurse aide	<ul style="list-style-type: none"> • Graduate from high school or a higher level of education, or graduate from a specialized high school in nursing • 1,520 hours of education • Pass the national qualification examination
Nurse	<ul style="list-style-type: none"> • Graduate from a 3-year or 4-year higher education program in nursing (at least a bachelor's degree) • Complete education at an institution offering an accredited nursing education program • Pass the national nurse licensure examination
Advanced practice nurse	<ul style="list-style-type: none"> • Can apply for advanced practice nurse education if he/she has had at least 3 years of experience in the relevant field in the past 10 years • Receive at least 2 years of education at a designated professional nursing education institution (graduate school level) • Passed the national qualification examination

Source: Korean Licensed Practical Nurses Association (n.d.), Korean Licensed Practical Nurses Association (n.d.-c), Korean Licensed Practical Nurses Association (n.d.-d),

If there is no guarantee of differential treatment (e.g. salary) according to the job category and role based on the education level, the quality of the nursing manpower may potentially be lowered since there is no motivation for completing higher nursing education. The basis for nurturing advanced nursing manpower can be created by categorizing the roles of nursing manpower. If knowledge, skills, and competencies necessary for the job performed by each type of manpower are specifically set⁵⁾ and the scope of work that is appropriate for each type of manpower is designated, it will be possible to develop education programs and internal education and training systems in hospitals based on such. Furthermore, introducing a job-based compensation system can motivate students to obtain higher education.

In order to systematize the job duties of nursing manpower, reorganization of occupational standards is needed. The reorganization of occupational standards will require close cooperation between the government (Ministry of Health), nursing community, and healthcare institutions. What is necessary for this process is subdividing and systematizing the occupations and job duties within the nursing manpower pool. Professionals in the clinical fields need to participate in the process of designating the scope of job duties and the knowledge, skills, and competencies required for each job.

5) See Appendix 2 Job Description of Nurses at a University Hospitals in Korea

Due to the curriculum reform, the nursing manpower in Uzbekistan in the future will come from diverse backgrounds: (1) nursing high school (3 years), (2) university/graduate school, (3) 2-year college, and (4) 3-year public health vocational school. As such, there will be a mixture of talents, and there should be a discussion regarding what kind of work and what kind of treatment are appropriate for each type of nursing manpower according to their level of education.

B. Introduction of Nursing Education Standards

WHO has specified the goal of nursing education standards as ultimately to guarantee the employment of practitioners and improvement of population health by providing quality care and promoting the development of education and continuing education, based on evidence and individual competencies (WHO, 2009). It is essential to provide standardized nursing education in order to eliminate the gap in education levels across regions and schools and to cultivate professional nursing manpower.

Nursing education standards should present educational programs that can develop the competencies necessary to meet the health needs of the people, include education that enables the interaction between nursing manpower and medical service users (i.e. patients and citizens), and reflect an expert approach

to education and practice (WHO, 2009).

Economic development and changes in the demographic structure in Uzbekistan are expected to cause changes in disease patterns. As the ratio of chronic diseases to all diseases has increased from the past, chronic diseases and geriatric diseases will continue to rise as the current younger population become middle-aged and older. Nursing education standards should thus be established to reinforce professional expertise in dealing with chronic diseases, geriatric diseases, and new infectious diseases in order to strengthen the healthcare services for diseases that are expected to rise in prevalence in the future, while strengthening the fundamentals of nursing.

To introduce nursing education standards, a comparison of nursing curriculum between medical colleges and universities should be preceded. Considering that graduates from medical colleges can transfer to a medical school (university) in the second year, the curriculum should be designed so that the education provided by medical college is completed in the first year of medical school.

As described earlier, the roles of nurses who have graduated from colleges and those who have graduated from universities (department of nursing) should be clearly distinguished and each educational program should be designed to strengthen the required competencies for each role. The standard of nursing education provided by medical schools and public health

vocational schools should be educational programs that help students develop the skills and abilities required of nurses as health professionals, instead of simply reducing the curriculum of the former 3-year colleges or providing redundant education. In the case of colleges, since the education period has been shortened compared to the past, it is necessary to focus on field-oriented professional education and exclude any redundant materials that are learned in secondary education programs up to the 11th grade.

When it comes to setting the standard for nursing education provided by medical schools, the focus should be on cultivating the essential competencies of a nurse, rather than providing nursing education based on medical education. The curriculum should be designed in consideration of the Uzbekistan healthcare environment, the health level of the people, and the expected disease patterns in the future, and time should be allocated appropriately to learning and practice for each course. If 3-year programs are not enough to provide nursing education at the university level, it may be possible to consider ways to extend the education period (e.g. 4 years) in the long run. In Korea, the 3-year nursing programs provided by junior colleges are currently being extended into 4-year programs. The increase in nursing education period resulted from the efforts to unify the two-track system (3-year and 4-year programs), but the main reason behind it was to improve the

quality of nursing education and promote international exchange of nursing manpower (mainly requiring a 4-year bachelor's degree). Similarly, in order for university-level nursing education in Uzbekistan to reach the international level in the long run, it is also expected to require an increase in the education period.

The development of nursing education standards (including the establishment of nursing curriculum and programs) should involve experts with clinical experience in the field and hospital workers to include education that will impart the knowledge and skills required of nurses in the actual clinical field to the students. The nursing knowledge and skills learned that can be applied in the field will help nursing students perform their work with greater proficiency in the clinical setting.

C. Establishment of Education and Training System in Hospitals

High-quality field practice (practicum) is essential to enhance the clinical skills and competencies of nurses. Cooperation between medical institutions and educational institutions is necessary for nursing students to gain any field experience. Medical institutions should recognize the fact that nursing manpower who have received high-quality nursing

education can become a major assets to them and efforts should be made to change such perception of medical institutions so that they actively cooperate with educational institutions. Also, there is a need to promote the education and training of nurses in hospitals by providing incentives to training hospitals and/or making it mandatory for hospitals to train nurses. To this end, the government needs to act as a bridge between public and private medical institutions and educational institutions for cooperation and win-win partnerships, and institutional devices must be prepared so that medical institutions provide the necessary nurse education and training.

In-hospital nurse training should not only be for students majoring in nursing but also for new nurses. Field practice and training is needed to complement the degree programs which lack practical training and to improve the job competencies of new nurses. Currently, the nurse association is providing continuing education to nurses. If the nurse association, in cooperation with medical institutions, provide field practice and training for newly hired nurses as part of a refresher training course, they will be able to make up for the lack of practice in the school curriculum and help new nurses adjust to their jobs much more quickly.

Uzbekistan is building a medical complex in the capital city, Tashkent, and establishing the National Children's Hospital,

General Hospital for Adult, National Cancer Center, medical school, and more within the complex. The Korean government is supporting the construction of the medical complex, and the Export-Import Bank of Korea has provided a loan for the establishment and operation of hospitals. A nurse training hospital or education and training department could be operated at one of these hospitals as a way to develop an in-hospital nurse education and training system model and disseminate it to other hospitals.

D. Increase in Higher Nursing Education Graduates

In many developed countries, university-level education (i.e. bachelor's degree) is required as a qualification to practice as a nurse. Various other efforts are also being made to reinforce the professional expertise of nurses by introducing an advanced practice nurse system and so on. In contrast, most of the nursing manpower in Uzbekistan are produced by colleges, which is different from the global trend to emphasize the professional expertise of nursing manpower.

In the actual clinical setting, there are many tasks performed by doctors that are mainly performed by nurses in other countries. This is an inefficient utilization of health professionals, and patients who need professional nursing cannot receive sufficient nursing services.

In the case of nurses who have graduated from colleges and nurses who have completed higher nursing education, the amount and contents of the education they have received differ. Nurses who have completed higher nursing education are capable of undertaking a wider range of duties than their counterparts, and they are able to provide nursing services among the medical services currently provided by doctors (even though they should be provided by nurses). A systematic division of work between doctors and nurses can help reduce the burden on both parties and enable more efficient medical services. In the long run, nurses with a bachelor's degree or higher may become teachers of nursing education institutions in the future, so cultivating nurses with higher education will be helpful in nurturing nursing manpower in the future, as they will be able to teach the future generations.

An unconditional increase in nurses with a higher education background will not, however, contribute to the development of nursing and healthcare. It is necessary to first consider how the fields of nursing, medicine, and public health will change and develop in Uzbekistan and the international community in the future, and what kind of nursing manpower will be needed to deal with such changes and advances. There is also a need to cultivate nursing manpower in consideration of the demand for nursing services that can be provided with the level of education currently provided by colleges and future demand for

nursing services for complex chronic diseases and newly emerging diseases and to improve the education programs in consideration of the level of education needed in each area. Without these considerations, nursing manpower will be either wasted or fall short of the demand.

At the moment, there is no motivation for aspiring and current nurses in Uzbekistan to obtain higher education. There needs to be a strategy to get many nurses and high school graduates into nursing majors in medical schools. Strategies proposed by the US Institute of Medicine include raising the pay, offering preferential promotions, and scholarships and student loans from the government and medical institutions (Institute of Medicine, 2010). As such, Uzbekistan also needs to differentiate the areas of work between college graduates and university graduates in nursing and provide preferential treatment (e.g. pay increases, faster promotion, etc.) as well as diverse incentives such as scholarships to those with post-secondary education or entering a post-secondary education institution.

2. Mid- to Long-Term Improvement Plan

A. Securing Faculty Members to Provide Quality Nursing Education

The importance of professional nursing is being stressed worldwide, and at the same time, the need for educators for professional nursing has been noted (WHO, 2016). According to WHO's nursing education standards, the head of a nursing education program should be a nurse or midwife with at least graduate degree, while faculty members should have at least a bachelor's degree but ideally be a nurse or midwife with at least a graduate degree (WHO, 2009). However, most of the faculty members currently teaching nursing at medical schools in Uzbekistan are doctors, not nursing majors. Doctors are, of course, appropriate teachers for medical-related education, but they have limitations in providing education for professional nursing.

Currently, there is a shortage of those who have had higher nursing education at the university level, and even fewer hold master's degrees. WHO proposed eight core competencies required of nursing educators: theories and principles of adult learning; curriculum and implementation; nursing practice; research and evidence; communication, collaboration, and partnership; ethical/legal principles and professionalism;

monitoring and evaluation; and management, leadership, and advocacy. Specific competencies include clinical competence, education and evaluation skills reflecting adult learning methodology, organization and communication skills, personal character, individual ability to serve as a role model for other professionals and students, and ability to assist in the socialization of students in a clinical environment (WHO, 2016b). As such, in order to provide quality nursing education, the qualification criteria for a teacher is not someone with extensive clinical experience or an extremely high level of education, but it is someone who has both academic and clinical competencies related to nursing, and it is important to secure enough faculty members in proportion to the number of enrolled students.

In order to secure high-quality teachers to provide nursing education, it will be necessary to provide scholarships, support for studying abroad, and offer opportunities for an international exchange with foreign nursing universities and nursing associations. In the case of Korea in the past, the Minnesota Project after the Korean War allowed Korean faculty members in medicine, nursing, and health sciences to study and receive training at University of Minnesota in the United States and return home to contribute to the advancement of their respective fields. Of particular note, an advisory group from the University of Minnesota visited Korea to provide

educational and administrative advice related to academic management and contributed financially to the construction of school facilities.

For the advancement of nursing services, Uzbekistan has worked with JICA from Japan and the American International Health Alliance in the United States to operate nurse training programs and develop patient-centered nursing curriculum. It has also formed a healthcare partnership with Korea, based on which the Korea Foundation for International Healthcare is currently building a children's hospital in Uzbekistan and Pusan National University Yangsan Hospital is offering training to health professionals including nurses from children's hospitals.

In order for international cooperation projects to not end as just one-time or short-term support, it is important to cultivate teachers who can cultivate future manpower and create sustainable results. Thus, it is important for Uzbekistan to continue the human resources exchange and training partnerships with countries known for their advanced nursing services for the purpose of strengthening the capacity of teachers to nurture nursing manpower.

Korea has carried out projects to develop nursing education and strengthen the competence of nursing manpower in developing countries at the government level in cooperation with nursing colleges (See Table 5-3). Good examples of such government-supported projects are the Ministry of Education's

Leading University Project for International Cooperation (Gachon University and Inje University) and KOICA's programs and projects. It is believed that it will be possible to develop and improve nursing education, exchange nursing power, invite Uzbekistan representatives to Korea for training, provide support for enrollment in graduate schools, and more, as part of the Korea-Uzbek healthcare partnership to foster nursing teachers (faculty members) in Uzbekistan.

〈Table 5-3〉 Cases of International Cooperation in Nursing Education

Case	Description
Gachon University - Hue University in Vietnam	<ul style="list-style-type: none"> - Gachon University College of Nursing has reinforced field-oriented nursing competence, built a digitized education environment, and established an emergency medicine education system to improve the quality of nursing education at Hue University in Vietnam. • Reinforcement of field-oriented nursing competence: improved the nursing education environment, improved the quality of teaching and learning methods, strengthened the teaching capacity, and strengthened the education management capacity • Digitization of the educational environment: built a U-learning educational infrastructure, operated a U-learning utilization education system, and localized the U-learning program • Establishment of emergency medicine education system: built and established the BLS training site center and operated BLS TS - Gachon University shared teaching and learning methods through the dispatch of local professors, held problem-oriented learning workshops, provided nursing education reflecting local characteristics by developing various textbooks including clinical practice guidelines, provided support for Vietnamese nursing students advancing into master's and doctoral programs in Korea, strengthened the faculty competency through educational performance

Case	Description
	<p>evaluation research and participation in international academic conferences on nursing education.</p>
<p>Inje University – Sri Lanka Nursing Education Capacity Strengthening Project</p>	<ul style="list-style-type: none"> - As a part of the Leading University Project for International Cooperation by the Ministry of Education, Inje University set up a bachelor's degree program in nursing in Sri Lanka, developed teaching competency, supported the establishment of the Faculty of Nursing at the University of Colombo, operated emergency nurse training programs, and provided education for Sri Lankan nursing students, etc. • Remodeling of nursing department: reorganized the bachelor's degree program in nursing and applied it, procured educational equipment and materials, developed media and guidelines for practical training (practicum), and developed and implemented emergency nurse training programs • Reinforcement of faculty competence: fostered master's degree holders and held capacity building workshops for local faculty members • Strengthening of the capacity of the local health care sector: developed and applied chronic disease management FMTP program, school health program, and mother-and-child health education program • Medical information system set up - Sri Lanka's first 4-year nursing college was established at the University of Colombo in Sri Lanka and it opened in 2018. Education is provided through a bachelor's degree program in nursing developed by Inje University. - Seventeen nursing colleges across Sri Lanka were operated on a 3-year basis in the past, but there are plans to change them into 4-year degree programs based on the bachelor's degree program in nursing developed by Inje University.
<p>KOICA, Yonsei University – Bangladesh</p>	<ul style="list-style-type: none"> - At the request of the government of Bangladesh, the Korea International Cooperation Agency (KOICA) established the first graduate school for nursing in Bangladesh • There were an insufficient number of nurses and midwives in Bangladesh. • There were no graduate schools or graduate school programs for nursing manpower and there is a lack of training/practice equipment. - KOICA built a new graduate school building and provided medical, electronic, and educational equipment and materials for training/practice.

Case	Description
	<ul style="list-style-type: none"> - Nursing professors in Bangladesh were invited to Korea for training in cooperation with Yonsei University to enhance the professional expertise of nursing educators in Bangladesh. • Professors of the graduate school of nursing in Bangladesh were selected among the trainees. - Experts were sent to Bangladesh to provide advice and consultation on the development of curriculum and operation of graduate schools in nursing.
Seoul National University – Ethiopia	<ul style="list-style-type: none"> - With the support of KOICA, it was carried out with the aim of strengthening the competence of maternal and child health care professionals in a region in Ethiopia. - Strengthening the competence of health professionals: developed and implemented education programs for midwives and nurses, who are key mother-and-child health care professionals, in consultation with experts from local nursing colleges and health offices and by reflecting opinions of practitioners • Education and training for nurses and midwives working at public health centers: total 3 sessions, 5 days each • Topics: family planning, delivery nursing, neonatal nursing • Lecture and practice carried out in parallel

Source: Bang (2014), Gachon University (2018), Kim (2017), Oh (2020), Wang (2018)

B. Establishment of Independent Nursing University

University-level nursing education in Uzbekistan is provided within a medical school rather than in an independent nursing school. This is similar to the situation of Korea in the past when nursing education was provided by medical school, but with the promotion from a nursing department to an independent nursing school, it provided an opportunity to build academic independence of nursing as a separate discipline and change the perception of nursing as a specialty

of its own (Park, 1995). If nursing education continues to be provided by a medical school, it will limit the role of nursing as technical assistance to medical care, instead of allowing it to be viewed and practiced as an independent academic discipline.

Providing independent nursing education makes it possible to provide evidence-based education focused on nursing and improve nursing leadership and management capabilities. In order to developing the study of nursing, cultivate nursing manpower, and develop nursing services, there is a need to foster nursing scholars in the long run so as to create resources for the nursing community, and by establishing an independent nursing university, it will be possible to raise the status of nursing in the healthcare sector.

C. Fostering Professionals in Response to the Future Changes in the Environment

It is necessary to cultivate nursing professionals who are capable of responding to the changes in the healthcare and socioeconomic conditions in Uzbekistan. A major change in the healthcare sector, for instance, is the increase of chronic diseases with the inevitable population aging. The prevalence of chronic diseases will increase further, and so will geriatric diseases. There is also the possibility of an outbreak of new infectious diseases, similar to COVID-19. Also, with the recent

rapid economic development, new healthcare services will be demanded by the people. As the economy develops even further, with the establishment of new business places in the special economic development zones and so, the number of workers has been on the rise as well. Therefore, the working environment, workplace safety management, and occupational health promotion are expected to become important issues in relation to economic development and the working environment.

The health of citizens can be promoted by expanding the career paths of nurses in response to the changes occurring in the country. For example, if there are nurses with expertise in chronic and geriatric diseases, which are expected to increase in prevalence, it will be possible to effectively manage and treat these diseases. Not only that, nurses can also play the role of health managers in the areas of industrial safety management and occupational health promotion.

In Korea, for instance, an advanced practice nurse system for each subspecialty of nursing is being operated, in addition to making efforts to guarantee the expertise of nursing manpower in major subspecialties such as occupational health, infection control, oncology, and critical care nursing. Similarly, Uzbekistan also needs to cultivate professional manpower to better cope with the changes in the domestic environment in the mid to long term. To this end, it is necessary to cultivate

professionals in subspecialties of nursing and expand the career areas of nurses, in a similar way as the advanced practice nurse system. In Uzbekistan, institutions that nurses can work at are determined by the employment code assigned to them upon graduation. In the case of nurses, career choices are limited mainly because they have to find employment at a medical institution. In order to meet the demand for nursing manpower outside of medical institutions, it is necessary to establish a policy to diversify the employment code of nursing graduates.

D. Improving the Status of Nurses and Increasing the Scope of Their Roles

While improving the quality of nursing education in the short- and mid- to long-term, efforts must be made to improve the status of nurses. If nurses are not respected as independent health professionals and are forced play the role of doctors' assistants, they will be unable to demonstrate their competencies and having quality nursing education will be useless.

Therefore, there is a need to raise awareness of the importance of professional nursing by making efforts to change people's perception both within the healthcare community and society. This is where organizations representing the rights and

interests of nurses can play a critical role. In Korea, the Korean Nurses Association, as a legal central organization of nurses, plays various roles related to nursing and nurses such as pushing for improvement of related laws and systems, boosting members' rights and interests, and providing quality education to strengthen nurse capacity. Also, in order to change people's perception of nurses, the term used to refer to "nurse" in Korean was changed ("ganhowon" → "ganhosa").⁶⁾ In the process of standardizing the length of study to enhance the professional expertise of nurses and introducing the advanced practice nurse system, various other activities such as international seminars, research, and proposals to the government were carried out, thereby contributing to improved policies and institutions for nurses.

The association of nurses in Uzbekistan is also making efforts to strengthen the competence of nurses, such as providing refresher training. Along with the current works, efforts are needed to improve the rights and interests of nurses, to raise the status of nurses both in and outside the healthcare sector, and to elicit policy support from the government to improve the quality of nursing education. Exchanges with nurses associations from across the world as well as international nursing experts and having international seminars and

6) 'ganhowon' sounds less professional than 'ganhosa', and it partly contributed to low status of nurses in medical community and society. Thus, the title was changed.

conferences will help to promote professional nursing and to raise awareness of its importance. This will in turn draw attention from those in the healthcare sector to nursing. Also, it is necessary to establish the position of nurses in the healthcare sector by clearly distinguish their roles and responsibilities from doctors and other healthcare professionals and assigning roles in an efficient manner. In order to improve the status of nurses and ensure the quality of nursing education, the association of nurses should take leadership and the initiative to establish related policies and systems. Through research, surveys with nursing manpower, and public awareness surveys, the current status of nursing manpower can be identified, based on which policy and institutional foundations can be requested from the government to elevate the status of nurses. In addition, if efforts to improve the quality of nursing and nursing education are continued by the association prior to policy support, once the institutional foundation is established, the opportunity can be effectively seized.

Changes in disease patterns in Uzbekistan, where chronic diseases are increasing, mean that nursing manpower should and will play a more important role in primary care in the future. From the prevention of chronic diseases through improvement of lifestyles as well as mitigation of chronic diseases through continuous management, nurses' roles in the

care of patients and educating the members of the local community are critical. To provide high-quality nursing services, nurses' competence must be strengthened, and to which, high-quality and systematic nursing education is necessary.

The reform of the education system and medical education system in Uzbekistan presents a great opportunity for improving nursing education. It is now time for the government, medical institutions, and domestic and foreign experts to find a way to improve the quality of the nursing manpower, who are sufficient in quantity, for the health of the people of Uzbekistan. The improvement of nursing education cannot be achieved by the nursing community alone, the education community alone, or the government alone. Active cooperation and exchange of opinions among all stakeholders from various fields as well as nurses and other health professionals are required.

This study aimed at grasping the current state of nursing education in Uzbekistan in order to suggest directions for improving Uzbekistan nursing education based on the history of nursing education development in Korea. Due to the COVID-19, however, it was impossible to engage in discussions with local experts, and research was conducted mainly based on literature review. Thus, this report may not sufficiently reflect the current local situation, which is continually

changing, or the demands and needs of the local nursing manpower and healthcare sector. Though the nursing education system of each country in the world has its own characteristics and strengths and weaknesses, this study proposed measures to improve the nursing education system in Uzbekistan solely based on the nursing education system in Korea.

Nevertheless, it is hoped that this study will be used as a basis for sparking a discussion for the improvement of the nursing education system in Uzbekistan among the government, health professionals and the nursing community in Uzbekistan and nursing experts from around the world including Korea.

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[Appendix 1] Chronological Table of the History of Nursing Education in the Republic of Korea

Year	Event
1876	<ul style="list-style-type: none"> • Establishment of Jesaeng Hospital (by a Japanese person: the first-ever Western hospital to be established in Korea) • Precursor to the Busan Medical Center
1885	<ul style="list-style-type: none"> • Establishment of Gwanghyewon (first Western-style hospital to be established by the government of Joseon)
1903	<ul style="list-style-type: none"> • Establishment of a nursing training institution at Bogu Women's Center • Precursor to Ewha Womans University College of Nursing • The term, "ganhowon," began to be used to refer to nurses
1906	<ul style="list-style-type: none"> • Establishment of a nurse training institution at Severance Hospital • Precursor to Yonsei University College of Nursing
1907	<ul style="list-style-type: none"> • Proclamation of the control of Daehan Clinic and establishment of the Department of Nursing at Daehan Clinic School of Medicine • Official nursing education provided at the government level
1908	<ul style="list-style-type: none"> • Establishment of the Graduate Nurses' Association in Korea
1910	<ul style="list-style-type: none"> • Daehan Clinic Central Clinic renamed as the Clinic of the Japanese Government-General of Korea • Daehan Clinic School of Medicine downgraded to the Medical Academy of the Clinic of the Japanese Government-General of Korea
1911	<ul style="list-style-type: none"> • Graduate Nurses' Association in Korea renamed as Western Graduate Nurses' Association in Korea
1914	<ul style="list-style-type: none"> • Establishment and promulgation of the Rules on Nurses
1923	<ul style="list-style-type: none"> • Formation of the Korean Nurses' Association (First President: Shepping)
1924	<ul style="list-style-type: none"> • Nursing and Midwifery Training Center of Severance Medical School accredited by the Japanese Government-General of Korea

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Year	Event
1945	<ul style="list-style-type: none"> • Reorganization of Sanitation Division of the Metropolitan Police Board into the Health and Welfare Bureau by the U.S. Military Government
1946	<ul style="list-style-type: none"> • Promotion of Health and Welfare Bureau to the Ministry of Health and Welfare (new establishment of Nursing Service Bureau) • Provincial hospitals and other hospital-affiliated training centers abolished and reorganized into higher nursing schools (3-year program) (accreditation of 18 schools including Seoul National University Hospital Higher Nursing School) • Abolition of the nurse qualification examination for nurse licensing (took effect in 1949) • Resolution to launch the Korean Association of Nurses; hosting of the 1st General Assembly (First President: Son Ok-Sun)
1947	<ul style="list-style-type: none"> • Standardization of minimum admission criteria for nursing education institutions as “middle school graduates” and standardization of length of study as “3 years”
1948	<ul style="list-style-type: none"> • Korean Association of Nurses renamed as Korean Nurses Association
1949	<ul style="list-style-type: none"> • Abolition of the nurse qualification examination for nurse licensing (enforced) • Registration of Korean Nurses Association in the International Council of Nurses (ICN) as a full member
1951	<ul style="list-style-type: none"> • Resurrection of the nurse qualification examination for nurse licensing (enactment of the National Medical Service Act) • Change of term to describe “nurse” from “ganhobu” to “ganhowon” (National Medical Service Act)
1955	<ul style="list-style-type: none"> • Establishment of Department of Nursing at Ewha Womans University (4-year bachelor’s degree program)
1957	<ul style="list-style-type: none"> • Establishment of Department of Nursing at Yonsei University (4-year bachelor’s degree program) • Nursing high school renamed as nursing technical high school
1959	<ul style="list-style-type: none"> • Establishment of Department of Nursing at Seoul National University (4-year bachelor’s degree program)
1960	<ul style="list-style-type: none"> • Establishment of a master’s degree program in nursing at Ewha Womans University
1962	<ul style="list-style-type: none"> • Abolition of the nurse qualification examination for nurse licensing (enactment of the Medical Service Act and came into force in 1967) • Nursing technical high school promoted to the status of a 3-year nursing diploma program

Year	Event
	<ul style="list-style-type: none"> • Implementation of a national nurse licensure examination system (amendment of the Medical Service Act)
1963	<ul style="list-style-type: none"> • Establishment of a master's degree program in nursing at Yonsei University
1964	<ul style="list-style-type: none"> • Establishment of a master's degree program in nursing at Seoul National University • Establishment of a master's degree program in nursing at Catholic University of Korea (4-year bachelor's degree program)
1967	<ul style="list-style-type: none"> • Abolition of the nurse qualification examination for nurse licensing (enforced in 1967) (amendment of the Medical Service Act) • Establishment of a 4-year bachelor's degree program in nursing at Woosuk University
1968	<ul style="list-style-type: none"> • Promotion of departments of nursing at Ewha Womans University and Yonsei University college of medicine to the status of "college of nursing" • Establishment of a 4-year bachelor's degree program in nursing at Kyung Hee University
1971	<ul style="list-style-type: none"> • Nursing school reorganized into nursing vocational schools
1973	<ul style="list-style-type: none"> • Standardization of admission criteria for nursing education institutions as "high school graduates" • Provisions on refresher training newly established in the Medical Service act • Introduction of nurse specialists (public health, anesthesia, and psychiatric nursing) • Amendment of the Enforcement Rule of the Medical Service Act and reorganization of the subjects examined in the national nurse licensure examination (internal medicine nursing, surgical nursing, obstetric and gynecologic nursing, sociology in nursing, and health and medical-related laws and regulations)
1978	<ul style="list-style-type: none"> • Establishment of a doctoral degree program in nursing at Yonsei University
1979	<ul style="list-style-type: none"> • Establishment of a doctoral degree program in nursing at Ewha Womans University • Nursing vocational schools promoted to the status of nursing junior college
1980	<ul style="list-style-type: none"> • Korea Armed Forces Nursing School was reorganized as the Korea Armed Forces Nursing Academy (university-level program)
1981	<ul style="list-style-type: none"> • Introduction of mandatory refresher training refresher training for

Year	Event
	health professionals by amendment of the Medical Service Act (with the amendment of the Enforcement Rule in 1982, mandatory completion of at least 10 hours of refresher training a year)
1983	<ul style="list-style-type: none"> • Reorganization of the test subjects of the national nurse licensure examination (fundamental nursing, adult health nursing, maternity health nursing, pediatric nursing, community health nursing, psychiatric mental health nursing, nursing management, and health-related laws and regulations) by amendment of the Enforcement Rule of the Medical Service Act.
1984	<ul style="list-style-type: none"> • Establishment of a doctoral degree program in nursing at Seoul National University
1987	<ul style="list-style-type: none"> • The term describing “nurse” changed from “ganhowon” to “ganhosa” by amendment of the Medical Service Act.
1990	<ul style="list-style-type: none"> • Addition of home health nursing as a subspecialty in relation to nurse specialists by amendment of the Enforcement Rule of the Medical Service Act.
1992	<ul style="list-style-type: none"> • Promotion of the Department of Nursing at Seoul National University College of Medicine to status of the College of Nursing • Establishment of a nursing major in self-education degree programs • Recruitment for nursing transfer students by Korea National Open University • Establishment of a special program for bachelor’s degree in nursing (RN-BSN) at Yonsei University
1998	<ul style="list-style-type: none"> • Opening of the Korea Health Personnel Licensing Examination Institute
2001	<ul style="list-style-type: none"> • Establishment of the Korea Accreditation Board of Nursing (launch of the steering committee) • Introduction of the advanced practice nurse system by amendment of the Medical Service Act
2003	<ul style="list-style-type: none"> • Holding inaugural assembly of the Korea Accreditation Board of Nursing (KABON). • Changes to the advanced practice nurse system with 10 subspecialties and introduction of a qualification examination system by amendment of the Enforcement Rule of the Medical Service Act.
2004	<ul style="list-style-type: none"> • Changes in number of hours of mandatory refresher training to 8 hours by amendment of the Medical Service Act. • Accreditation of nursing programs was commenced by KABON.
2005	<ul style="list-style-type: none"> • First advanced practice nurse qualification examination

Year	Event
2006	<ul style="list-style-type: none"> Establishment of the rules on the qualification, etc. of advanced practice nurses (systematization) (number of subspecialties increased to 13; education institutes must be designated by the Ministry of Health and Welfare; at least 2 years of education)
2011	<ul style="list-style-type: none"> Provisions allowing 9 types of departments for training health professionals (including department of nursing) to offer 4-year programs (standardization of length of study of nursing to 4 years) by amendment of the Higher Education Act. KABON was designated by the (Ministry of Education, Science and Technology as an organization for accreditation of nursing colleges and for designation of junior colleges that can offer 4-year nursing programs
2012	<ul style="list-style-type: none"> KABON was renamed as the Korean Accreditation Board of Nursing (KABONE). Provisions on allowing only those who have graduated from an accredited university or junior college to take the national nurse licensure examination by amendment of the Medical Service Act.
2015	<ul style="list-style-type: none"> Provisions on making it mandatory for schools offering programs to foster health professionals such as nurses to be accredited by the designated accrediting agency by amendment of the Higher Education Act (enforced in 2016). Provisions on the legal basis for the Korea Health Personnel Licensing Examination Institute to be in charge of the national nurse licensure examination by amendment of the Medical Service Act (enactment of the Korea Health Personnel Licensing Examination Institute Act)
2018	<ul style="list-style-type: none"> Provisions that make it mandatory for qualified to advanced practice nurses to work in their respective subspecialties by amendment of the Medical Service Act.

[Appendix 2] An Example of Job Description of Nurses Working at a University Hospital⁷⁾

Description

- Provide professional medical services and all nursing services related to health management according to the doctor's directions/orders and standardized nursing techniques for the purpose of restoring and improving patient health
- Perform all administrative management tasks related to administration, supplies, facilities, and environment management necessary to facilitate nursing services

Tasks

- Collect nursing information to check for patient problems and nursing needs, to establish a plan, and to perform and record nursing practices:
 - Measure the patient's vital signs and monitor the patient's condition;
 - Determine medication timing based on the characteristics of the medication and the patient's

7) Source: Job description of nurses (J1 position) at Seoul National University Hospital

condition and administer it based on 5Rs;

- Provide appropriate nursing services required for surgery, procedure, treatment, or examination;
 - Document nursing activities such as administration of medication in the clinical monitoring records and nursing notes.
- Assess the nursing practices and re-establish the plan, if necessary.
 - Check various specimens and requests and make sure that the relevant tests and procedures are performed.
 - Carry out necessary nursing and administrative tasks for admission, discharge, and transfer.
 - Transfer the tasks, information on the patients' conditions, etc. from and to the nurse in charge or the chief nurse before and after the shift.
 - Report problems to the chief nurse and participate in the problem-solving process.
 - Manage the facilities, equipment and supplies and prepare and maintain all documents at the nursing unit level.
 - Participate in nursing unit meetings and training to acquire new nursing methods and expertise and use them in patient care.

- Participate in nurse training provided to the new nursing staff and nursing students.
 - Maintain amicable interpersonal relationships with patients, nursing staff, medical staff, and other departments at the nursing unit level and check and coordinate work with other departments if necessary.
- Job Requirements
- Knowledge
 - Knowledge to accurately assess patients
 - How to diagnose and response to emergency situation
 - Understanding of diseases and standard nursing care for peach disease
 - Standard nursing care before and after surgery and procedures
 - Knowledge about evidence of basic nursing skills
 - Knowledge to fully understand the doctor's orders (including medical terms)
 - Use and management of medical equipment
 - Effects and side effects of drugs and precautions for medication
 - Criteria for determining priority on job duties
 - Insurance-related knowledge

- Knowledge about the problem-solving process and available support systems
- Understanding of the characteristics and functions of software for work

○ Skills

- Skills to assess patients
- Ability to measure blood pressure, pulse, breathing, body temperature, and blood sugar
- Ability to administer medication safely in various routes (injection therapy, chemotherapy, blood transfusion therapy, etc.)
- Ability to perform basic nursing skills (for catheterization, enema, gastrointestinal nutrition, aspiration, oxygen therapy, etc.)
- Ability to deal with emergency situations (CPR, etc.)
- Ability to use medical equipment
- Ability to provide effective patient counseling
- Ability to educate patients in an easy-to-understand way
- Ability to write patient medical records
- Ability to use any foreign languages related to the job
- Skills to ensure smooth communication with other departments

- Ability to write and manage documents and use office software and equipment

- Competencies

- (Competencies related to what type of workers the hospital is looking for)

- Basic job skills

- Communication skills, problem-solving skills, personal development skills, interpersonal relations skills, technical skills, organization understanding skills, professional ethics

[Appendix 3] Curriculum of Bachelor of Science in Nursing (BSN) Program at Seoul National University (Academic Year 2020)⁸⁾

〈Appendix Table 3-1〉 Major courses of BSN at Seoul National University (Academic Year 2020)

Year	Spring semester			Spring semester			Total credit hours
	Course subjects	Credit-Lecture-Lab	Subtotal	Course subjects	Credit-Lecture-Lab	Subtotal	
1	Human and health	3-3-0	3	Introduction to nursing Anatomy and physiology in nursing 1	2-2-0 2-2-0	4	7
2	Fundamentals of nursing Fundamentals of nursing practicum Anatomy and physiology in nursing Pathophysiology 1 Statistics in nursing	2-2-0 1-0-2 2-2-0 2-2-0 2-2-0	9	Pharmacology in nursing Communication and interpersonal relationship Health communication and health education Pathophysiology 2 Nursing informatics and	2-2-0 2-2-0 2-2-0 2-2-0 2-1-2	10	19

8) Total credit hours for graduation: 130 (85 for major course; 36 for liberal arts; 9 for electives by students' choice)
Source: Seoul National University College of Nursing (n.d.-a).

Year	Spring semester			Spring semester			Total credit hours
	Course subjects	Credit-Lecture-Lab	Subtotal	Course subjects	Credit-Lecture-Lab	Subtotal	
3	Women health nursing	3-3-0	15	practicum		14	29
	Child health nursing	3-3-0		Introduction to nursing research	2-2-0		
	Adult health nursing 1	3-3-0		Adult health nursing 2	3-3-0		
	Adult health nursing practicum 1	3-0-9		Adult health nursing practicum 2	3-0-9		
	Gerontology nursing	2-2-0		Women health nursing practicum	3-0-9		
	Gerontology nursing practicum	1-0-3		Child health nursing practicum	3-0-9		
4	Nursing management	3-3-0				3	21
	Nursing management practice	3-0-9		Nursing ethics	2-2-0		
	Psychiatric mental health nursing	3-3-0		Nursing practicum	1-0-2		
	Psychiatric mental health nursing practicum	3-0-9					
	Community health nursing	3-3-0					
	Community health nursing	3-0-9					

Year	Spring semester			Spring semester			Total credit hours
	Course subjects	Credit-Lecture-Lab	Subtotal	Course subjects	Credit-Lecture-Lab	Subtotal	
	practicum						
Electives	Human development	3-3-0		Critical care nursing and practicum	2-1-3		9
	Health promotion across lifespan	3-3-0		Health care system and nursing policy	3-3-0		
	Nutrition and diet	2-2-0		Multicultural society and nursing	3-3-0		
				Community-based psychiatric-mental health nursing service and practicum	2-1-3		
				Women health nursing across the lifespan	3-3-0		
				Current health problems and nursing	3-3-0		
				Dementia nursing and technology	3-3-0		
				Introduction to statistical processing of nursing data	3-3-0		
Total credit hours for major courses (Required: 76, elective: 9)							

〈Appendix Table 3-2〉 General Courses (Liberal Arts) of BSN at Seoul National University (Academic Year 2020)

Year	Area		Credit hours
	Academic foundations		
1	Critical thinking and writing	College writing: Process & Structure	4
2	Foreign languages	2 courses	4-6
	Scientific thinking and practice	Chemistry (or advanced chemistry) Chemistry lab Biology Biology lab	8
	Worlds of knowledges		
	Languages and literatures Culture and arts		12
3 & 4	History and philosophy Politics and economy		
	Human and society	3	
Electives	Any liberal arts courses		3-5
Total credit hours for liberal arts			36