Ph.D. Dissertation of Medicine

The Effects of Transition from Socialist to Market Era on Health Professional Education

– Case of Mongolia –

사회주의로부터 시장경제로의 이행이 의료전문직 교육에 미치는 영향:
몽골 사례를 중심으로

August 2021

Graduate School of Medicine
Seoul National University
Medical Education Major

Nomin Amgalan

The Effects of Transition from Socialist to Market Era on Health Professional Education

-Case of Mongolia-

Jwa-Seop Shin

Submitting a Ph.D. Dissertation of Medicine

April 2021

Graduate School of Medicine
Seoul National University
Medical Education Major

Nomin Amgalan

Confirming the Ph.D. Dissertation written by
Nomin Amgalan
July 2021

Chair _____
Vice Chair _____
Examiner _____
Examiner _____
Examiner _____

Abstract

During the socialist era, Mongolia had experienced great achievements such as a decline in morbidity and mortality rate and overcome of illiteracy through its free healthcare and educational services. At the end of the twentieth century, Mongolia had changed its socialist system to a free-market economy and experienced a deep economic crisis. Many reforms were simultaneously carried out per the socio-economic transition. While some of the reforms were successful but others were not. The experiences of other countries have shown that the socio-economic transition leads to new demands for the better management and development of the health professions. However, there are limited researches on the effects of transition on the health professional education system. Thus, the purpose of this study was to get historical insights into the development of the health professional education system in Mongolia, a transition economy country, and to find the tensions within the system and strategies to deal with those tensions in the transition period.

Due to the broad scope of the study purposes, two frameworks, including a multi-level perspective and activity system analysis were utilized. These frameworks are complementary to each other. A multi-level perspective was used to explore the effects

of the transition, including the input, the process, and the output levels of the health professional education system. The input level refers to planning and management, the process level refers to the actual delivery of educational services, and the output level refers to issues related to the health professionals, produced by the system. After that, the findings from the multi-level perspective were used as an initial data source for exploring the tensions in the health professional education system through activity system analysis. This study utilized a qualitative research design, including document review and interviews with local representatives. Content analysis and the constant comparative method were used for data analysis.

As a result of the multi-level perspective, the general concepts of the health professional education system in the transition have been defined. Transition affected the input level by impacting local governance authority, financing of the medical schools, student enrollment rate, and patient empowerment. On the process level, the effects appeared in the learning environment, human resources, educational strategies, and quality evaluation. Effects on the output level appeared in the career pathway, continuing professional development, social prestige, and motivation of health professionals.

Using the general concepts, the five tensions in the health professional education system were explored. First tension has arisen between fragmented planning for human resources for

health and addressing health needs. Second tension has arisen between lack of financial sources of medical schools and sustainability of academic mission. Third tension has arisen between unqualified private medical schools and standardization in quality management. Fourth tension has arisen with limited resources and opportunities and pursuit of excellence of faculty members. Fifth tension has arisen lack of concrete incentives and motivation of health professionals.

The fragmented planning for human resources for health has resulted in quantitative imbalances of health professionals. Medical schools attained academic authority for planning and management without proper regulation and financial support. The government puts limitations on the amount of tuition fees, which is the only financial source for medical school; thus, medical schools attempt to enrol more students to adapt to the market-oriented environment. At the same time, hospitals started their postgraduate training programs without unified planning based on health sector needs. The number of private medical schools has rapidly increased without quality control; the absence of a core curriculum and different learning environments are the main factors for qualitative imbalances of health professionals. Furthermore, health professionals are struggling to maintain their professional values and development in the market-oriented environment. There are limited resources and opportunities for both faculty members and health professionals

for pursuing excellence in their field. Concurrently, fixed salaries and the absence of incentives have led to a lack of motivation.

To deal with these tensions, five main strategies are recommended. First, the establishment of joint planning among government organizations, medical schools, hospitals, and community is recommended to address the health sector needs. Second, increasing the financial sources of medical schools is recommended to sustain the academic mission of medical schools. Third, fostering quality assurance and educational reforms through the engagement of relevant stakeholders is recommended for quality management of private medical schools. Fourth, the development of a supportive environment is recommended for the continuous improvement of faculty members and health professionals. Fifth, introducing financial and non-financial incentives are recommended to improve motivation.

The investigation of the basic characteristics and achievements of reforms in the transition economy countries is difficult due to the transition which has started over two decades ago, and it is not clear when the end will come. Some countries have been completed the transition, while some are still far from completion. Many studies in social development research have focused on a single level, and the one-sidedness of much social research has limited researchers' ability to obtain deeper insights into the multiple levels of communities. This study addressed the specific

characteristics of multiple levels of the health professional education system in the transition period.

Mongolia continues to face the consequences of the socio-economic transition. The current health professional education system involves the co-existing features of both socialist and market systems. Both the promotion of the positive features of the two systems and the adaptation of the mixed systems during the transition period are essential. The findings of this study could contribute to shared learning of the health professional education system among transition economy countries. Moreover, the findings could provide implications for efficient strategies for the local decision-makers in Mongolia.

Keyword: Transition economy, Health Professional Education, Mongolia

Student Number: 2017-37095

Table of Contents

List of Tables

List of Figures

List of Appendix

Abbreviation

ASA–Activity System Analysis

CHD–Center for Health Development

CPD– Continuing Professional Development

GDP–Gross Domestic Product

HIF–Health Insurance Fund

HPE–Health Professional Education

HRH–Human Resources for Health

MES–Ministry of Education and Sciences

MLP–Multi–Level Perspective

MNUMS–Mongolian National University of Medical Sciences

MoH–Ministry of Health

PHS–Primary Healthcare Services

TVET–Technical and vocational education and training

WHO–World Health Organization

Chapter 1. Introduction

1.1 Study Background

Transition economy

In the first half of the 20th century, most of the countries were divided into two different economic systems called a centrally planned economy and a free-market economy (Kornai, 2000). The transition economy can be defined as a shift from the centrally planned economy to the free market economy. The shift follows several processes which are price liberalization, macroeconomic stabilization, privatization, and legal and institutional reforms. There are groups of countries falls into category of transition economy countries (IMF, 2001).

The transition economy countries in Central and Eastern Europe are Albania, Bulgaria, Croatia, Czech Republic, FYR Macedonia, Hungary, Poland, Romania, Slovak Republic, and Slovenia. The transition economy countries in the Baltic regions and the Commonwealth of Independent States are the former Soviet Union countries in northern Eurasia. Estonia, Latvia, and Lithuania are part of the Baltic regions; Armenia, Azerbaijan,

Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan are The Commonwealth of Independent States. The transition economy countries in Asia are Cambodia, China, Laos, Vietnam, and Mongolia (IMF, 2001).

Most of the transition economy countries are from the former socialist countries. The socialist system weighed in over one-third of the world's population in the 20th century and is still the governing system in some countries (Law, 1975). Various historical manifestations of socialism and capitalism have existed; however, these two systems can be characterized by the basic system-specific attributes which are political power, distribution of property rights, and coordination mechanism. In terms of capitalism, political power is welcoming to private property and the market; private property is the dominant position and is managed by market coordination which is based on decentralized adjustments of supply and demands. On the contrary, the former socialist countries had undivided power over the Marxist-Leninist communist party; the property right was entitled to state and quasi-state ownership. The coordination mechanism was considered strictly bureaucratic due to the first two characteristics (Kornai, 2000).

It should be noted that there were varieties of socialist and capitalist systems which had historically been established by different countries that called themselves socialists and capitalists (Kornai, 2000) even though there was no unified notion existed. On the one hand, the western countries built the market system based on capitalism (Barr, 1996), on the other hand, the largest socialist system existed in the Soviet Union (Law, 1975) that was rooted in communism (Barr, 1996).

The system in the Soviet Union was effective for rapid development in the beginning. Vladimir Ilyich Lenin, the head of government of Soviet Russia and the Soviet Union stated that the benefit of the socialist and market systems could be distinguished by the economic productivities. Unfortunately, the socialist system created an inefficient economic condition; The Soviet Union countries had experienced a chronic economic shortage and an unemployment rate at the end of the 20th century (Brainerd, 1998).

Another issue that existed in the socialist system was the monopoly of the communist party, which forced society to operate within its vision (Kornai, 2000). Uprisings and protests against the political monopoly started to take place in many countries in the middle of the 1900s. For instance, there was the

Uprising of Germany in 1953, The Hungarian Revolution in 1956, The protests of 1968 in Czechoslovakia (former name of the Czech Republic and Slovenia), and Poland (Batsaikhan, 2018). Many countries had transited to the free-market economy and declared their independence from the Soviet Union at the end of the 20th century. The Soviet Union officially announced its collapse in 1992 (Kornai, 2000).

All transition economy countries faced catastrophic difficulties such as hyperinflation, rapidly rising unemployment, a lack of legal system, corruption, and poor governing practices in the new market oriented environment (Kornai, 2000). Economic performance declined dramatically at the beginning of the transition; gross domestic product (GDP) fell by 13% in Czech, by 11.9% in Hungary, by 14.6% in Slovakia, by 11.7% in Bulgaria, and by 12.7% in Russia. Some countries experienced huge economic crises such as a decrease of GDP by 23% in Ukraine, by 44% in Georgia, and by 52.6% in Armenia (IMF, 2001).

In a response to the macroeconomic imbalances, Russian politician Mikhail Gorbachev introduced initial reforms (Brainerd, 1998). All former countries of The Soviet Union followed a similar strategic pattern of the reforms in Russia. The main reforms were on decentralization, privatization, and price

liberalization. The transition processes and recovery levels were different to each country as a result of the beginning period and changes that had been made (Griffin, 1995). Numerous researchers are interested in the effects of the transition in the field of politics, economics, society, and culture, thus a massive amount of studies has been conducted across the world on these subjects (Kornai, 2000).

Health system in the transition economy

Every country has its unique history to establish its health system, thus it is difficult to describe the differences of health systems among the transition economy countries in detail. But, key characteristics can be defined to categorize the health systems as either "socialized" or "free-market" oriented. The key differences are patterns of ownership, control, and financing of healthcare services. The former socialist countries had state-owned and centralized health system, which was fully funded by the government. They reached great achievements in social services through their free healthcare and educational services. Provision of basic health services such as immunization and emergency services to the dispersed populations showed the

result in universal access throughout the countries (Parmelee, 1982).

After the socio-economic transition, the conflicts such as chronic unemployment and social inequality within the health sector arose. The health sector became extremely underfunded (Igor, 2018); the quality of the services deteriorated. Past achievements were threatened (PAHO/WHO, 2004), and skilled health professionals exited the sector. Health facilities became non-operational due to the depleted government budget (Brainerd, 1998). A majority of the population of the former socialist countries was labelled as a vulnerable group who experienced economic and social challenges when receiving healthcare services (Balabanova et al., 2012).

The countries started to perform various health reforms to adapt to the market environment. Most countries introduced a new financing system based on the health insurance fund (HIF). Hungary introduced single health insurance; while the Czech Republic started 21 separate funds to cover health services (Figueras, 2004). On the other hand, some countries increased the out-of-pocket capital to fill the depleted government budget (Balabanova et al., 2012). The challenges and the recovery levels were varied due to the different arrangements of the

reforms. Some countries introduced systemic changes through the privatization of primary healthcare services (PHS); while others adopted non-systemic changes such as reducing the number of hospital beds (Kornai, 2000).

Various studies were conducted to explore the health reforms in the transition economy countries. For instance, a study in China showed that healthcare organizations had difficulties recruiting health professionals in the public sector (Gordon, 1994). The same problems arose in Ghana where the limited local authority for human resource management had adversely affected the development of health professionals (Anthony, 2019). Some researchers recommended the capacity changes in the health professionals as a way to implement effective health reforms in Myanmar (John, 2014). While other researchers suggested that focusing on a supply-side system to improve financial protection of health reforms in China, Mexico, and Vietnam (Han, 2012). Experiences of other countries showed the linkage between socio-economic transition and better management and development of health professionals.

Mongolia

Mongolia has closely allied with the Soviet Union for almost a century; it officially announced to follow the proletarian dictatorship and adopted a new constitution in July 1960 (Griffin, 1995). In 1962, Mongolia joined the Council for Mutual Economic Assistance in the Soviet bloc which was constituted by the Russian Republic, Romania, Hungary, Bulgaria, Poland, and Czechoslovakia. The council assisted to develop diverse industries, particularly the agriculture and mining sectors in Mongolia (Batsaikhan, 2018).

The Soviet Union provided a massive amount of financial and technical assistance to Mongolia; nineteen thousand Russians resided for technical assistance in 1989 (MAS, 2003). Many common diseases, especially infectious diseases, were successfully reduced and eliminated (WHO, 2013). Furthermore, Mongolia became one of the few countries that completely overcame illiteracy; 82.4% of the population became illiterate by 1979 (Batsaikhan, 2018).

In the early 1990s, Mongolia embarked on a transition into a free-market economy. It experienced a deep economic crisis due to the termination of aid from the Soviet Union and sharp deterioration in external trades (IMF, 2003); GDP fell by 9.2% in 1991 and by 9.5% in 1995 respectively (Batsaikhan, 2018).

The government put a limitation on the provision of basic public goods to households; the prices of products were doubled. Simultaneously, Mongolia changed its political system to parliamentary democracy in 1990 (MAS, 2003).

Mongolia followed the similar strategies of the Czech Republic, Poland, and Rumanian (WB, 2007); the main reforms were aimed at decentralization and privatization. The economic situation had smoothly developed and quickly recovered compared to the other countries in the Baltics region, The Commonwealth of the Independent States, and Central and Eastern Asia. The supporting factor was Mongolia had the least restrictive trade regime as many international donors assisted to compensate for the situation (Griffin, 1995).

Mongolia continues to face the consequences of the transition up to now (Jugnee, 2009). Many international and local researchers have conducted evaluations and studies of socio-economic transition in Mongolia, highlighting the challenges of the health professional education (HPE) system. For instance, a mismatch of the competencies (WHO, 2013), poor teamwork, and a lack of capacity of health professionals are the major challenge factors that have hindered the development of the health sector in Mongolia (WB, 2007). Researchers stated that investigations

into the root causes and solutions for growing challenges in HPE are needed (Hou et al., 2014).

1.2. Purpose of Research

Transition economy countries are experiencing struggles to maintain the quality of healthcare services due to the arising challenges in the HPE system. The purpose of this study is to get historical insights into the development of the HPE system and to find the tensions within a system in transition economy countries. Mongolia is an appropriate case to represent the former socialist countries. As it has one of the longest socialist histories in the world and continues to experience the transition process. Two specific objectives were proposed.

1. To examine the effects of the transition from socialist to market era in shaping the development HPE system in Mongolia
2. To understand the root causes of the success and failure of the reforms and to find ways to meet with changing requirements of the HPE system in the transition economy countries.

Chapter 2. Literature review

2.1 General review of Mongolia

Introduction of Mongolia

Mongolia is located in Central and East Asia and shares the border with the Russian Federation to the north and The People's Republic of China to the south. In terms of administrative division, Mongolia is divided into 21 provinces and the capital city called Ulaanbaatar. The provinces are further divided into 330 sub-divisions named "soum"; while the capital city is divided into nine districts and 169 sub-districts. The total population is estimated to be 3.3 million in 2019, of which 67.6% of households live in an urban area and 32.4% of households live in rural areas (NSO, 2019). Young people constitute the largest part of the population, of which 49.3% are male and 50.7% are female (CHD, 2019). The employment to the population ratio is estimated at 54.4% in 2019 (NSO, 2019). A total of 68.8% of the working-age population is the government officials (Batsaikhan, 2018).

Mongolia became a low-middle income country in 2011; the economy is based on livestock and husbandry (Batsaikhan, 2018). Mongolia also has extensive mineral deposits such as copper,

coal, and molybdenum; the mineral product is estimated at 83.7% of total exports followed by 5.7% of textile. GDP per capita is estimated at 4.3 USD by the World Bank Atlas method in 2019. The account of the general government budget is increased by 3.8 times in 2019 compared to 2010 (NSO, 2019).

The political system of Mongolia is categorized as a semi-presidential democracy with a parliamentary system (WHO, 2013); presidential and parliamentary elections are held every four years. Parliament consists of 76 members who are elected from their respective provinces and districts. Parliament in 2016 was constituted by four political parties and independent candidates. And the major political parties were the Mongolian People's Party and Democratic Party. As of 2018, a total of 17 governments were selected, and the average duration of governing was 1.7 years (Jugnee, 2009). The governor election at the local level is also held every four years by The Citizens' Representative Khural. The local government is in charge of local plans and policy implementation per allocation of the government budget (WHO, 2013).

History of Mongolia in the Socialist Era

In the middle of the 1950s, the battle between the Soviet Union and Japan occurred at the border between Mongolia and Manchuria. The battle left huge oppression to Mongolia (Jugnee, 2009), which led to Mongolia receive financial and technical assistance from the Soviet Union. In the 1960s, the new constitution in Mongolia aimed to introduce social ownership to reduce the profit made by the capitalist class (Jugnee, 2009). The government commenced to set the five-year plan for the development of the economy and culture; the plan reflected targets per person to increase the number of livestock and/or similar tasks. During the five-year plan, the government collected products of livestock from the locals (Batsaikhan, 2018). Agriculture, mining, and industrial sectors were rapidly developed during the socialist era.

However, the former socialist countries and Mongolia had chronic shortages as a consequence of soft budget constraints. The soft budget constraint occurs when the government pays excess of the national expenditure over national income (Kornai, 2000). There was a huge gap between export and import rate in Mongolia, thus the government continued to increase the number of loans from the Russia. The loan was estimated at 70% of national expenditures (Batsaikhan, 2018).

Mongolia had one dominant communist party as the country followed the political characters of the Soviet system. The Mongolian People's Party was founded in 1920 and played a huge role in the Mongolian revolution in 1921. The Mongolian People's Party officially took over the power in the economy, the media, and the social services in the 1960s (Batsaikhan, 2018). The main paradigm of the socialist system was blurred in the later years by the communist politicians. Similar to the other socialist countries, the literature noted that some policies and activities were originated from the forces of the brutal communist party rather than intrinsic activity nor internal economic forces (Kornai, 2000). A series of harsh activities were made to the people who were against the government activities. In the middle of the 1980s, several changes were made to the government officials in Russia and Mongolia (MAS, 2003), and the inefficient economic situation led the new protesting party to begin the movement. The endless controversial perspective has been possible in terms of political system in Mongolia (Batsaikhan, 2018).

Movement for transition and reforms

Three types of transitions in terms of political nature exist. In Mongolia, the first type emerged through the replacement of communist dictatorship by anti-communist dictatorship (Kornai, 2000). In 1988, the new protesting party was established and named the "Mongolian Democratic Party", later it was entitled as Democratic Party. Their first secret meeting took seven days, and they began the initial movements in 1990. The number of their branches was rapidly increasing in 18 provinces across the country. In 1990, the Mongolian Democratic Party members went on a hunger strike which demanded government resignation (Batsaikhan, 2018).

The Mongolian People's Party agreed to resign from the government; the first multi-party parliamentary election with 76 seats took place in 1990. However, a total of 72 seats belonged to the Mongolian People's Party. Nevertheless, Mongolia announced its parliamentary democracy that faced difficulties due to the opposition of two political parties until 1992. This period is called "The intermediate stage", and the decision-making process was not made in response to the socio-economic transition in Mongolia (Jugnee, 2009).

The new constitutional law was approved by referendum in 1992; the presidential election was held in 1993 (MAS, 2003).

Concurrently, the government announced a transition to the free-market economy on January 5, 1991. The economic situation in Mongolia had been rapidly growing and had recovered fully within five years (Griffin, 1995). The main reforms were similar to the former Soviet Union countries. The privatization was approved in 1991; a total of 90% of the enterprises and 80% of livestock husbandry were privatized in 1993. Due to the outdated equipment and weak economic power of the owners, the output of agriculture declined (Jugnee, 2009).

Mongolia has been experiencing a transition process for the last 30 years. The implementation of reforms did not result in the country's growth; even though the strategies were well designed, the government failed to manage a supportive environment for the reforms. For instance, the government has not created a competitive environment for the private sectors (Griffin, 1995). Moreover, decentralization has been incomplete in many sectors (WHO, 2013). For instance, centralized and hierarchical governance has still been practised in the health system. And, the government continues to cover the fee of social services, including education and health. Social welfare activities are accounted for half of the general government expenditure (NSO, 2019). At the same time, the current strategic plan is based on a

mix of public and private sectors of the health system to reduce the government burdens associated with social services (Uranchimeg, 2017). Mongolia involves the co-existing features from the socialist and market eras and is still in the transition period.

Mongolian health system in the Socialist Era

The health system in Mongolia had reached a great achievement in the socialist era. Before the revolution of Mongolia in 1921, more than 50% of the infants died before reaching the age of one year old and 13.2% of the women died at childbirth. In 1940, the mortality rate was 21.8 per 1000 population which was decreased to 7.9 in 1989. The child mortality rate was declined almost eightfold in 1990. Infectious diseases were widespread in pre-revolutionary Mongolia, claiming thousands of human lives. During the socialist era, smallpox, typhus, and relapsing fever were eliminated; the acute infectious diseases were decreased rapidly (NSO, 1989). For instance, the cases of scabies were 11,023 in 1995, which declined to 2,695 in 1997; the cases of

meningococcal meningitis were 2,781 in 1995, which also declined to 533 in 1997. Leading mortality causes were diseases of the respiratory system, cancer, and circulatory system (NSO, 1997).

The health system was based on the Semashko model (WHO, 2013) which was initially valued for its several useful characteristics such as financial accessibility, focus on prevention, and gatekeeping by primary healthcare providers. The government of Mongolia covered the expenses of the treatment, meal, and medicine at hospitals, and doctors' home visits. Also, infectious diseases were declined as a result of health promotion and disease prevention. However, the gap between actual implementation and initial characteristics existed in terms of the gatekeeping role of PHS (Igor, 2018). Patients could directly see the specialists without a referral system. The PHS in the Semashko model has relied on curative services with a large number of hospital beds and specialists. The overspecialization and strong curative services became non-responsive to the health needs (WHO, 2013). Indeed, the model was well developed by modern standards; however, the

challenges arose due to the implementation of the design. (Igor, 2018).

During the socialist era, the healthcare services were provided by the inpatient hospitals, outpatient hospitals, and centres for the children. Both inpatient and outpatient hospitals provided specialized healthcare services, while centres for children provided basic healthcare services to the minors through home visitations. There were also sanitary-epidemiological stations that promoted disease prevention. In the remote area, inter-soum hospitals had the responsibility to take care of the population of several soums and provided specialized healthcare services with a small number of hospital beds (NSO, 1989).

All health professionals were public employees constituting a large number of specialists (WHO, 2013). Medical doctors were trained as public health administrators, internists, surgeons and traumatologists, obstetricians and gynecologists, pediatricians, infectious disease specialists, oncologists, ophthalmologists, otorhinolaryngology specialists, radiologists, physical-therapy specialists, neurologists, psychiatrists, pathologists, hygienists, and pharmacists. Mid-level health workers were trained as

physicians' assistants, laboratory assistants, pharmaceutical assistants, nurses, radiology technicians, hygiene assistants, and dental technicians (Table 1) (NSO,1989).

Table 1. Mongolian health system in the Socialist Era

Indicators	1963	1979	1989
General indicators			
Population, millions	1.018	1.594	2.095
Mortality, per 1000 population	9.8	N/A	8.4
Infant mortality, per 1000 live births	N/A	N/A	61
Number of maternal deaths	N/A	N/A	97
Government expenditure on social and cultural services, million tugriks	493.6 (37.2% of government expenditure)	1552.3 (41.9% of government expenditure)	2726.4 (38.4% of government expenditure)
Health personnel			

Medical doctors	1,139	3,547	5,715
Mid-level health workers	5,661	12,300	16,077
Health facilities			
Inpatient hospitals	81	114	428
Total hospital beds	10,306	12,300	24,160
Outpatient hospitals	128	N/A	123
Pharmacies	168	366	485
Centers for children	151	377	506

Source: Modified from Mongolian Statistical Yearbook-1963, 1979, 1989, National Statistics Office of Mongolia

N/A: Data was not found.

Mongolian health system in the Market Era

The transition process takes a long time, and it is not clear when it will end. Despite the declaration of transition in the 1990s, the current health system in Mongolia has not shifted to the market-

oriented system and continued to experience the transition process. The system continues to involve the characteristics from the socialist era; the public hospitals are the dominant health service providers that provide free healthcare services under government control. At the same time, the government introduced the referral system as a result of decentralization; the centres for children were allotted as the primary health centres to provide basic healthcare services and to make a referral to the secondary and tertiary level hospitals (WHO, 2013). The number of private hospitals has been increasing due to the privatization policy. A total of 577 private hospitals provided healthcare services in 2004, but the number is increased to 1,890 as of the latest data registered in 2019 (NSO, 2019), of which 41.3% are pharmacies, 38.7% are outpatient hospitals, 9.6% are drug-supply organizations, 6.4% are inpatient hospitals, 2.9% are nursing centres, and 1.1% are pharmaceutical factories (CHD, 2019). The government policy focuses on the promotion of a mix of private and public sectors in healthcare services.

Health indicators have been improving due to the country's steady economic growth (Batsaikhan, 2018). The life expectancy

is 70.41 years in 2019 which is increased by the previous years. The national program on "Prevention and Control of Communicable Diseases" aims to decrease the leading infectious diseases such as tuberculosis and acute viral hepatitis B. Leading mortality causes are diseases of the circulatory system, cancer, external causes, and diseases of the digestive system. Leading morbidity causes are diseases of the respiratory system, the digestive system, the genitourinary system, and the circulatory system (CHD, 2019). Currently, the health expenditure accounted for 7.2% of government total expenditure. The healthcare services are provided by the public and private healthcare providers (Table 2) (NSO, 2019).

Table 2. Mongolian health system in the Market Era

Indicators	2000	2010	2019
General indicators			
Population, millions	2.407	2.761	3.296
Mortality, per 1000 population	6.5	6.2	5.4
Infant mortality,	32	19	13

per 1000 live births			
Number of maternal deaths	81	30	18
Health expenditure, million tugriks	43579.5 (10.5% of government expenditure)	250264.7 (8.1% of government expenditure)	823888.9 (7.2% of government expenditure)
Health personnel			
Total health employees	31,507	39,608	54,687
Medical doctors	6,498	7,497	11,788
Mid-level health workers (nurse, midwife, technician, etc)	13,481	15,858	20,799
Health facilities			
Total health institutions	1,580	2,388	3,824
Number of state health institutions	396	391	393
Number of private health institutions	1,184	1,997	3,431

Total hospital bed	17,974	17,821	25,661
Hospital beds, per 1000 population	7.5	7	8

Source: Mongolian Statistical Yearbook-2000, 2019, National Statistics Office of Mongolia

The Ministry of Health (MoH) is responsible for the policy on health and its planning; it also ensures the implementation of the activities and standards. The Ministry of Finance approves the annual budget which is planned by the MoH. The Ministry of Labor and Social Protection coordinates employment and creates conditions for wages for human resources for health (HRH). Ministry of Education and Sciences (MES) regulates all levels of educational activities, including HPE. There are health departments at district and provincial levels under the control of MoH (WHO, 2013).

Primary health centres consist of family and soum health centres that provide PHS such as immunization, home visitation for minors, antenatal and postnatal care, first aid, and preventive

care. Family health centres' service coverage is the population in the capital city and the centres of the provinces. Soum health centres' coverage areas are the locations that are far from the centre of provinces. In 2019, there are 209 family health centres and 321 soum health centres operate across the country. The PHS is free and fully funded by the government (CHD, 2019). However, family health centres are labelled as private facilities and deliver services based on contracts with the government (WHO, 2013).

At the secondary level, district hospitals in the capital city and general hospitals in the provinces provide inpatient and outpatient specialized healthcare services (WHO, 2013), including internal medicine, pediatric, obstetrics and gynecology, general surgery, dental, neurology, and infectious diseases services. Nine district hospitals and 16 provincial general hospitals operate in Mongolia (CHD, 2019). Tertiary level health services, especially sub-specialized healthcare services, are provided by three state central hospitals and 11 specialized centres in the capital city. Four regional diagnostic and treatment centres are located at the regional level and provide sub-

specialized healthcare services (WHO, 2013).

A total of 54 thousand health workers serves the population, of which 92.5% are health professionals. The number of health professionals per 10,000 population is 36.8 in the capital city, which is higher than the national average; the health professionals in the provinces range from 18.9 to 39.4 (CHD, 2019). Low salaries, absence of incentives, and harsh working conditions are major factors that negatively influence the work morale of health professionals (WHO, 2013).

2.2. Conceptual framework

The reality of transition is a complex issue, and it is socially constructed and subjectively experienced by people. From the constructivist view, multiple realities exist and are grounded in social experiences; those realities cannot be directly measured. Also, understanding the situation is not defining what happens in a reality, but it needs an explanation of why and how it happens. In this sense, qualitative research paradigms have the potential to capture the information in the reality (Jennifer, 2015). There is no single correct way to understand the phenomenon in

qualitative research, thus, what kind of knowledge that researchers set out to make, what views they have, and how they conduct the study are important (Bunniss, 2010).

Many theories and approaches are available to capture, understand, and interpret reality. In the education field, a case study is useful not only for creating knowledge but also helps to set the standard through the development of regulations and exploration of past experiences (Albert, 2009). Moreover, methodological flexibility could be applied in qualitative researches. For instance, researchers could intentionally combine methodologies or approaches that could answer specific research questions. It is useful to borrow aspects from one methodology to enhance and inform another methodology. The methodology shifting and borrowing should be carried out explicitly by the researchers (Jennifer, 2015).

Multi-level perspective

Many studies on social development research have focused on a single level, and the one-sidedness of much social research has limited the researchers' ability to obtain deeper insights into the multiple levels of communities (Geels, 2011). The multi-level

perspective (MLP) approach asserts that developments at various levels in social organizations are linked to each other. Thus, the nature of these linkages should be investigated to understand what occurs at a specific level. In this framework, the concept of linkage denotes the transmission of communication or materials from one level to another (Geels, 2011).

The vertical, horizontal, and time linkages could be addressed in the context of an MLP. In the vertical linkage, many studies focus on the ascending transmission from the higher level to the lower level, using the governance approach to investigate the transition process. However, the metaphor “level” in the MLP also indicates the descending transmission in the social organization (Sjaak, 1990). It should be noted that descending cultural values are equally important; the transmission could spread from the lower level to the higher level (Zolfagharian et al., 2019).

Horizontal linkages exist between different sectors and prevent dividing reality into separate fields (Sjaak, 1990). Key factors in the system share the common set of rules of politics and economy; they also interact within the strengths and weaknesses of current structures and experiences in their culture and society (Jørgensen, 2012). Recent studies engaged other disciplines

such as sociology, psychology, economics, and political science on transition research (Zolfagharian et al., 2019). Moreover, increasing amount of studies on historical development can be referred to the time linkages. Time linkages could answer whether the change supports sustainable development in the social organization (Jørgensen, 2012).

Activity system analysis

Culture is the important factor that mediates human activity in the system of social relations; it is accumulated through the long or short history of social groups. So it is clear that cultural variations in the different societies form the different activities (Valsiner, 2007). Many of the medical educationists address and highlight how cultural differences and values influence the HPE policies and practices. The goal of medical education researchers is to represent the complexity of the variation and the contexts to understand educational problems. However, research on the consequences of the local traditions and cultural value is limited in the field of HPE (Yamagata, 2003).

One of the useful socio-cultural approaches to study cultural complexity is the activity theory; the unit of analysis is the

activity system. The theory was developed by Russian scholar Vygotsky in the late 1920s (Yamagata, 2003). Vygotsky offered a new way to understand human action, which takes into account his/her social and cultural contexts into account. He stated that the transmission of cultural norms from one generation to another is dynamic; our experiences are mediated by the factors from our surroundings. Vygotsky's model was labelled as the first generation of activity theory.

Leontiev, the colleague of Vygotsky, broadened the theory to encompass the community of people and developed the socio-historical aspects of the activity system. The socio-historical aspects are related to the rules, community, and the division of labour in the activity system. Leontiev's model was labelled as the second generation of activity theory (Yamagata, 2010).

Later, the western scholar Engestrom developed the third generation called activity system analysis (ASA); he focused more on the socio-political situations (Jennifer, 2015). In the third generation, Engestrom conceptualized the tension between or within activity systems; tensions come from the differences or interaction between people or their cultural development throughout history. In the natural setting, two activities usually coincide and have tensions between them (Feijter et al., 2011).

All the parties in the activity system should overcome their differences, and develop more effective patterns of learning to solve the tensions (Yamagata, 2010).

Activity theory is used in many diverse contexts for different purposes in the health and education fields. For instance, some scholars used activity theory as a framework for analyzing a redesign on patient care (Jennifer, 2015); some used it to explore teamwork in the healthcare setting (Yamagata, 2003). In the education field, activity theory is also used for understanding the systematic tensions of newly developed courses (Jennifer, 2015); and exploring the conflicting activities in the undergraduate medical education system (Yamagata, 2010). Activity theory is valued for illuminating context issues and analyzing crucial factors that interact and mediate learning. It also helps to get an understanding of the dynamic process and its conflict in the education field. Activity theory provides rich information about what and how it happens in the course of history (Yamagata, 2010).

Complementary actions of MLP and ASA

HPE is a complex and diverse system, and its reality is often

defined by the conceptual factors (Bunniss, 2010). However, concepts of HPE systems in the socio-economic transition have not been clearly defined. Transition is also a multi-dimensional process that defines the changes of the various environmental factors (Zolfagharian et al., 2019). MLP could give a descriptive analysis of the changes in the multiple levels; however, it could not provide a rigorous analysis of tensions and misalignment between levels (Jørgensen, 2012). On the other hand, ASA defines contradictions, and attempts to resolve the tensions. However, the researcher recommended using other models to define the concepts of the specific system when the researchers use the ASA (Yamagata, 2010). Analysis of significant issues and synthesis of research findings across methods are important aspects for educational research in a complex setting (Table 3).

Table 3. Complementary actions of MLP and ASA

	MLP	ASA
Strength	It addresses the **specific characteristics** of transition topic.	It allows to **find possible answers to the challenges** through the analysis of the tensions.
Limitation	It does **not** provide the **rigorous guideline** for the identification of tensions.	If there is **no pre-defined themes**, it is **difficult to identify issues** and initiate discussions with participants using triangle model.

MLP-Multi-level perspectives; ASA-Activity system analysis

Chapter 3. Research framework and Methods

3.1. Complementary designs of MLP and ASA

Considering the broad scope of the study aim, frameworks MLP and ASA were utilized. These frameworks complement each other and align with two objectives (Figure 1). The first objective was to explore the effects of the transition in the HPE system. MLP framework was used to explore the general concepts of the HPE system in the transition period. Subsequently, the findings from MLP were used as an initial data source for exploring the second objective. The current tensions of the HPE system were analyzed through ASA.

3.2 Multi-level perspective framework

The three-level input-process-output model is widely used in different fields and has a consistent logic based on its purpose of measuring the quality of a system. In this study, the three levels implied three key dimensions of the education system such as an institutional design, and instructional design, and educational outcome.

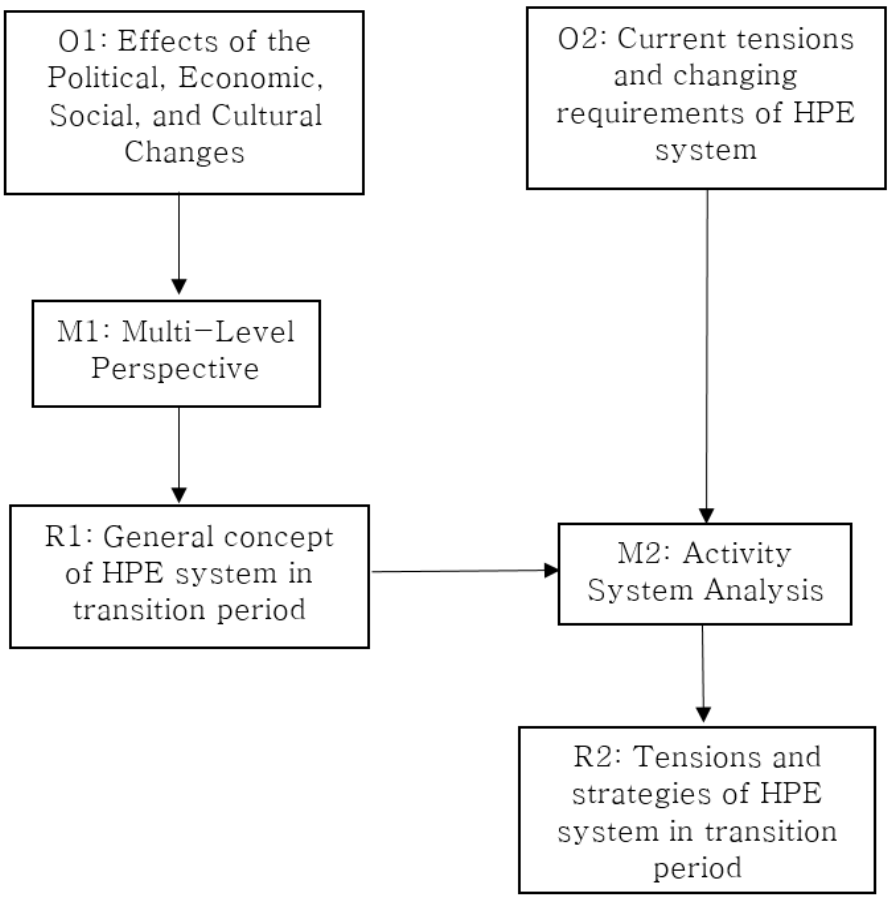

Figure 1. Research alignment

O-Objective; M-Methodology; R-Result

Different institutional and instructional designs have resulted in different educational outcomes of the HPE system (Frenk et al., 2010). The input level focuses on a variety of aspects such as plans, policies, financing, and participants' characteristics. The process level refers to the actual delivery of educational services.

The output level denotes the desired result of the educational system, which relates to issues facing the health professionals as for this case (Vrasidas, 2000). Moreover, the output level focuses on the longer-term implications and sustainability of the outcome.

Four areas were studied to explore the effect of the transition in the HPE system. Politics, economics, sociology, and culture are relevant in this respect of transition dynamics (Jørgensen, 2012). Politics focus on conflicting interests, power struggles, regulations, and institutional designs. Economics focus on the market and economy where society takes place. In the education field, it includes the financing, resources, and efficiency of educational programs. Sociology brings out the cognitive frames and learning and social needs. Culture brings out the beliefs, values, attitudes, and social acceptance in the social group (Geels, 2010).

3.3. Activity system analysis

The activity system is visualized as a triangle based on the interactions of components (Figure 2). Three main components including a subject, an object, and an instrument mutually mediate each other and affect the entire activity. A subject is a group of

people who perform the activity to achieve the object. The object is a raw material or problem space that gives the reasons for the subject to participate in the activity. Instruments are the psychological or technical factors that mediate the activity. Additional three components such as rules, community, and division of labour provide the socio-historical aspects of the activity system (Jennifer, 2015). Rules are any regulations that give guidance to the subject what are the correct and accepted among community members. Community is the social and cultural group that consists of the subject as a member. Division of labour refers to how that activity is divided or responsibility shared among the community (Frambach et al., 2014).

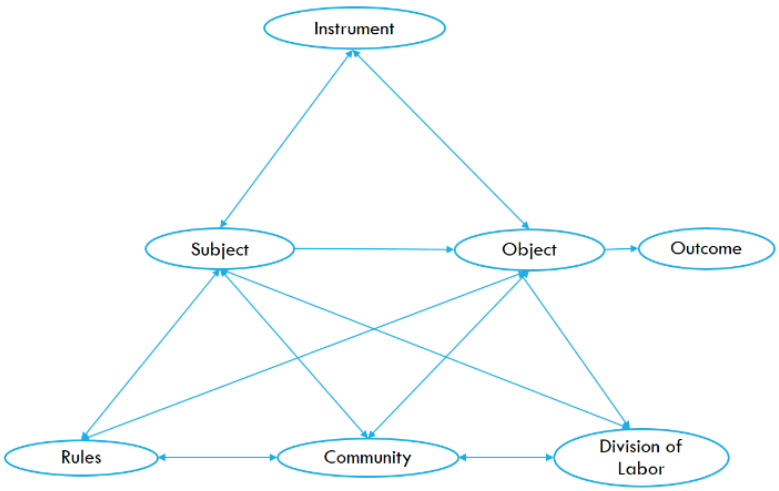

Figure 2. Activity system analysis

3.4 Activity system of HPE

The activity setting of the activity system is the environment where the subjects have a common object and are engaged by the activities. The activity set is a complex setting, and it is difficult to explore all aspects of the setting. Thus, the researchers recommended focusing on a specific level of analysis; Rogoff developed three planes of socio-cultural analysis, including a personal, an interpersonal, and an institutional community. A personal plane takes place at the individual level; while the interpersonal plane engages with the group of people within the activity. The institutional plane takes place in the community based collective activities. Rogoff suggested zooming one essential plane and blurring out another two of them to investigate the activity system (Yamagata, 2003).

This study zoomed the health professional educators who provide collective activities to prepare future health professionals. Thus, the subject, the object, the community, and the outcome have already been known in this study. The subject is the health professions educators, and the object is their goal to prepare competent future health professionals. The

community is the medical institutions and hospitals where the subjects perform activities to achieve the object. The outcome is the long-term improvement of healthcare services through competent health professionals.

Specific concepts of the other three components were developed through the analysis of the MLP framework. Instruments are invented, used, adapted, and replaced in an activity system (Frambach et al., 2014). They could be developed by the subject during the activity, and the value of instruments could be changed over time (Lynch, 2010). Thus, most of the findings from the process level of the MLP framework could be included in this component. Rules give any informal and formal guidance and dictate how instruments should be used (Feijter et al., 2011). Thus, most of the findings from the input level of the MLP framework could be included in this component. Division of labour defines the shared task among the community (Frambach et al., 2014). Thus, most of the findings from the output level of the MLP framework could be included in this component (Figure 3).

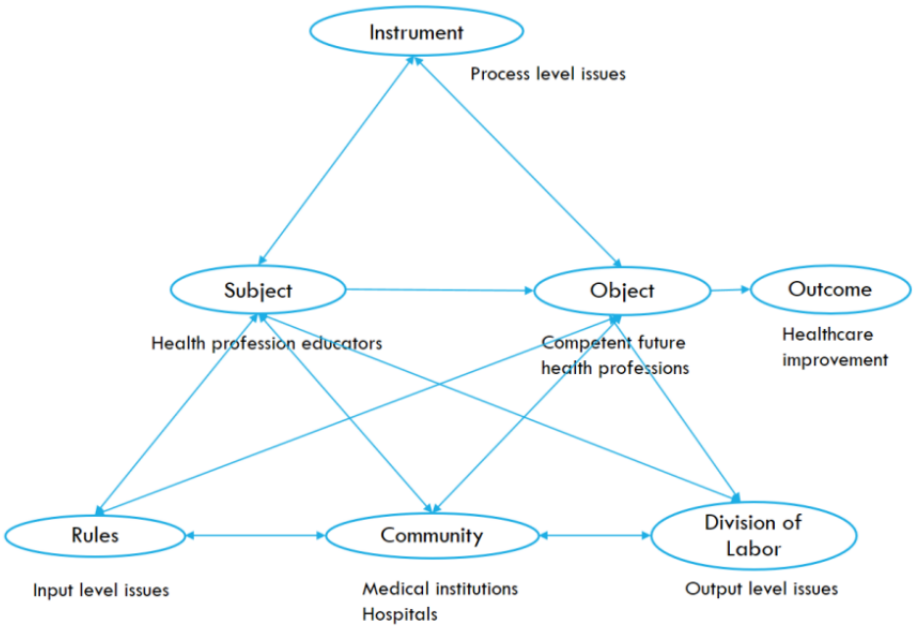

Figure 3. Analytical framework

Application of the ASA in qualitative research provides answers to identify systematic contradictions and tensions between the components. Tension occurs when the conditions of activity make the subject in a contradictory situation, which causes a failure or a success of object achievement (Feijter et al., 2011). Analysis of the tensions gives a chance to see the general picture of existing conflicts; it attempts to resolve problems by bringing mutually exclusive managements (Lynch, 2003). After exploring the concepts of the HPE activity system in the socialist and market eras, tensions became apparent

through the dilemmatic statements, satisfaction levels, critiques of the functioning, representations of the effectiveness, and so forth.

3.5. Data collection and analysis

Document review

The data collection methods were a document review and an interview. The terms “transition economy,” “socialist system,” “market system,” “reforms,” “healthcare system,” “human resources for health,” and “health professions education” in combination with the term “Mongolia” were used. Various unpublished and published data were examined through the websites such as PubMed, Google Scholar, Google Search, and Central Library of the Seoul National University.

Grey literature was explored through international websites such as the World Health Organization (WHO), World Bank, Organization for Economic Co-operation and Development, and Asian Development Bank. Grey literature from local institutions was examined through websites of the MoH, MES, Mongolian Medical Education Association, and Mongolian National Medical

University of Science (MNUMS). Some documents in local sources were published only in printed form; thus visitation was required to the central library in Mongolia to collect them.

The titles, abstracts, and summaries of documents in English and Mongolian were screened. From a total of 86 documents, materials that contained information on the three levels in the MLP framework were selected for final analysis. Documents with limited information on health and HPE systems in the context of the socio-economic transition and reforms were excluded. A total of 38 resources were used for the final analysis; the detailed information is provided as PRISMA flow diagram (Figure 4). Abstracts of articles, book chapters, and reports were included in the Appendix 1.

Interview

The preliminary interview was conducted with five local representatives who have experience in the field of HPE. The four of them currently work in the MNUMS and one works at the Center for Health Development (CHD) next to MoH. MNUMS is the largest, and only public medical school in Mongolia. MNUMS was established in 1942 and was the only medical school in

Mongolia until the first private medical school was established in 1994 (Lhagvasuren, 2016).

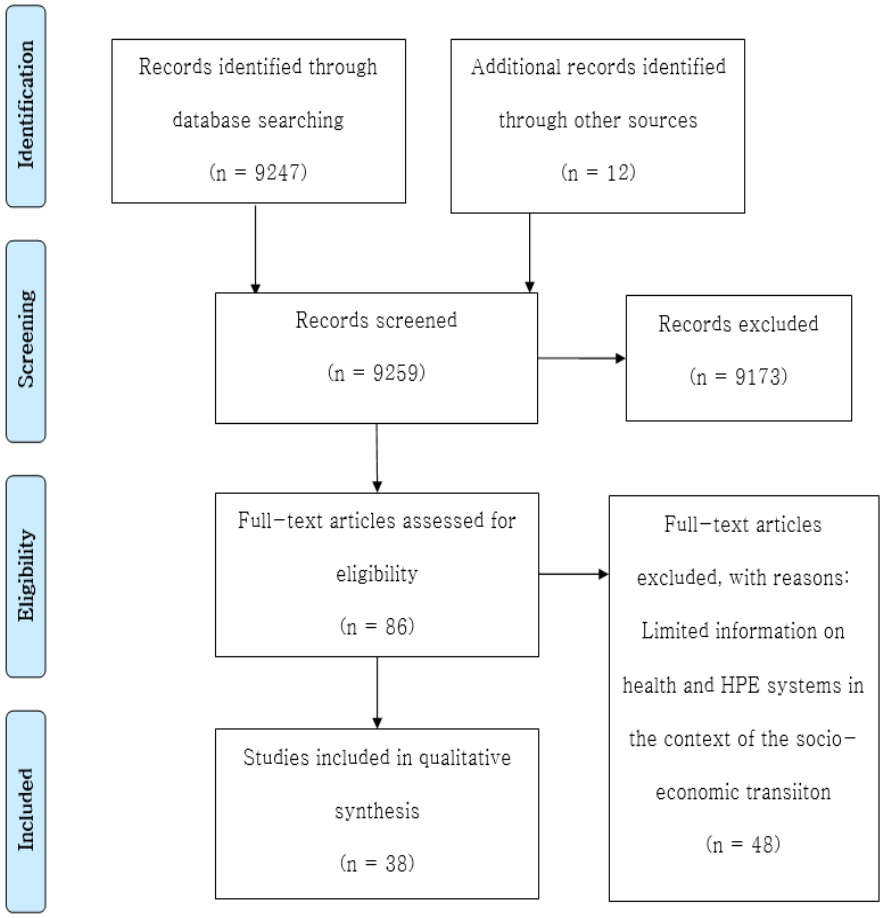

Figure 4. PRISMA flow diagram

Based on the preliminary interview and literature review, the interview questions were developed following the political,

economic, social, and cultural areas (Appendix 2). Some questions were developed to check the controversial ideas from document review; some were to validate the ideas and to fill the information gap. The interview was semi-structured and avoided following the list of questions strictly. Open-ended questions were frequently asked, which allowed free discussion with the participants.

Data collection and data analysis were conducted concurrently. Data saturation was achieved at the twenty-third participant in the formal interview. According to Romney, if the interview participants have a certain degree of expertise or knowledge on the research topic, data saturation can occur earlier in the interviews (Romney, 1986). All the participants were medical graduates from MNUMS which has a longest history in the field of HPE in Mongolia. Per the MLP framework, the participants from diverse groups, consisting of decision-makers, faculty members, and doctors were selected. Decision-makers provided relevant insights to the input level, as they are responsible for planning and management. Faculty members provided insights on the process level, as they deliver educational services. Doctors provided insights on the output level, as they are the products of the HPE system. The doctors from the primary, secondary, and

tertiary level hospitals were recruited to find issues in the real setting.

According to the time linkages in the MLP, the participants from different graduation years in the MNUMS were selected. The four generations were covered in this study. First, the socialist HPE system period existed with one public medical school until the 1990s. Second, the political and economic transition period continued until the 2000s when the private medical schools dramatically increased. Third, the introduction of HPE reforms such as institutional accreditation, a licensing exam, and an establishment of an integrated curriculum took place in the 2000s. Fourth, the development of the academic system has continued since 2010. National accreditation of the medical curriculum was introduced in the 2010s to improve the quality of private medical schools, and MNUMS was accredited by the Association for Medical Education in the Western Pacific Region (Table 4).

The participants were contacted primarily through email, and none of them refused nor dropped out of the study. Face to face and online interviews were conducted, which took from 50 minutes to 90 minutes. The interview location was selected by the participants, and most of them were conducted at the

workplace. Data from the interview was audio-recorded (Appendix 3).

Table 4. Recruitment of participants

	Graduation year of participants					
Participant	1970's	1980's	1990's	2000's	2010's	Total
Decision maker	1	2	2	2	2*	9
Faculty member	3	3*	3*	2	2*	13
Doctor	1	1	2*	1	1	6
Total	5	6	7	5	5	28

*Preliminary and formal number of participants were combined.

Data analysis

Content analysis and constant comparative methods were used to analyze the data. The qualitative content analysis has been developed since the 1980s and has achieved popularity in the German-speaking scientific community. Despite the openness in

the qualitative analysis, one advantage of the qualitative content analysis is the strict methodological control through step by step process (Jauch, 1980). Content analysis is used to identify certain words, themes, or concepts within some given qualitative data. The texts in the data should be coded or broken down into context units. Context units should be further categorized or summarized to describe the contents and deliver the messages.

The documents and interview transcripts were examined by multiple times, and the content related to each level of the MLP framework was underlined. All those contents were transcribed as an individual context unit for each level and placed in an excel file. Subsequently, the explanations of the context units were developed, and the linkages between context units were defined. The findings were sent to the participants for member-checking. Three participants responded, who were a decision-maker, a faculty memver, and a doctor from a different generation. They fully agreed on the findings in the framework.

Chapter 4. Results

4.1. History of the health and HPE systems

History of health system

Traditional medicine plays a big role in the healthcare services in Mongolia. Its history goes back to 5000 years which is similar to Tibetan traditional medicine, and with the background of Buddhist philosophy (Oldokh et al., 2007). The monks provided traditional healthcare services in earlier centuries. However, such practices were declined when western medicine was introduced and flourished in the 1920s in Mongolia (Pitschmann et al., 2013).

Since the 1920s, the infrastructure of the health system rapidly developed in Mongolia (WHO, 2013). For instance, in 1965, the capital city was officially divided into four districts due to the increasing urbanization which required public services and one of them was a healthcare service. The majority of the healthcare expenditure was used for the construction of state central hospitals, a cancer centre, a maternity centre, an infectious

disease centre, district hospitals in the capital city, and general hospitals in the provinces (Batsaikhan, 2018). The healthcare system had significant improvement during its services was free of charge, and the accessibility of healthcare services was closer to universal health coverage (WHO, 2013).

Since the 1990s, the health reforms were influenced by the socio-economic transition such as the sector was extremely underfunded due to the economic crisis. However, the government did not reduce the healthcare-related expenditures but introduced various reforms to protect basic healthcare services, especially in rural areas. New healthcare policies were focused on the shift to the PHS, the comprehensive referral system, the promotion of private sectors, and the protection of poor and vulnerable groups (WHO, 2013). At the end of the 1990s, the government policies transitioned to strengthening the institutions and to building HRH capacity to meet the changing requirement of socio-economic transition (Uranchimeg, 2017). At the beginning of the 2000s, the focus of the policies was an improvement of access, quality, and relevance of the social services (Batsaikhan, 2018).

In 1994, the government established the social and HIF to support the health sector (Batsaikhan, 2018). The HIF covered essential and complementary healthcare services (Lindskog, 2014) and the establishment showed that a total of 95% of the population being covered by HIF within two years. There were three forms of health insurance payment. First, the government covers the health insurance of vulnerable groups, which accounted for 70% of the total population in 2004. Students, pensioners, herders, children under 16 years old, mothers with newborn babies, soldiers, and citizens were characterized as vulnerable groups. Second, unemployed individuals of working age with the ability to work and who could pay their voluntary health insurance. Third, employees should pay 6% of their income per month, but employers are required to pay 50% of employees' premiums (Batsaikhan, 2005).

However, there is no significant rise in the health sector fund as a result of HIF, and there is no systematic monitoring on health system performance and HIF between state-owned organizations. MoH and Ministry of Finance allocate the state budget, and Ministry of Labor and Social Protection manages the

HIF without unified planning. Moreover, the number of insured citizens has been rapidly declining due to the limited coverage in terms of quality, volume, and content of the services. (WHO, 2013).

Currently, the transformations of the health system in Mongolia are simultaneously occurring; and the country's health data is fairly compatible with international standards (WHO, 2013). The development of organizations and comprehensive economic policies are the main sources for the country's growth during the transition period (IMF, 2003). However, Mongolia is still facing the challenges and consequences of the transition. The researchers stated that the health system is struggling with systemic problems due to a narrow technical focus without a broader contextual understanding (Jugnee, 2009).

History of HPE system

The first medical school in Mongolia was the traditional medical school, which was established in 1662 and required 14 to 15 years of study to graduate (Oldokh et al., 2007). Since the 1920s, medical training started to be based upon western medicinal

practices. Russian doctors organized the first western medical training in 1926 and had trained 25 local doctors from traditional medicine backgrounds for six months. In 1927, the Mongolian People's Party approved the first constitutional law for the invitational training program for Mongolian doctors; the first graduates were trained in Irkutsk, Russia (Dungerdorj et al., 2012).

A two-year nursing program was the first degree issuing program at the local level, which was followed by the physician assistant training program. The first locally-trained nurses graduated in 1930 and physician assistants graduated in 1934 respectively (Dungerdorj et al., 2012). At that time, the preparation for the physician assistants was one of the beneficial strategies to improve healthcare services in rural areas. However, this program was closed in the later years which led to the maldistribution of health professionals across the country (Baasankhuu, 2009). In 1934, a medical training program became a three-year diploma program; it accepted the pupils who completed the secondary schools (Dungerdorj et al., 2012).

The first constitutional act for the establishment of a national university was approved on December 6, 1940. Later, The National University of Mongolia was established in 1942 with

three branch faculties, including the Faculty of Medicine. The faculty's first locally-trained medical doctors graduated in 1947 (MAS, 2003). The Faculty of Medicine became an independent university in 1962, which was the only medical school during the socialist era in Mongolia. In the middle of the 1960s, the national system for medical training was successfully adopted in Mongolia (Dungerdorj et al., 2012); and its medical graduates directly worked at both Faculty of Medicine and hospitals. Faculty of Medicine is currently titled as an MNUMS, with seven branch schools in the capital city and three in the provinces. (Dungerdorj et al., 2007).

Different researchers in the field of HPE divided the historical stages of HPE in Mongolia differently. Former president of the MNUMS, Dungerdorj divided the history of HPE into three stages. The first stage took place when medicine was prepared under Buddhist philosophy; the monks obtained a medical degree based on their training years. The second stage started after the revolution in 1921; when western medicine was introduced in Mongolia. Since 1953, postgraduate training was launched with the main focus to prepare an adequate number of health professionals. The third stage started after the socio-economic transition in 1991 which continues to develop modern medicine

(Dungerdorj et al., 2007).

According to Otgonbayar, the history of HPE in Mongolia could be divided into the following 6 stages. The first stage took place in B.C 209 year when Hunnu empire dominated period. The second stage was between 1578 to 1921 when the first traditional medical school was established. The third stage was between 1921 to 1942 when the foundational period of modern HPE was begun. The Mongolian People's Party implemented the policy to combine Tibetan and Western medicine. The traditional medicine program was eliminated from healthcare services in 1930. The fourth stage was between 1942 to 1990 when the development of a national system of HPE started. In 1975, the MNUMS changed it's a five-year medical training program to a six-year program. The fifth stage was between 1990 to 2000 when the evaluation period of the HPE system at the national level was continued. The sixth stage started after the 2000s when the incorporation of the current period to the international system of HPE continues to exist (Otgonbayar, 2009).

Moreover, according to Tserendagva, there are four stages of nursing education formation. The first stage covered dominant healthcare services of traditional medicine. The second stage started in 1929; Russian health professionals provided medical

pieces of training to local doctors. The third stage started in 1972 when the high school graduates became eligible for a two-year nursing diploma program, and a nursing postgraduate training program was launched. The fourth stage started in 1993 as the system became more complex, including undergraduate, graduate, and postgraduate nursing programs (Tserendagva, 2009).

Although the western medical educational format is currently dominating the system, it might be impossible to completely replace the local tradition in Asian countries (Chen, 2017). In 1989, the Department of Traditional medicine was established next to the MNUMS; it became one of the branch schools of MNUMS in 1991. International School of Mongolian Medicine has a six-year training program. The ratio of the basic sciences, clinical sciences, and professional training were 24:36:40 as of 2012. Since 2008, the social sciences, humanities, and natural sciences are added to the curriculum. The traditional medicine curriculum was accredited in 2010 by MES (Seesregdorj S, 2012).

4.2. Effects of socio-economic transition on HPE system

The concepts of the HPE system during the transition period

were explored per the horizontal and vertical linkage of the MLP framework (Table 5). Transition affected the input level by impact to the local government authority, financing of the medical schools, student enrollment rate, and patient empowerment. In the concept of governance authority, private medical schools and hospitals attained academic authority without proper government regulation. In the concept of financing, medical schools faced struggles due to the tuition fee-based revenue and lack of financial sources. In the concept of student enrolment, there is an imbalance between the demand from society and the supply of health professionals. In the concept of patient empowerment, patient-centred activities are lacking in terms of patient-doctor communication and patient education.

On the process level, the effects appeared on the learning environment, human resources, educational strategies, and quality evaluation. The different learning environments of medical institutions have resulted in the different qualities of the educational services. In the concept of human resources, the HPE system is struggling with a shortage of experienced faculty members and weak faculty development. In the concept of educational strategy, the absence of the core curriculum has led to the varying competencies of medical graduates. In the concept

of quality evaluation, the licensing system is more similar to government control rather than quality improvement.

Effects on the output level appeared in the career pathway, continuing professional development (CPD), social prestige, and motivation of health professionals. In the concept of a career pathway, overspecialization has occurred due to the economic needs of health professionals. Poor CPD has resulted in a lack of social accountability of health professionals. Social prestige and motivation of health professionals have been falling in Mongolia. The financial pressure has resulted in the low level of motivation of faculty members and health professionals.

Table 5. Concepts of HPE system in transition

Input level	Process level	Output level
Governance authority	Learning environment	Career pathway
Financing	Human resources	Continuing professional development
Student enrollment	Educational strategy	Social prestige
Patient empowerment	Quality evaluation	Motivation

The different characteristics of input and process levels have resulted in different educational outcomes (Frenk et al., 2010). In the following sections, the changes in those concepts were discussed by comparing the socialist and the market eras.

4.2.1. Effects on the Input level

Characteristics of the socialist and market eras in the input level were defined (Table 6).

Governance authority

During the socialist era, the health system had centralized HRH planning under the MoH which assigned quotas based on social needs and provided workplaces for medical graduates. All territories were fully covered by an adequate number of health professions in both the capital city and the provinces. Approximately 29 medical doctors, 92 medical assistants, and 120 hospital beds were provided per 10000 populations by 1990 (WHO, 2013).

"In the socialist era, planning and policy of

HRH was based on the health needs" (Decision maker 3)

In the socialist era, all aspects of the HPE system were dependent on the political doctrine due to the limited academic authority of MNUMS for its educational services. All activities were directly managed and governed by the government (Jugnee, 2009). The content of the medical curriculum was approved by the MoH and Council of Ministers. A total of 53% of the content on the medical training program was about the socialist system and the history of the communist party (Lhagvasuren, 2016). Moreover, a two-step national examination was introduced in 1977, which consisted of subjects such as the philosophy of Marxist.

"We just memorized the content of political subjects without deep understanding; those subjects were taught in the first and second year of the medical school"

(Faculty 4)

As a result of decentralization, the new constitution in 1992 emphasized the determination of the power of local governance. The MoH took responsibility for health policies, their

implementation, health protection and promotion, and hospitals (WHO, 2013). The MES became responsible for educational policies, policy implementation, and medical schools (Suprunova, 2007). The fragmented policies and weak management between ministries have resulted in quantitative imbalances of health professions (WHO, 2013).

"Planning and policy of HRH are blurred due to the absence of unified government regulation"

(Decision maker 2)

A favourable effect of the decentralization was the attainment of the academic authority of medical schools. The joint decision made by MoH and MES in 1991 announced the independence of medical schools from the political dogma; the political subjects were removed from the medical curriculum (Lhagvasuren, 2016). However, the negative effect has arisen due to the rapid privatization. The number of private medical schools dramatically increased without proper government regulation (Sarantuya, 2005). Licensure for private medical schools is based on the collection of documents rather than the social needs of the population (Uranchimeg, 2017).

"Private medical schools are similar to business companies; conflicts of interest exist"

(Faculty 6)

In 1999, the government established the "Department of Accreditation and Licensing Exam" to ensure the quality of both the medical schools and the medical graduates (Ganbat, 2007). Tensions have existed regarding the quality of the accreditation process. Since 2018, the Mongolian government ceased to open new private medical schools and announced to focus on the quality improvement of existing medical schools. Local stakeholders heavily criticized the increasing number of unqualified private medical schools, even though the accreditation system has existed for decades.

"The accreditation process has not resulted in quality improvement so far"

(Decision maker 1)

Table 6. Comparison of Input level

Concepts	Socialist Era	Market Era
Governance authority	Lack of academic authority of medical schools for its educational services	Attainment of academic authority of private medical schools and hospitals without proper regulation
Financing	Full government funding for the medical school	Tuition-fee based revenue and lack of financial sources of medical schools
Student enrollment	Admission quota for the medical school based on the government planning	Increasing number of students without planning
Patient empowerment	Hierarchical culture and full responsibility of health system on the population health	Lack of patient-centeredness in terms of patient-doctor communication, patient information,

Financing

The government fully funded MNUMS in the socialist era; thus MNUMS faced no financial pressure. However, the expenditure on HPE was low due to the economic situation. A majority of general government expenditure was used for infrastructure development; the remaining expenditure were allocated to different subjects, of which most of the educational expenditure was used for population literacy and secondary education (Griffin, 1995). Other financial sources such as support from non-socialist countries were limited due to the political situation. A total of 80% of foreign trade was made with Russia. Even though Mongolia had a contract of technical assistance from China, cooperation was limited due to the political situation (Batsaikhan, 2018).

"Medical school rigidly followed the rules to carry out the planning without financial pressure in the socialist era"

(Faculty 7)

Until 1996, the government supported 80%-90% of the total revenue of MNUMS. However, it was unsustainable to cover the health and education services in the market era (WHO, 2013). In 1997, the government decided to cover only the electricity and

heating expenses of higher education institutions (Mark, 1994). Thus, tuition-fee became the only financial source for medical schools. The amount of tuition-fee continues to be limited by the government. Local stakeholders stated that the government should increase the expenditure on the HPE system and support them in efforts to find additional resources for their academic improvement.

"Medical schools are completely dependent on tuition-fee"

(Faculty 9)

Financial supports from other countries have increased since the 1990s, with the United States of America, South Korea, Japan, China, Great Britain, and Germany being the main providers (Suprunova, 2007). Mongolia became a member of Asian Development Bank and International Monetary Fund, and was backed by substantial loans, aids, and advice from foreign donors. Between 1992-2003, ten conferences of donor countries were held for the financial assistance programs (Batsaikhan, 2018). However, most of those programs exclusively financed the health improvements rather than HPE as a part of the health system. Moreover, the absence of university hospitals limits the revenue

of medical schools.

"Government supports, such as building university hospitals and supporting international projects, are needed for medical schools"

(Decision maker 4)

Student enrolment

The MoH set the admission quotas for MNUMS in the socialist era; the students from rural and underserved areas had more opportunities to enter MNUMS. There were several tracks for student admission. Applicants with the highest academic records in their secondary school had eligibility for automatic acceptances, but the number of candidates was limited. Also, applicants with several years of working experience in a paramedical field could enter MNUMS, when he/she reached the excellent work performances. For instance, nurses with seven years of working experiences could apply for MNUMS, if he/she has fulfilled the standard performance of the five-year plan given by the government (Lhagvasuren, 2016).

"Only the intellectuals or experienced people could enter medical school in the socialist era"

(Decision maker 7)

Technical and vocational education and training (TVET) played a big role in the health system; Ministry of Labor and Social Protection coordinated activities related to employment. The students, who completed a secondary school were eligible for TVET. Evening schools were opened for people to meet the demands of human resources. A total of 47.7 thousand working assistants were trained between 1961 to 1966. Also, people, who continuously worked in the state organization for four to five years, had the chance to be exempted from work and participate in the training programs (Batsaikhan, 2018).

"In the socialist era, number of health professionals was adequate in rural areas"

(Doctor 1)

Since the 1990s, the health and education systems were poorly adapted to the new decentralized system due to the inexperienced governing skills and unstable human resources in the government organizations. In response to the quantity imbalances, the government continues to follow strategies from the socialist era and increases student enrolment from rural areas. However, those strategies have not resulted in effective

implementation due to the poor management of policies and the absence of national health needs (WHO, 2013).

"Joint planning for student enrolment rate and national health needs assessment is needed in Mongolia"

(Decision maker 7)

The production and employment of health professionals continue to be imbalanced due to the increasing number of private medical schools (Sarantuya, 2005). Currently, ten private medical schools provide educational services. They try to maximize the number of students due to the tuition fee-based revenue. Over 600 medical students and 800 nursing students graduate per year. Moreover, the hospitals attained the authority to organize postgraduate training programs, which has resulted in an increasing number of specialists. Around ten tertiary level hospitals prepare specialized health professions as their human resources.

"The increasing number of student enrolment is the only way to provide salaries and improve the educational environment for the medical schools"

(Decision maker 5)

Patient-empowerment

In the socialist era, doctor-patient communication was hierarchical; patients rigidly followed the doctors' decisions. There were many reasons behind hierarchical communication. For instance, most of the population was herders while the health profession was considered a high-class occupation. (Batsaikhan, 2018). On the other hand, the coverage of healthcare services was universal even though services were not well resourced and equipped (Michael, 2001), thus the patient satisfaction rate was comparatively high. Since 1990s, the health law indicated that health protection and promotion was the duty of the health professionals. Thus, health professionals had full responsibility for the population's health.

"Doctors visited patients' home if the patient did not come for the scheduled meeting"

(Doctor 2)

The concept of patient-centeredness has started to be

discussed in recent years. Patients' right to choose health professionals and hospitals were adopted in the Health Act of 1998. Patients' rights to access health information, refuse procedures, and complain about health professionals and hospitals were included in the Health Act of 2011 (WHO, 2013). These concepts are becoming new challenges for health professionals, who are trained in the former hierarchical culture. Hierarchical communication has not been fully replaced by patient-centred activities in the market era.

"Doctor-patient communication is still hierarchical"

(Doctor 1)

In the market era, the attitude of health professionals has been criticized due to the lack of patient-centred services. Since 2000s, the medical schools have started the program known as "Zero-week" to teach professional values, attitudes, and ethics to first-year medical students. The reciting of student oath was practised at the beginning of the first semester by a first-year medical student. The oath emphasizes human beings and the ethics of health professionals.

"Attitude of health professionals became an

important topic"

(Faculty 2)

Concurrently, the lack of supplies and outdated pieces of equipment in public hospitals have influenced the diagnostics capacity of health professionals (WHO, 2013). The only capacity of the health professionals does not satisfy the needs of the patients in the rapid technological development. The government budget on health is not planned enough to provide advanced technologies to the public hospitals. Therefore, the number of patients who seek treatment in foreign countries has increased since 1990 (WHO, 2013). Local stakeholders stated that improvement of hospital capacity is needed.

"People compare the health system with
developed countries such as Korea and Japan"
(Doctor 6)

4.2.2. Effects on the Process level

Characteristics of the socialist and market eras in the process level were developed (Table 7).

Table 7. Comparison of Process level

Concepts	Socialist Era	Market Era
Learning environment	Adequate clinical learning environment due to the close cooperation between the medical school and hospitals	Inadequacy of learning environment by due to the absence of university hospitals and a lack of cooperation between medical schools and hospitals
Human Resources	Qualified faculty members in the clinical supervision	Faculty shortages in the private medical schools and weak faculty development due to the limited supports
Educational strategies	Focus of curative services and teacher-centered medical curriculum	Varying educational services due to the absence of the core curriculum
Quality evaluation	Oral examination as the national graduation exam	Poor quality of licensing exam due to poor structure and content

Learning environment

MNUMS and hospitals had close cooperation in the socialist era. The hospitals provided large clinical bases to MNUMS (Lhagvasuren, 2016); thus, the clinical learning environment was adequate. Since 1949, third and fourth-year medical students started to clinical practice at the general hospitals in provinces. During the summer vacation, medical students completed clinical practices such as nursing, physician assistant, and medical doctors' practices. The largest clinical base was The First State Central Hospital, which was established in 1971 (MAS, 2003). Postgraduate training was consisted of three-month to one-year training and provided by MNUMS.

"In the socialist era, MNUMS and hospitals were almost one organization"

(Decision maker 9)

Since the 1990s, the quality of educational services has been varied across medical institutions (Sarantuya, 2005). The first private medical school was built in 1994. A total of 14 private medical schools have been established by 2015. The private

medical schools make a contract with the hospitals for the provision of clinical practices. There is a gap between hospital capacities and an increasing number of students. The absence of the university hospital has worsened the promotion of the patient care mission of medical schools. MNUMS established its university hospital in September 2020 but the capacity is not adequate to provide clinical practice for both undergraduate and postgraduate training.

"Building university hospital is the urgent need of medical schools"

(Decision maker 3)

In Mongolia, graduate training refers master and doctoral degree programs. Postgraduate training refers to residency and sub-specialty training programs. Another issue that has risen currently is that the postgraduate training is provided by two different institutions under the two ministries. Hospitals provide their postgraduate training program under the MoH; while MNUMS provides both graduate and postgraduate training programs under the MES (Lhagvasuren, 2016). Factors such as student enrolment and educational services have not been unified between the two programs. Both postgraduate training programs

have their advantages and disadvantages. For instance, hospitals' postgraduate students have more opportunities for clinical practice, and are guaranteed workplaces; however, the program contents do not align with the global standards. In contrast, postgraduate students of medical schools follow a standardized program, but the opportunities for clinical practice are limited due to the absence of university hospitals.

"The involvement of hospitals in postgraduate training is increasing; it leads to conflicts between hospitals and medical schools"

(Faculty 10)

In 2009, local researchers conducted a qualitative study on the quality of the postgraduate training by interviewing clinical educators who work in the hospitals. Clinical educators stated that the students are passive to learn, and poor clinical knowledge and skills are linked to the main problems. Furthermore, the study showed that the absence of the salary to the postgraduate students is the biggest factor that influences the quality of the training (Oyunsuren, 2009).

"The systemic change is needed for further improvement of the postgraduate training

program in Mongolia"

(Decision maker 8)

Human resources

The first generation of faculty members was trained through the contract for human resources development between Russia and Mongolia in 1934 (MAS, 2003). Faculty members and medical doctors had a lack of equipment and resources; but some literature called them "Doctors with the golden hands", which implied that their clinical skills were remarkable (Lhagvasuren, 2016). Medical graduates with higher grade point averages were assigned to work as faculty members at MNUMS (Sumberzul, 2001). Since 1988, MNUMS has opened a new class to prepare future faculty members and researchers.

"Faculty members were qualified both in clinics and teaching"

(Faculty 3)

Since 1956, MNUMS has launched programs for faculty members such as intensive courses, degree programs,

international conference assignments, cultural exchanges in foreign countries, and fellowship programs. All the candidates for the program were assigned by the MoH while the number of candidates was limited. The main policy for human resource development focused on the distribution of an adequate number of health professionals (Michael, 2001) rather than the continuing professional development in the socialist era.

"Human resources were fully mobilized per government planning"

(Faculty 1)

Faculty development was emphasized across the world in the middle of the 20th century. The rapid expansion of curricula and programs has led to increasing demands for faculty development in Mongolia. In 2015, MNUMS established "The Center for Faculty Development" which provides a mandatory program on teaching skills for new faculty members and other various programs for the existing faculty members. International training and the information technology revolution have provided many opportunities; however, an insufficient supportive environment is becoming a challenge for faculty development (Sarantuya, 2005). Local stakeholders stated that clinical faculty members have

limited opportunities to engage in patient care due to the absence of a university hospital.

"Some clinical faculty members prefer to work as clinicians"

(Faculty 13)

Simultaneously, the clinical educators of hospitals' postgraduate training programs are medical doctors who do not have experience in educational strategies. Furthermore, most of the faculty members in private medical schools are retired faculty members from MNUMS or fresh graduates who have no experience in teaching. The recruitment of fresh graduates has resulted in declining the quality of educational services in private medical schools.

"Fresh graduates directly become faculty members without proper preparation"

(Faculty 8)

Educational strategies

The first medical training program of MNUMS was a five-year

program based on the Soviet model. The medical curriculum consisted of 47% of lectures and 53% of clinical practice in 1949. Seminar hour was added to the medical program in 1956; teacher-centred methods were dominant. In 1962, MNUMS became an independent university that had five branch schools, 64 faculty members, and 803 students. At that time, it changed 75% of the curriculum content and added more clinical practice hours (Lhagvasuren, 2016).

"Even though the educational strategies was not developed well, the quality of the medical graduates was good"

(Faculty 5)

In 1973, the School of Medicine at MNUMS changed its curriculum into a six-year program (Sumberzul, 2001). The local scholars revised the medical curriculum seven times until 1990 but the main notion was still dependent on the political dogma. The history of the communist party in the Soviet Union, the theory of communism, and the history of the political party were still included in the medical curriculum and national examination (Batsaikhan, 2018).

"We even studied the report of the meeting of

the political party"

(Doctor 4)

Between 1996 to 2001, the medical curriculum of MNUMS was revised by the Association for Medical Education in Western Pacific Region. A total of 214 medical programs were completely revised. In 1996, the physician assistant program was merged into the nursing diploma and bachelor program (Lhagvasuren, 2016). The public health program was added into the medical program in 1998; social science subjects took up 2% of the medical curriculum. The medical curriculum of MNUMS was revised four times until the 2000s; a block system was introduced in 2001 (Sumberzul, 2001).

"Integrated curriculum was implemented,
however, preparation of faculty members for
the new system was not satisfactory"

(Faculty 11)

In 2011, the experts from Australia, Japan, South Korea, the Philippines, Taiwan, and the United States conducted external evaluations for MNUMS. The result showed that the medical training of MNUMS is closer to the international standards

(Otgonbayar, 2012). In contrast, private medical schools have still followed the traditional curriculum and traditional educational strategies. The Committee of the Mongolian Medical Education Association developed the first document for the performance standards of the medical graduates; the document was the crucial reference for private medical schools (Dungerdorj D et al., 2007). However, the absence of the national core curriculum has resulted in varying educational strategies of private medical schools.

"Educational strategies of private medical schools are still teacher-centred and based on the former Soviet program in Mongolia"

(Decision maker 2)

Quality evaluation

In the socialist era, medical graduates were highly experienced in clinical skills and could provide specialized healthcare services after graduation. However, the student's assessment was based on the summative classroom examination. Since 1977, a two-step national graduation examination was introduced; both steps required an oral examination (Lhagvasuren, 2016). The first step

assessed the knowledge of the philosophy of Marxism and organizations for health protection. The second step assessed the knowledge of special disciplines such as internal medicine, surgery, infectious diseases and pediatrics. The grading system had four different grades, including an excellent, a good, an average, and a bad. Students who passed the national graduation exam would receive direct permission to see the patients.

"Final-year medical students used to work as medical doctors in hospitals"

(Decision maker 4)

The national graduation exam became a test-based exam in 1998; objective structured clinical examination was introduced in 2002. The licensing exam was established in 1998, and it is managed by the CHD under the MoH. All medical graduates should pass the test-based licensing exam, and obtain a five-year medical license (Oyunsuren, 2007). However, a recent study on the item analysis of the licensing exam showed that between 12%-27% of total items were low discrimination items; while 14%-18% of total items had high difficulty indexes. Also, there are differences in the linear relationship between the licensing exam and the national graduation exam every year

(Alimaa, 2019). Moreover, the test-based structure of licensing exam conflicts with the assessment of core competencies.

"The test-based licensing exam assesses only the knowledge of health professionals"

(Faculty 2)

Mongolia is still facing mismatches of competencies and insufficient capacity of health professionals (WHO, 2013). In 2011, the government required medical graduates to work for two years at primary health centres. This policy was intended to solve the maldistribution of health professionals. However, it has resulted in unstable human resources, and most of the medical mistakes occurred in primary health centres. The quality of healthcare services deteriorated in those centres, thus the policy was ceased. These results imply that fresh medical graduates have poor knowledge and skills (WHO, 2013). Therefore, it is believed that the licensing system has been ineffective for the assessment of the competencies of medical graduates.

"Implementation process of the licensing system should be improved"

(Decision maker 6)

4.2.3. Effects on the Output level

Characteristics of the socialist and market eras in the output level were defined (Table 8).

Table 8. Comparison of Output level

Concepts	Socialist Era	Market Era
Career pathways	Overspecialization due to the early specialization in the Soviet model	Overspecialization due to the urban bias and a lack of career guidance
Continuing Professional Development	Poor CPD due to the limited opportunity by the government plan	Poor CPD due to the lack of power of professional societies
Social prestige	High social prestige of health professionals due to its high class occupation	Low social prestige due to the gap between patient expectation and quality of the health services
Motivation	High level of motivation based on adequate social security coverage	Low level of motivation due to the absence of the incentive system and

	such as public housing and nursing care for the children	social security coverage

CPD–Continuing professional development

Career pathway

The Soviet medical system had an emphasis on early specialization; students had to choose their specialized fields as they enter medical schools (Barr, 1996). In 1973, MNUMS prepared four types of health professionals such as a general doctor, a pediatrician, a dentist, and a hygienist (Sumberzul, 2001). A majority of students had limited chances to change their career pathways based on their interests (Barr, 1996).

"Only students with good academic records received a chance to choose the specialization of their interests"

(Faculty 1)

The new higher education law was approved in 1995 (Batsaikhan, 2018), which emphasized on separation of undergraduate and postgraduate training (Lhagvasuren, 2016).

Students had a chance to choose their careers based on their interests; however, overspecialization continues to exist due to urban bias. Half of the population live in the capital city; clinical practices are mostly based on the tertiary level hospitals in the capital city. Moreover, a study on the career choices of sixth-year students showed that only 19% of the students considered social needs when they choose a future career. And 59.7% of students did not have any information about the needs of specialty in the health sector (Jargal, 2012).

"There is no guidance for career pathways to the students"

(Faculty 6)

Most of the countries have male dominance in medical doctors and female dominance in health workers (WHO, 2006). However, around 70% of the health professionals and 62% of the medical students are female in Mongolia (Sarantuya, 2005). The dominance of the female gender has resulted in the shortage of health professionals in rural areas. Mongolia has a harsh winter season and a weak infrastructure in remote areas; these factors are considered difficult working conditions for female health professionals (WHO, 2013).

"Hospitals prefer to recruit male health professionals"

(Doctor 3)

Continuing professional development

The importance of CPD was not recognized in the socialist era. There were a few numbers of short-term training, which was approved by MoH, based on the five-year plan. Also, MoH decided the candidates for international training in socialist countries. Approximately 5000 faculty members had received pieces of training in teaching skills within five years (MAS, 2003). Most of the life-long learnings were based on the hidden curriculum and apprenticeship model. Due to the hierarchical communication, junior doctors strictly followed the seniors.

"The number of candidates for short term training was low; one or two health professionals were trained in a year"

(Faculty 7)

The discussion on the concept of the CPD was started in the 2010s. The licensing system requires the collection of sufficient

continuing education credits for extension of medical licensing. The CHD next to the MoH is responsible for the extension of medical licensing, therefore collecting credits is more likely to be under government control rather than a system aimed for the quality improvement of health professionals (WHO, 2013).

"Collecting credits are not helpful for quality improvement of health professionals' performances"

(Doctor 2)

The role of professional societies is important for CPD (Alimaa, 2019). There are numerous non-governmental organizations, which are entitled as an association, a society, and an academy in the field of HPE. Government regulation for permitting those organizations is inadequate; their role is not clear on strengthening the capacity of health professionals. For instance, some field has more than five professional societies due to the absence of unified regulation. The quality of the activities can vary regarding the different disciplines; some of them are powerful and some are not. Moreover, the financial and technical assistance for the development of professional societies is lacking. The study on the implementation of the licensing system

has been recommended to increase the role of societies in the CPD (Ganbat, 2007).

"Professional societies organize international conferences in their field. However, some of them are duplicated and not related to the needs"

(Faculty 1)

Social prestige

In 1956, the first population census was completed; the population consisted of the working class, government officials, and citizens, which weighed 40%, 21%, and 38% respectively. The health profession was among the few high-class occupations at the time; they retained considerable prestige in society (Batsaikhan, 2018). Moreover, the health professionals had high responsibility towards their duty. For instance, if there was a two-week absence for the assigned work, the health professionals were called to the court.

"Doctors and nurses had the highest social prestige in the socialist era"

(Faculty 8)

Radio and television were the only way to receive information in the socialist era while all contents were controlled and censored by the government (MAS, 2003). Even conversation between people was checked, and people who had opposing opinions to the government were penalized. Because of these circumstances, patients did not complain about healthcare services, and public trust towards health system was high.

"Patients and public respected even medical students in the socialist era"

(Faculty 2)

As of now, the social prestige of health professions has been rapidly declining due to several reasons. The patient satisfaction rate is one of the indicators to assess the responsiveness of health professionals' performances (WHO, 2006). Increasing patient expectation conflicts with decreasing performance of the health professionals. Fixed salary has led to the lack of competition between health professionals to improve their performances. Moreover, corruption in the health sector and cronyism in the healthcare services has resulted in a fall of public trust.

"A performance-based payment system is crucial for performance improvement of health professionals"

(Decision maker 9)

The freedom of the broadcasting system was declared in the late 1990s (Batsaikhan, 2018). People started to complain about medical practice mistakes. At the same time, the public perceives the quality of healthcare services by diagnostic capacity and hospital-based services, which are derived from the culture of the socialist era (WHO, 2013). Thus, the principles of PHS do not meet the satisfactory requirements of the patients. Local stakeholders mentioned that the public perspective has not completely changed, and they still believe that the protection of health is the duty of the health professionals.

"Some patients believe that illness is a fault of health professionals"

(Faculty 9)

Motivation

In the socialist era, the government evaluated whether MNUMS

fulfilled its annual plan, and individual faculty members completed their assigned tasks. The government provided incentives such as international training in other socialist countries, vouchers for nursing camps, and provision for public housing (MAS, 2003). All employers were required to provide housing to their employees.

"Social security issues were adequately addressed in the socialist system"

(Faculty 8)

In the late 1990s, most of the population entered to bargain and left their professions (Suprunova, 2007). Approximately, 40% of health workers exited the public sector. In 1995, faculty members went on strike calling for higher wages and more funding in the education sector. The salary of the faculty members of health professionals is low, which is about 40% higher than bottom-line wages. The absence of the incentive system causes conflicts in the value system of health professionals. The value-driven rationality of health professionals is the protection of health and the provision of high-quality healthcare services. But, low salaries and the absence of incentives have conflicted with the value of health professions in Mongolia (WHO, 2013). For instance, health

professionals could not afford the fee for international training and conferences due to their low wages. Thus, professional engagement is usually left behind in global development.

"Opportunities for international training should be improved to increase motivation"

(Decision maker 1)

The study conducted by MNUMS showed that 83.9% of the faculty members affirmed the need for strategic changes in the faculty assessment. Faculty members used approximately 9.4 hours for research, 28.4 hours for teaching, and 13.9 hours for professional work (Baljinnyam, 2011). Teaching work overload is the main barrier for pursuing excellence in research and patient care of faculty members. Recognition of research work and implementation of a supportive environment could motivate the faculty members.

"Without proper assessments, it is difficult to pursue research as a primary goal"

(Faculty 4)

4.3. Tensions of HPE system and Strategies

Activity system of HPE in the transition

The concepts from the MLP framework were embedded into the components of the ASA. The activity system of HPE in the socio-economic transition was visualized as a triangle (Figure 5). The rule in the activity system guides the subject (Frambach et al., 2014); thus, concepts of input level such as governance authority, financing, student enrolment, and patient empowerment were embedded in the rule component. The governance authority and financing provide evidence for decision making and strategic planning (Frenk et al., 2010). Student enrolment sets the planning for further educational activities; while patient empowerment provides suggestions for decision making in a locally effective healthcare system.

The instrument in the activity system could be developed, adapted, and used by the health professions educators, moreover, it could be changed over time (Frambach et al., 2014). Thus, the concepts of process level such as learning environment, human

resources, educational strategies, and quality evaluation were embedded into the components of the instrument. The learning environment could be changed due to local conditions; while human resources, educational strategies, and quality evaluation should be updated per a global standard and adapted to a local situation (Frenk et al., 2010).

The division of labour refers to the activities and responsibilities shared among the community; it also includes social relationships with other people (Jennifer, 2015). Thus, concepts of output level such as career pathway, CPD, social prestige, and motivation were embedded in the division of labour component. The career pathway of the medical graduates could define how health professions shared their roles in the community (Frenk et al., 2010); while social prestige and motivation define the behavioural characteristics of health professionals. The CPD could have an influence on how health professionals perceive their responsibilities in the community.

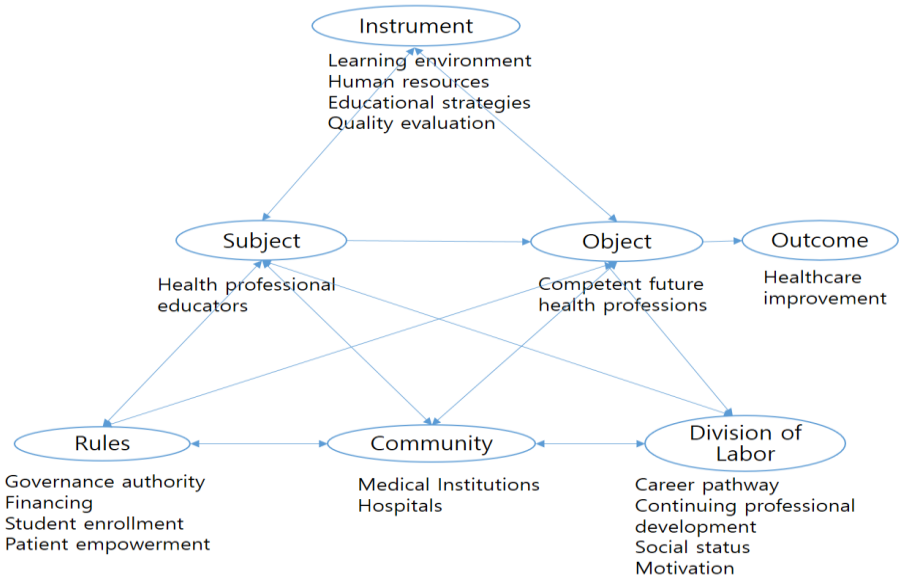

Figure 5. Activity system of HPE in transition

Tensions of the HPE activity system in the Socialist Era

Various factors have influenced educational innovations such as local contexts, policy implementation, stakeholders' involvement, available resources, learning environment, and so forth. If the factors have not been managed well nor balanced, the tensions appear. There is no clear answer to the management of tensions in the education field. Key guidance to solve the tension could be using a conceptual framework such as theory, informal models,

and experiences on how the world works (Ara, 2020). Based on the general concept of the HPE in transition, the tensions of the HPE system in the socialist era is drawn (Figure 6).

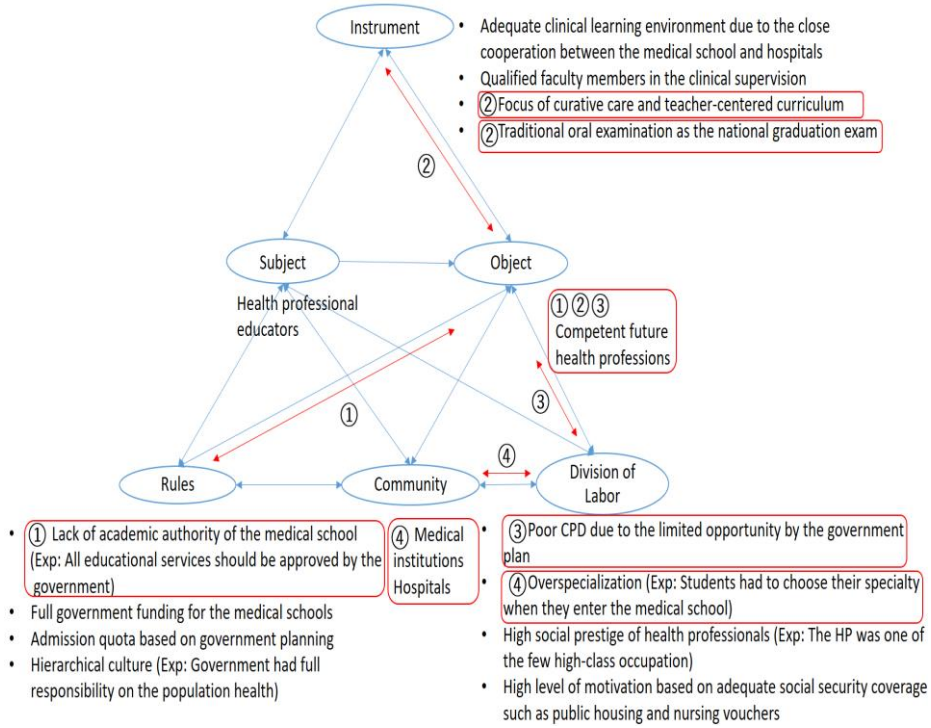

Figure 6. Tensions of HPE system in the Socialist Era

1. Object and Rule: Lack of academic authority of medical schools conflicted with the preparation of competent health professionals based on health needs. The government had a

huge influence on all aspects of the HPE system; the medical curriculum involved the history of Mongolian People's Party, the history of the Soviet communist system, the theory of scientific communism, and so forth (Lhagvasuren, 2016). According to Doctor 4 (Appendix 3), the medical students memorized the contents of the meeting report of the political party. Moreover, the faculty members had limited opportunities to revise and modify their curriculum based on the new knowledge.

2. Object and Instrument: Traditional teacher–centred medical curriculum, focus of a curative care, and oral examination conflicted with the preparation of competent health professionals. According to Decision maker 7 (Appendix 3), the preparation of health professionals who performed the curative services was an urgent need at the beginning of the socialist era. Thus, most of the contents of the medical curriculum were based on curative care (Lhagvasuren, 2016). However, the focus of the curative services became not relevant to the health needs in the later years (WHO, 2013). Moreover, the oral examination could not assess the clinical

skills of the medical students.

3. Object and Division of Labour: Limited opportunities for CPD conflicted with the preparation of competent health professionals. It became clear from an interview with Faculty 7 that the number of candidates for professional training was few (Appendix 3); a limited number of short pieces of training were approved by the government per the five-year plan (MAS, 2003). State officials had only a chance to attend the training after attaining four years of working experience (Batsaikhan, 2018).
4. Community and Division of Labour: Overspecialization conflicted with shared responsibility in the community. Early specialization was emphasized in the socialist era; the medical students had to choose their specialties when they enter medical school (Barr, 1996). It became clear from an interview with Doctor 4 that when the PHS became a focus of the health system in later years, the increasing number of specialised doctors and the decreasing number of doctors of the primary health centres became the tension in the health system (Appendix 3).

Tensions of the HPE activity system in the Market Era

Based on the general concept of the HPE activity system in transition, the tensions of the HPE system in the market era is drawn (Figure 7).

1. Within Rules: The medical schools' only financial source is the tuition fee. Thus, tuition-fee based revenue has led to the excessive student enrolment of medical schools (WHO, 2013). According to the interview with several local stakeholders (Appendix 3), the medical schools attempt to maximize the number of students to adapt to the market era.
2. Rules and Instruments: Involvement of hospitals in the postgraduate training and absence of university hospitals have led to the inadequate clinical learning environment for medical schools (Lhagvasuren, 2016). It became clear from the interview with Faculty 1 that the hospitals prefer to provide clinical training only for their postgraduate students and limit the clinical training to the postgraduate students

from medical schools (Appendix 3).

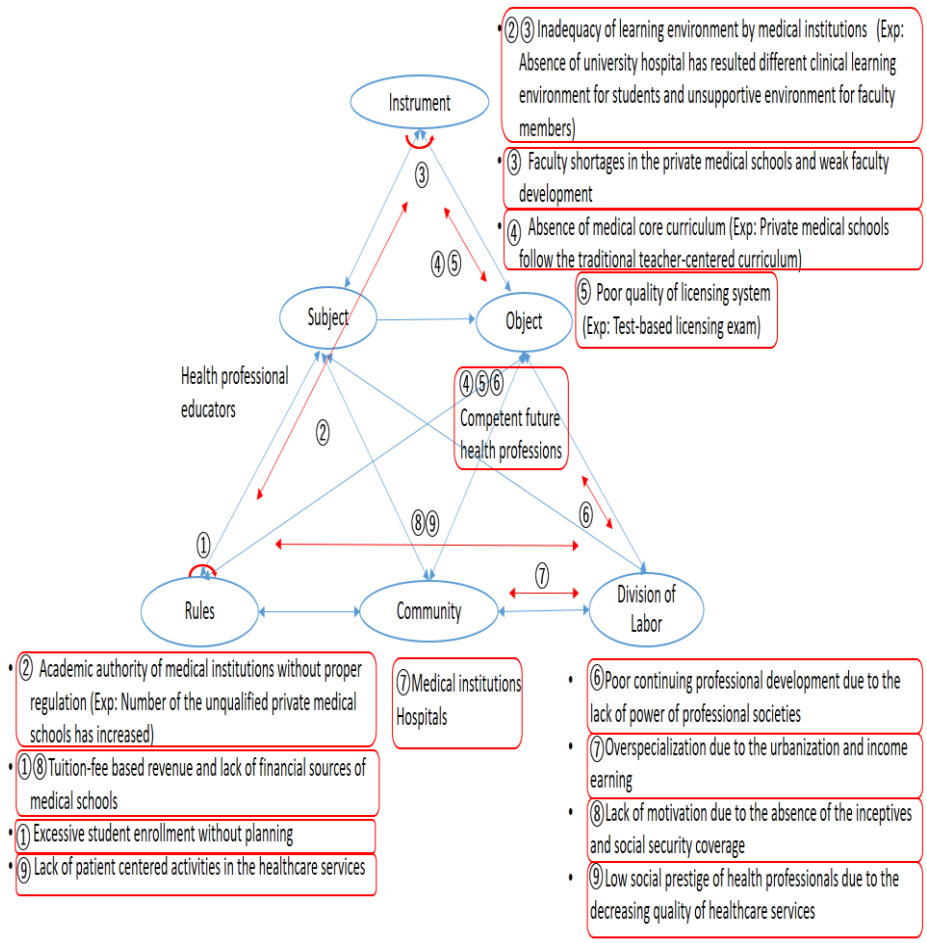

Figure 7. Tensions of HPE system in Market Era

3. Within Instruments: The lack of a supportive environment of the medical schools has conflicted with faculty development

(Sarantuya, 2005). According to the interview with several participants, lack of research bases and absence of university hospitals are the main barriers for pursuing excellence in research and patient care (Appendix 3). Moreover, private medical schools are facing a shortage of experienced faculty members in recent years.

4. Object and Instrument: Since the 2000s, MNUMS introduced integrated and student-centred curriculum to their services (Sumberzul, 2001). However, private medical schools continue to follow the traditional teacher-centred curriculum from the former system. The differences in the curriculum between MNUMS and private medical schools have led to discrepancies in the quality of the medical graduates. According to the interview with several local stakeholders, the different quality of the medical graduates has led to the tension in the preparation of competent health professionals (Appendix 3).
5. Object and Instrument: Poor quality of licensing exams has conflicted with the preparation of competent health professionals. Current licensing exams do not

comprehensively assess the knowledge, skills, and attitude of health professionals due to their test-based method (Alimaa, 2019). According to the interview with Faculty 2 (Appendix 3), there is not any quality improvement for the HPE system per the introduction of the licensing system.

6. Object and Division of Labor: Although opportunities for CPD improvement have increased, the developments have been poorly implemented and conflicted with the preparation of competent health professionals. There is not any government-approved formal plan for the CPD; while the professional societies' role is weak and their involvement in strengthening CPD is not clear (Ganbat, 2007). It became clear from an interview with Doctor 1 that the activities of the professional societies are only limited to the annual conferences and publishing articles in the journals (Appendix 3).
7. Community and Division of Labor: Overspecialization has conflicted with shared responsibility in the community. Urbanization and income-earning are the main factors for an increasing number of specializations. Moreover, there is no

guidance for career choices based on health needs (Jargal, 2012). According to the interview with Doctor 2 (Appendix 3), there is not any proper strategy to attract health professionals to the PHS.

8. Rules and Division of Labor: Lack of concrete incentives has conflicted with the motivation of faculty members. According to the interview with several participants, the government assigns the salary of the faculty members and removes the incentives, which has led to a low level of motivation (Appendix 3). Most of the faculty members at MNUMS mentioned the need for changes in the performance assessment of faculty members (Baljinnyam, 2011).
9. Rules and Division of Labor: Lack of patient-centred services and decreasing quality of healthcare services have resulted in the low social prestige of health professionals. According to the interview with Faculty 6 (Appendix 3), the factor capacity of health professionals alone does not satisfy the patients. The fixed salary of health professionals and the outdated equipment of the public hospitals are the main factors of the decreasing quality of healthcare services

(WHO, 2013).

Tensions of the HPE system in the transition period

The HPE system has not completely transited to the free-market economy; the characteristics from the socialist era has still remained in Mongolia. Thus, health professions educators are struggling in the middle of two systems and trying to adapt to the market-oriented environment. Tensions unavoidably exist in the complex and dynamic system because of its interrelated components. Per activity theory, contradictions are not only inefficiencies of an activity system, but it is conceived as an underlying process of change in the activity system. Five tensions were found in the transition period (Figure 8).

1. Tension between "Fragmented planning for human resources for health" and "Addressing health needs"

In the socialist era, the hospitals and MNUMS had close cooperation under the MoH (MAS, 2003), thus, human resources for health planning were related to the health needs, and a clinical learning environment was sufficient for the medical students.

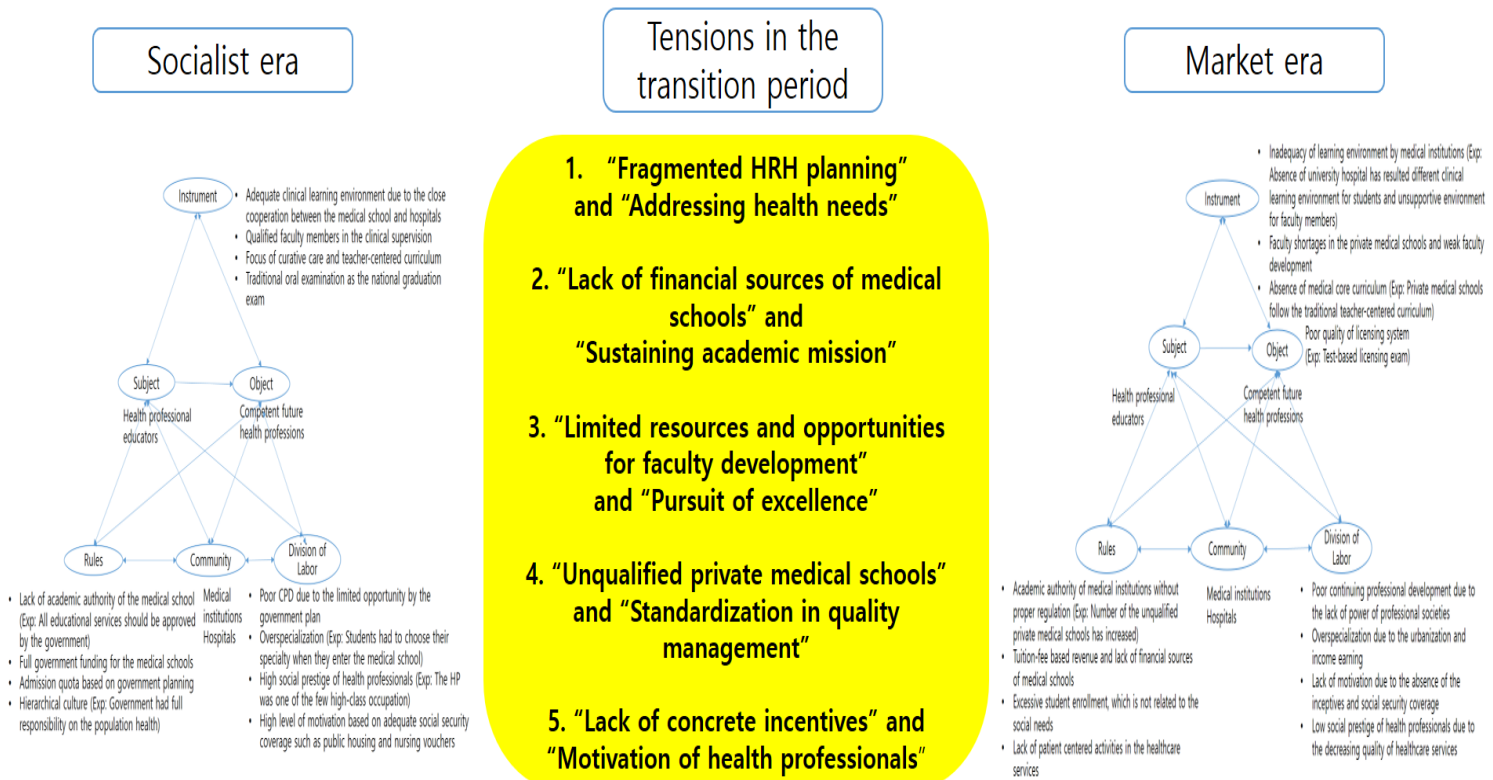

Figure 8. Tensions of HPE system in the transition period

As a result of decentralization, the hospitals are organised under the MoH, while the medical schools are organized under the MES (WHO, 2013). The tertiary level hospitals have attained the academic authority to provide their postgraduate training. Thus, the number of students in postgraduate training has been increasing. According to Faculty 6, the students receive lack guidance on their career pathway (Appendix 3), and the medical students do not obtain any information of the specialty needs (Jargal, 2012). Concurrently, the growing number of private medical schools has resulted in a growing number of students in an undergraduate program. The production and the employment of health professionals have been imbalanced due to the fragmented planning by the different medical institutions (WHO, 2013).

The increasing involvement of hospitals in postgraduate training has limited the clinical learning environment of medical schools. Faculty 1 stated that hospitals prefer to train their postgraduate students as their human resources rather than students from MNUMS. According to the interview with Faculty 2, the medical students have a chance to perform clinical practice at their workplace after graduation. The absence of university

hospitals is the main obstacle to the clinical learning environment of medical schools. Interviewee Doctor 1 mentioned that the HPE system could not have existed without the university hospital (Appendix 3).

2. Tension between "Lack of financial sources of medical schools" and "Sustaining academic mission"

Since 1997, the government decided to cover only electricity and heating expenses of higher educational institutions, thus, tuition-fee became the only revenue of the medical schools (Barr, 1996). Medical schools attempt to maximize the number of students to adapt to the market-oriented environment. According to the interview with Faculty 8 (Appendix 3), the tuition-fee based revenue has negatively influenced the quality of educational services of the medical schools. Concurrently, the absence of university hospitals limits the revenue of medical schools, and the limited research base is the main barrier to obtaining financial benefits from the research projects. The financial support from the third countries has increased; however, most of them exclusively finance the health improvement rather than the HPE system (Suprunova, 2007). It became clear from an interview with Decision maker 4 that the government has failed to provide sufficient financial support for the development of higher

educational institutions (Appendix 3).

3. Tension between "Limited resources and opportunities for faculty members" and "Pursuit of excellence"

The rapid expansion of curricula and programs led to the increasing demand for faculty development in Mongolia. Development of the information technology provides great opportunities to the faculty members (Sarantuya, 2005). However, inadequate clinical learning environments and limited research bases of medical schools have led to the decreasing clinical and research capacity of the faculty members. Especially, private medical schools have faced challenges in their educational services due to the shortage of experienced faculty members. According to the interview with Faculty 5 (Appendix 3), the private medical schools recruit fresh graduates, who possess no experience in teaching. Also, Faculty 13 stated that the clinical faculty members prefer to work as clinicians rather than working in the medical schools due to the lack of a supportive environment (Appendix 3).

4. Tension between "Unqualified private medical schools" and "Standardization in quality management"

Privatization was introduced in 1991, and the licensure for new private medical schools was based on only a collection of

documents (Uranchimeg, 2017). According to the interview with Decision maker 4 (Appendix 3), the private medical schools have predominant business interests rather than the provision of qualified educational services. In response to this tension, the government had introduced an accreditation and licensing system in 1999 (Ganbat, 2007). However, the accreditation has not resulted in the quality improvement of medical schools up till now. For instance, most of the private medical schools lack learning environments for their educational services. In terms of the licensing system, the medical graduates should pass the test-based licensing exam, and the health professionals should collect the continuing education credits for the extension of medical licensing. However, it became clear from the interview with several local stakeholders that both processes have not resulted in any particular quality improvement. First, the test-based structure of licensing exam could not assess the competencies of the medical graduates. Second, the collection of credits is similar to the government control rather than the continuing quality improvement of the health professionals (Appendix 3).

Moreover, private medical schools continue to use the traditional teacher-centred curriculum from the former system. On the other hand, the medical curriculum of MNUMS had been

accredited by the international organization since 2011 (Lhagvasuren, 2016). According to the interview with Faculty 4, the private medical schools attempt to follow the medical curriculum of MNUMS, however, teaching and assessment methods are still based on the traditional educational strategies. Differences in the educational services have led to the discrepancies between knowledge, skills, and attitude of medical graduates from different medical schools (Appendix 3).

5. Tension between "Lack of concrete incentives" and "Motivation of health professionals"

The social prestige and the motivation of health professionals were high in the socialist era. The government covered the social security issues through the provision of public housing or free nursing care for the children (MAS, 2003). Moreover, the short-term training provided by the government motivated the health professionals. Since the 1990s, the social prestige and the motivation of health professionals have been subsiding. Furthermore, the government removed the incentives and provides the fixed salary without consideration of differences in performance. The absence of tangible incentives and the fixed salary has led to the lack of competition between health professionals to improve their performances. According to the

interview with Faculty 4, MNUMS started to provide financial incentives for the faculty members who publish their research articles in international journals. However, the amount and the coverage are still limited. Also, the lack of capacity of hospitals has led to the poor performances of health professionals. (Appendix 3). The increasing patient expectation has conflicted with the poor performance of the health professionals. It became clear from the interview with several local stakeholders that patient-centred activities are absent in healthcare services (Appendix 3).

In terms of professional development, Faculty 2 stated that there is no formal plan approved for the CPD, and the professional societies do not have a role in the capacity strengthening of the health professionals (Appendix 3). The criteria set by the government to issue permits to open the professional society are not clear (Ganbat, 2007). In some fields, over ten professional societies have existed; some of them support each other and some of them deny each other. Due to this fragmentation, the activities carried out by the professional societies are duplicated. Another barrier of CPD is a lack of capacity for distance education in rural and remote areas (Appendix 3).

Strategies to deal with the tensions

HPE should be updated concerning rapid changes in health needs and global trends in development. The reforms such as building new medical schools and preparing specialists are no longer needed. The lessons from other countries showed that reforms take time, and often face the challenges that need adaption to the new system and educational culture in the local situation (Kieran, 2013). Further strategies should focus on how to improve the implementation of the reforms in the HPE system; the main direction could be the promotion of good characteristics from the socialist and market eras. In the socialist era, planning and management of human resources for health were based on the health needs, and motivation of health professionals was high due to the adequate social security coverage such as public housing and free nursing care for children. Advantages of the market era are the attainment of the academic authority of medical schools in their educational services and the role of private medical schools in subsiding the burdens of the government on the social services. Five strategies are recommended to deal with the

tensions of the HPE system in Mongolia (Table 9).

Table 9. Strategies to deal with the tensions

Tensions	Strategies
“Fragmented HRH planning” and “Addressing health needs”	Establishment of joint planning among government organizations, medical schools, hospitals, and community to meet the health needs
“Lack of financial sources of medical schools” and “Sustaining academic mission”	Increasing financial sources of medical schools for further development
“Limited resources and opportunities for faculty development” and “Pursuit of excellence”	Development of supportive environment for continues improvement
“Unqualified private medical schools” and “Standardization in quality management”	Fostering quality assurance and educational reforms through the engagement of relevant stakeholders
“Lack of concrete incentives” and “Motivation of health professionals”	Introducing financial and non−financial incentives to improve motivation

1. Establishment of joint planning among government organizations, medical schools, hospitals, and community to meet the health needs

Strategic foresight: The common trend in education governance is the co-existence of decentralization and centralization. Decentralization does not necessarily mean the government control should be entirely reduced. To meet health needs, the government provides clear supervision to the medical institutions for their planning and management. If overspecialization occurs in the current context, medical schools should have an effective career consultation system for students to assist them in contributing to their responsibilities in the social services.

Strategy: Human resources for health planning should be unified across the organizations such as MoH and the MES. Long-term strategy and monitoring system are important (MNUMS, 2015). To develop effective plans and strategies, analysis of health needs at the national level is needed. The promotion of joint research between government organizations, medical schools, and hospitals is one way to address local-specific needs in the health system. Moreover, information systems across the country should be strengthened for regular updates. The government and medical schools should promote career choices

in primary care, and increase the awareness of students' roles and responsibilities in social services (Appendix 3). Mentoring and offering a flexible curriculum with a wide range of options is an effective way to assist students to choose their careers related to the local needs. Another strategy could be strengthening technical and vocational education and training to meet with increasing demands of higher education (Appendix 3).

Cooperation between medical schools and hospitals should be improved to have an adequate clinical learning environment. The commitment of hospitals should be heightened on the clinical training of medical schools (Appendix 3). The establishment of university hospitals is the urgent need to fulfil the gap between existing training facilities and training curriculums of medical schools. Facilities for the clinical training such as standardised centres, rooms, and equipment should be updated (MNUMS, 2015). Moreover, the majority of clinical training is conducted in the tertiary level hospitals; thus, increasing clinical training at the primary and secondary level hospitals could be another solution (CHD, 2014).

2. Increasing financial sources of medical schools for further development

Strategic foresight: Financial sources for the medical schools are

derived from diverse sources. University hospitals and research centres are ensured to have enough financial sources for the further development of medical schools. In the resource-limited setting, the medical schools should find non-government financial sources through the engagement of international, community, and market forces.

Strategy: The government should prioritize the HPE system in their budget plan and support the medical schools in efforts to find additional resources to improve their academic mission. The opportunities for external financial sources such as participating in international projects and providing research funds are the ways to increase the revenue of medical schools. Moreover, the absence of university hospitals poses tremendous challenges to medical schools, because it limits their revenue and restricts the clinical learning environment. Thus, governmental support such as building university hospitals is the urgent need of the medical schools (Appendix 3).

3. Development of supportive environment for continuous improvement

Strategic foresight: Faculty development could be the solution for managing many tensions in medical schools. Medical schools ensure a stimulating academic and clinical environment for

faculty members who provide effective leadership in medical education, scholarly activity, patient care, and other organizational goals. Building a strong team and aligning their needs with organization priorities are important steps for efficient faculty development.

Strategy: Medical schools should improve their clinical environment and research bases through cooperation with hospitals and international institutions. To strengthen the capacity of faculty members, medical schools should have a sustainability plan based on the needs of the faculty members. Korean medical education experts conducted the needs assessment survey with 325 faculty members of MNUMS, which was almost half of the total faculty members. The main needs were creating objective structured clinical exams, designing courses or educational programs, effective teaching strategies for student-centred learning, evaluating course or program, evaluating learning, teaching communication skills, teaching clinical reasoning skills, and reaching evidence-based medicine (Yoon, 2016). Medical schools should consider these needs in future faculty development programs. Private medical schools should raise the recruitment criteria for new faculty members and strengthen their capacities through faculty development

programs. Moreover, working as a research team is important for the further development of faculty members. Medical schools could train the various research teams and promote the shared experiences. Research funds could be increased by government support and international cooperation (MNUMS, 2015).

4. Fostering quality management and educational reforms through the engagement of relevant stakeholders

Strategic foresight: The reforms linked to privatization should focus on the performance of the medical schools. Quality management enhances the competitiveness of the private sectors in the market-oriented environment. The accreditation system should be trustworthy and based on academic competency, efficiency, and fairness. Predefined and transparent standards are mandated the all-medical schools. In terms of the educational services, a curriculum from one school is not applicable to the others. The better educational outcome comes from the student-centred instructional methods, integration of basic and clinical disciplines, enhanced clinical training settings, and student participation in the educational program.

Strategy: The quality of private medical schools should be assured through a fair competition based on quality management and proper regulation. Existing regulations for private medical

schools should be strengthened through the recognition of follow-up evaluation and monitoring (MNUMS, 2015). Accreditation criteria should be clearly defined and more specific to the medical schools. For instance, a clinical training base should be included in the institutional accreditation. The accreditation body should close the medical schools which do not meet the specific criteria. Per the institutional capacities, TVET could be permitted. The stakeholders of the HPE system should be involved in the decision making and monitoring of the quality of the private medical schools. Moreover, reevaluation of the current licensing exam is needed to assure the quality of medical graduates (Appendix 3). Item analysis should be conducted regularly; the assessment method for clinical competencies should be included. A clear definition of the learning outcome of the curriculum could direct the content of the licensing exam (MNUMS, 2015).

A national medical core curriculum should be developed. The establishment of a curriculum committee and collaboration of stakeholders in curriculum development is recommended. Curriculum developers could cooperate with foreign universities and share their experiences (MNUMS, 2015). The curriculum should focus more on competency rather than knowledge

acquisition, and is needed a regular update. Private medical schools should cut the dominating classroom training. (Appendix 3). The relation between undergraduate and postgraduate training curriculum should be improved. The objective and the learning outcome of the curriculum should be clearly defined and aligned with each other (MNUMS, 2015).

5. Introducing financial and non-financial incentives to improve motivation

Strategic foresight: Financial incentive alone is not enough to motivate health professionals; the opportunities for career development and continuing education, good condition of infrastructure and resource availability, and personal recognition and appreciation are crucial factors for good performance. All the stakeholders such as the government, professional societies, medical schools, and hospital directors should take clear responsibility for the professional development of health professionals.

Strategy: Introducing financial and non-financial incentives is one of the major needs of health professionals in Mongolia (Nomin, 2019). Social security coverage such as opportunities for residential apartment loans and free child care is needed. Flexible time management and a performance-based payment

system are recommended (Appendix 3). Patient-centred activities in healthcare services should be organised through highly motivated health professionals.

The importance of the CPD should be recognized at the national level; the government should plan the budget for the CPD. The stakeholders from the medical schools and hospitals should involve in the planning process. The role of the professional societies should be increased in CPD planning (Appendix 3). A formal plan and a guideline for the CPD, especially for the health professionals in the primary and secondary level hospitals are needed. Increasing international exchange programs are helpful to gain knowledge and share experiences among health professionals (Appendix 3). The study on professional training showed that the commitment and willingness for teaching and research conducted by faculty members were increased after the implementation of short-term faculty development programs (Yoon, 2016). Implementation of e-learning such as introducing a blended curriculum and flexible online training is crucial for the CPD (CHD, 2014).

Chapter 5. Discussion

The investigation of the basic characteristics and the achievements of reforms in the transition economy countries are difficult since the transition started over two decades ago, and it is not clear when the end will come. Some countries have been completed the transition, while some are still far from completion. For instance, transition economy countries in the Western Balkan are still behind the Central European transition economy countries due to the lack of institutional quality and governance (Trivić, 2015).

In this study, the effects of the transition from the socialist to market era on the development of HPE in Mongolia were explored. Every country has its unique history to build the HPE system. After World War Ⅱ, the United States started the HPE reforms based on the Flexner reports and the Soviet Union followed the Bolshevik Revolution; both systems followed completely different future directions in the development of HPE (Barr, 1996). A majority of the researches in the field of HPE have been conducted in the context of educational measurement, teaching methods, and curriculum issues in the past centuries (WHO, 2006). However, the recent problems are mostly

systemic issues (Frenk et al., 2010).

Moreover, many studies in social development research have focused on a single level; this one-dimensional of much social research has limited researchers' ability to obtain deeper insights into the multiple levels of communities (Geels, 2011; Sjaak, 1990). In this study, the specific characteristics of the multiple levels of the HPE system in the socio-economic transition were addressed. After that, the tensions within the HPE system were explored through the ASA.

The current HPE system in Mongolia involves the co-existing feature of the socialist and market systems. According to the Kornai, a mixed system takes place in the transition period. The terminology "a mixed system" applies to practically all modern market economies that refers to the existing government role in fiscal policy and social welfare services. For instance, Austria has a higher position of state ownership, while France has a strong role in bureaucratic coordination. However, both countries have fundamental attributes of the free-market economy (Kornai, 2000).

In Mongolia, the implementation of reforms did not result in effective performance due to the various unmet conditions (Griffin, 1995). As a consequence, Mongolia continues to face

challenges in the health and HPE systems. Academic authority without proper regulation and an increasing number of unqualified medicals schools have resulted in the varying quality of learning environment and educational services. Poor accreditation and a licensing system have not resulted in any significant quality improvement. Tuition-fee based revenue and a lack of financial sources have limited the further development of medical schools and faculty members. Concurrently, the absence of incentives and a poor supportive environment has led to the decreasing motivation of both faculty members and health professionals. These current issues of HPE system are related to the main three conflicts such as decentralization and market-oriented environment, privatization and quality management, and incentives and performance of health professionals.

Decentralization and market-oriented environment

WHO stated that decentralization is an ongoing process in many countries (WHO, 2006). As a result of decentralization, fragmented HRH planning such as uneconomical and overlapping policies, plans, and actions by different organizations have

appeared in Mongolia. Coordination and management of those fragmented policies is a crucial step to tackle the existing problems. Even the HRH planning has been completed at the national level, the inter-sectoral consultations, including formal and informal, could be adopted in the early stage of planning (WHO, 1978). All actors, including government, health, and educational organizations should jointly participate in the decision-making process to increase mutual synergy within the HPE system. Better evaluation of health institutions and health workforce data generation is needed in many countries (WHO, 2006). Lack of systemic assessment on health needs and lack of health professionals' information are major issues in terms of health needs in Mongolia.

Moreover, the effect of the decentralization is dependent on how much authority was distributed to the local level (Bossert, 2002). Local medical schools have the authority for service delivery, but not control over their finances (WHO, 2006). Other researchers noted that centralized financing and hierarchical organizational structure continues to exist in the former socialist countries (Romaniuk, 2018). Since the socio-economic transition in Mongolia, the local authority was introduced without a supportive environment or proper regulation. The government

limits the amount of tuition fees, and medical schools have been facing the difficulties caused by tuition-fee based revenue. Thus, the government should increase the expenditure on the HPE and support medical schools to find additional financial sources. Moreover, the absence of university hospitals poses tremendous challenges to medical schools, since it both limits their revenue and restricts the clinical learning environment. Thus, governmental support such as building university hospital is needed for the medical schools of Mongolia.

Another tension arose between specialization and primary healthcare services (PHS) in Mongolia which continues from the socialist era up till now. Russian researchers stated that current problems in the PHS are not caused by the design of the Semashko model. They highlighted the problems have started due to the regulation of healthcare services. Structural imbalances have existed in the current health system due to the poor strategic vision of the government (Igor, 2018). Other former socialist countries have been experienced the same problems in PHS; they have been continuously adopting reforms. For instance, Poland introduced a three-year training program for general practitioners in PHS to improve health services (Kieran, 2013). One way to promote PHS could be the early

clinical experience of medical students in the primary health centres that could strongly influence students to choose primary care as their career (Littlewood et al., 2005). Moreover, the Lancet and other 40 countries highlighted major blocks in the career path are an absence of a clear career path, poor flexible time for training, and insufficient mentoring in the career choices (WHO, 2006).

Privatization and quality management

The rapid privatization was carried out without a competitive environment or a quality control system (Jugnee, 2009). Thus, the number of unqualified medical schools is rapidly increasing in Mongolia. As stated on the book titled "Education system of Mongolia in the transitional period", "Some universities are under the politically powerful one person...there is no competition between educational institutions to improve their quality" (Sarantuya, 2005). A study on the South Asian countries showed that the majority of the private schools are for profit and similar to the "commercial" medical schools defined by Flexner (Zubair, 2010). The quality of educational services has been varied due

to the different learning environments across institutions in Mongolia.

The government of Mongolia established an accreditation system to assure the quality of medical schools. In 2008, three categories with 69 sub-criteria of accreditation were implemented in Mongolia (Oyuntsetseg, 2009). However, accreditation standards are efficient when only meaningful applications and regular updates exist (Zubair, 2010). Regardless of whether an accreditation system exists, most countries have experienced tensions regarding the concept of accreditation. To mitigate such tensions, local stakeholders should clearly understand the nature of accreditation, including the educational intent of each standard in medical schools (Ara, 2020).

Also, the absence of a core curriculum has led to discrepancies in the competencies of health professionals in Mongolia (Lhagvasuren, 2016). Local stakeholders recommended that private and public medical schools should collaborate to develop a core curriculum. Other former socialist countries have been shifting their medical curriculum from the former theoretical teaching to practical teaching. For instance, Poland has introduced the medical curriculum reform which follows the

European Qualification Framework and principles of outcome-based education (Janusz, 2013). Tensions regarding the curriculum are common at medical schools; the curriculum from one school may not be directly applicable to another school (Ara, 2020). Thus, a modification for the specific feature of the socio-cultural, economic, and health needs of the country is needed (Kieran, 2013). To implement innovation successfully, medical schools must consider the involvement of all actors, including students and faculty members, to encourage changes and foster a supportive environment (Ara, 2020).

Faculty members' skills in teaching and research are weak in most of the Asian countries; the researchers recommended promoting the value of the profession and sustainable changes in the faculty development (Zubair, 2010). Other transition economy countries have been receiving support from international cooperation. For instance, the Education Development Center is established in Laos through its long-term relationship with international partners, which aims to strengthen the capacity of the medical school (Wittick, 2019). Similar to the other developing countries, faculty development is considered a new concept in Mongolia. Scholars stated that faculty development might be seen as an innovation, but it could be also

part of a solution for rising tensions in HPE. Faculty members are the key stakeholders and influential players in the educational institution. Therefore, building a strong team of faculty members and training needs assessment of them are a crucial step for organizational development (Ara, 2020). A balance between the teaching and research and management of duties should be ensured for faculty development (Kieran, 2013).

Incentives and Performance of health professionals

A study in Central and Eastern Asian countries showed that transition was followed by feelings of instability, lethargy regarding processes, and beliefs in social inequality. Motivation is the one assumption of adult learning, which should be intrinsic and self-directed. Financial burdens such as the fixed salary and the absence of an incentive system contribute to a low level of motivation for health professionals in Mongolia. The type of the payment system has direct influences on the performance of the health professionals. For instance, retrospective payment (service fee) encourages health service providers to see more cases and offer more services; while prospective payment

(capitation, non-productivity based salary) leads to providers reducing the number of patients (WHO, 2006).

Local stakeholders highlighted the need to introduce a performance-based payment system and incentives in Mongolia. A study in low- and middle-income countries showed that there is no standard blueprint for performance-based payments. The effectiveness of such systems may depend on the design of the payment system and specific aspects of the local situation (Roxanne, 2020). Therefore, local stakeholders should consider starting conditions, the policy development process, design features, implementation, and the effects on health systems when introducing performance-based payments (Sophie, 2013). Also, financial incentive alone is not adequate to motivate health professionals; the opportunities for career development and continuing education, good condition of infrastructure and resource availability, and personal recognition and appreciation are crucial factors for good performance.

The elevated social prestige of health professions has existed since the fourteenth century, nonetheless, they had little valid and scientific medical knowledge at the time. Therefore, the social prestige of health professions was previously powerful (David, 2002). In Mongolia, the social prestige of the health

professionals has been falling. A long culture of the Soviet system has deeply influenced the public perspective; the majority of the population perceive the capacity of health professionals by their diagnostic skills and prefer the curative services. The government of Mongolia prioritizes preventive care which does not satisfy the patients. Concurrently, the development of the socio-economic background of patients and advances in medical technology have increased demand for various healthcare services (WHO, 1978); a growing emphasis on the availability of novel technology has existed (David, 2002). The government could not cover the high technology in the public sector; thus, domestic accessibility is limited in Mongolia.

There is a paradigm shift in the performance of health professionals. It became assumed that the performance of health professionals is strongly influenced by the characteristics of the population (WHO, 2006). Information exchanges between patients and populations have increased, which make patients more intelligent and demanding consumers in healthcare services. Sometimes patients know more than doctors due to the collection of primary data on diseases and treatments (David, 2002). Patient expectations have been increasing in Mongolia; the promotion of patient-centred activities is recommended for

further planning for health and HPE systems. People are active learners about their system instead of passive followers. If the new system will become better than the previous one, citizens seem to be less looked back to the old systems, and easy to accept the new environment (Brainerd, 1998).

Another tension has aroused between the licensing system and the competencies of health professions in Mongolia. A shift from the educational process to the educational outcome requires a high quality of assessment of health professions (Ara, 2020). The quality assurance of the licensing system is absent in Mongolia; it is unclear whether the current licensing exam could assess the core competencies of medical graduates. Moreover, the licensing system has been oriented to government control rather than quality improvement. Therefore, it urgently needs to improve the licensing system in Mongolia. Some researchers recommended small experimentation of new strategies or policies to avoid implementation errors. The effectiveness of the new system could be defined by the system experimentation on the small scale before the adoption at the national level (Husain, 2020).

Limitation

There are certain limitations of this study that should be considered. First, it is difficult to generalize the findings of a case study. However, a case study is a logical design for conducting in-depth research, and it is useful in the field of education to set standards by exploring past experiences and the development of new regulations. If the research employs sufficiently diverse approaches to data collection, such as interviews with a diverse group of people and the analysis of documents from a broad range of sources, the conclusions are more likely to be applied to other situations (Albert, 2009). This study hopes that proposed the framework could build a bridge between what has worked in Mongolia and how it could be applied to other transition economy countries. Second, the small number of participants likely resulted in a limitation of scope in terms of the issues addressed. To address this limitation proactively attempts to include participants from multiple groups, including decision-makers, faculty members, and doctors were made. The inclusion of participants from different groups helped this study to find a wide range of perspectives on the local situation. Participants

from different generations, who had collectively experienced the entirety of the socio-economic transition were recruited. According to Romney, if the interview participants have a certain degree of expertise or knowledge on the research topic, data saturation can occur earlier in the interview (Romney et al., 1986).

Chapter 6. Conclusion

Mongolia continues to face the consequences of the socio-economic transition and struggle to deal with tensions in the HPE system. After the transition, the quality of the HPE system has deteriorated, and implementation of reforms has not resulted in effective performance due to various unmet conditions. The decentralization was introduced without a supportive environment or proper regulation. The rapid privatization was carried out without a competitive environment or a quality control system. The major adverse effects are fragmented planning for HRH, lack of financial sources of medical schools, unqualified private medical schools, limited resources and opportunities for professional development, and lack of motivation of health professionals.

The fragmented planning for HRH has resulted in quantitative imbalances of health professionals. Medical schools attained academic authority for planning and management without proper regulation and financial support. The government limits the amount of tuition-fees, which is the only financial source for medical school; thus, medical schools attempt to enrol more students to adapt to the market-oriented environment. At the same time, hospitals started their postgraduate training programs without unified planning based on health needs.

The number of private medical schools has rapidly increased without quality control; the absence of a core curriculum and different learning environments are the main factors for qualitative imbalances of health professionals. Furthermore, health professionals are struggling to maintain their professional values and development in the market-oriented environment. There are limited resources and opportunities for both faculty members and health professionals for pursuing excellence in their field. Concurrently, fixed salaries and the absence of incentives have led to a lack of motivation.

Through this study, further strategies are recommended to deal with these tensions. The current HPE system involves the co-existing characteristics of both socialist and market eras. Promoting the positive features of the two systems and adopting a mixed system could be the main strategies to adapt in the transition period.

The establishment of joint planning among government organizations, medical schools, hospitals, and communities to meet health needs is recommended. The systemic analysis of health needs is important to develop a long-term strategy and planning for human resources for health. Information systems across the country should be strengthened for further changes in health needs. Another strategy could be strengthening technical and vocational education and training to meet with increasing demands of higher education.

Increasing financial sources of medical schools for further development is recommended. The government should prioritize the HPE system in their budget plan and support the medical schools in efforts to find additional resources to improve their academic mission. Additional funding opportunities such as participating in international projects, building university hospitals, and providing research bases are needed for the medical schools. The establishment of university hospitals is an urgent need to fulfil the gap between existing training facilities and the medical curriculum.

Fostering quality assurance and educational reforms through the engagement of relevant stakeholders is recommended. The government should ensure the quality of the accreditation process to improve the quality of medical schools; accreditation criteria should be clearly defined and be more specific to the medical schools. Furthermore, reevaluation of the current licensing system is needed to assure the quality of medical graduates. The content of a licensing exam should be ensured through regular updates; the exam should involve the assessment method for the clinical competencies. Collaboration among key stakeholders to develop a core curriculum and the establishment of a curriculum committee at the national level are recommended. The curriculum should put more focus on competency rather than knowledge acquisition. Moreover, cooperation between medical schools and hospitals should be

improved for an adequate clinical learning environment.

The development of a supportive environment for continuous improvement is recommended. To strengthen the capacity of faculty members, medical schools should have sustainable planning based on the needs of the faculty members. The main training areas could be educational program design, effective teaching strategies for student-centred learning, proper student assessment methods, program evaluation, and evidence-based medicine. Moreover, medical schools should improve the research capacity of faculty members and develop flexible time management in the performance assessment of faculty members.

Introducing financial and non-financial incentives to improve motivation is recommended. The local decision-makers should consider how to maintain the value of health professions in a labour-intensive market. An effective way of doing so might be reforming the current payment system. Also, increasing social security coverage and providing opportunities for international programs are important for encouraging health professionals. Moreover, the role of the professional societies should be strengthened in the contribution of the continuing professional development.

This study contributes not only to Mongolia; it contributes to shared learning of improving strategies of HPE reforms to the transition economy countries. Local decision-makers could consider the findings of this study as they make decisions about

the future direction of the HPE system. Future studies could be continued in various ways such as developing the specific characteristics of the mix of the HPE system, including the socialist and market systems.

Bibliography

Albert JM, Gabrielle D, Elden W. (2009). *Encyclopedia of case study research* (Vol. 1). USA: Sage Publications.

Alimaa G. (2019). *Comparative study for medical graduates' assessment of knowledge.* PhD (dissertation). Mongolian National University of Medical Sciences, Mongolia.

Anthony MS, Leonard B. (2019). Decentralisation and management of human resource for health in the health system of Ghana: a decision space analysis. *Int J of Health Policy Manag, 8*(1), 28-39.

Ara T, Ronald MH, David AC, Yvonne S, Daniel H, John N. (2020). Managing the tension: from innovation to application in health professions education. *Med Teach, 42*(36), 333-339.

Baasankhuu B, Tsendsuren Ts, Tserendagva D. (2009). The current situation and future trends of feldsher preparation by undergraduate Training. *Mongolian Medical Education Assciation, 2*, 56-58.

Balabanova D, Roberts B, Richardson E, Haerpfer Ch, McKee M. (2012). Healthcare reform in the former Soviet Union: Beyond the transition. *Health services research, 47*(2),

840-864.

Baljinnyam B, Undram M, Bayarmagnai B, Otgonbayar D, Tseden P. (2011). Some issues on evalaution of faculty members' workload. *Mongolian Medical Education Assciation, 3*, 65-69.

Barr DA, Schmid R. (1996). Medical education in the former Soviet Union. *Acad Med, 71*(2), 141-145.

Batsaikhan O, Lonjid Z, Enkhbat Ch, Baatar S, Amarsanaa S. (2018). *History of Mongolia (1911-2017)*. Mongolia: Soyombo printing.

Bayarsaikhan D, Kwon S, Ron A. (2005). Development of social health insurance in Mongolia: successes, challenges and lessons. *Int Soc Secur Rev, 58*(4), 27-44.

Bossert JT, Joel CB. (2002). Decentralization of health systems in Ghana, Zambia, Uganda and the Philippines: a comparative analysis of decision space. *Health Policy Plan, 17*(1), 14-31.

Brainerd E. (1998). Winners and losers in Russia's economic transition. *Am Econ Rev Insights, 88*(5), 1094-1116.

Bunniss S, Kelly DR. (2010). Research paradigms in medical education research. *Medical education, 44*(4), 358-366.

Chen LC, Reich MR, Ryan J. (2017). *Medical education in East*

Asia: Past and Future: Indiana University Press.

David B. (2002). Doctors in a wired world: can professionalism survive connectivity? *Milbank Q, 80*(3), 525-546.

Center for Health Development. (2014). Report of the strategic planning workshop for the "Continuing Professional Development" project.

Center for Health Development. (2019). *Health Indicators*. Retrieved from Mongolia: http://www.hdc.gov.mn/

Dungerdorj D, Enkhjargal N, Lhagvasuren Ts. (2007). The development of medical education in Mongolia and its perspectives. *Mongolian Medical Education Assciation, 1*, 7-10.

Dungerdorj D, Lhagvasuren Ts, Tserendagva D. (2012). Modern medical education development and future trends. *Mongolian Medical Education Assciation, 4*, 15-20.

Feijter JM, Grave WS, Dornan T, Koopmans RP, Scherpbier A. (2011). Students' perceptions of patient safety during the transition from undergraduate to postgraduate training: an activity theory analysis. *Adv Health Sci Educ, 16*(3), 347-358.

Figueras J, McKee M, Cain J, Lessof S, WHO. (2004). *Health systems in transition: learning from experience*.

Retrieved from:
https://apps.who.int/iris/handle/10665/107574

Frambach JM, Driessen EW, van der Vleuten, Cees PM. (2014). Using activity theory to study cultural complexity in medical education. *Perspect Med Educ, 3*(3), 190-203.

Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, Fineber H, Carcia P, Ke Y, Kelley P. (2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The Lancet, 376*(9756), 1923-1958.

Ganbat B, Uranchimeg D. (2007). Evaluation of medical professionals licensing system in Mongolia. *Mongolian Medical Education Assciation, 1*, 21-24.

Geels FW. (2010). Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Research policy, 39*(4), 495-510.

Geels FW. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environ Innov Soc Transit, 1*(1), 24-40.

Gordon L, Xingziou L, Qingyue M. (1994). Privatization of the medical market in socialist China: A historical approach. *Health Policy, 27*(2), 157-174.

Griffin K. (1995). *Poverty and the transition to a market economy in Mongolia.* In (pp. 1-26). New York: St. Martin's Press.

Han W. (2012). Health care system reforms in developing countries. *J Public Health Res, 1*(3), 199-207.

Hou J, Michaud C, Li Z, Dong Z, Sun Baozhi ZJ, Cao DWX, Zeng C, Wei B. (2014). Transformation of the education of health professionals in China: progress and challenges. *The Lancet, 384*(9945), 819-827.

Husain L, Bloom G. (2020). Understanding China's growing involvement in global health and managing processes of change. *Globalization and health, 16*, 1-10.

Igor S, Sergey S, Vladimir S. (2018). The evolving Semashko model of primary health care: the case of the Russian Federation. *Risk Manag Healthc Policy, 11*, 209-220.

International Monetary Fund. (2001). *Institutional Reform in Transition Economies: How Far Have They Come*? World Economic Outlook.

International Monetary Fund. (2003). *Growth and Recovery in Mongolia During Transition*. Retrieved from: https://www.imf.org/external/pubs/ft/wp/2003/wp03217.pdf

Janusz J. (2013). Medical education in Poland. *Med Teach, 35*(7), 537-543.

Jargal T, Ganbat B. (2012). Study on speciality choices of graduate medical students and influencing factors. *Mongolian Medical Education Asscіation, 4*, 45-48.

Jauch LR, Osborn RN, Martin TN. (1980). Structured content analysis of cases: A complementary method for organizational research. *Acad Manage Rev, 5*(4), 517-525.

Jennifer C, Durning SJ. (2015). *Researching Medical Education* (1st ed.). Singapore: C.O.S Printers.

John G, Peter A, Shakil A, Beverley-AB (2014). Adapting to social and political transitions-The influence of history on health policy formation in the Republic of the Union of Myanmar (Burma). *Soc Sci Med, 107*, 179-188.

Jørgensen U. (2012). Mapping and navigating transitions—The multi-level perspective compared with arenas of development. *Research policy, 41*(6), 996-1010.

Jugnee A. (2009). *Transitional period and legal reform in Mongolia*. Mongolia: National Legal Institute Press.

Kieran W. (2013). *Oxford textbook of medical education*: Oxford University Press.

Kornai J. (2000). What the change of system from socialism to capitalism does and does not mean. *J Econ Perspect, 14*(1), 27-42.

Law DA. (1975). *Russian civilization*: Ardent Media.

Lhagvasuren Ts. (2016). *Medical Education*. Mongolia: Eternal letter.

Lindskog BV. (2014). Natural calamities and 'the Big Migration': challenges to the Mongolian health system in 'the Age of the Market'. *Global public health, 9*(8), 880-893.

Littlewood S, Ypinazar V, Margolis SA, Scherpbier A, Spencer J, Dornan T. (2005). Early practical experience and the social responsiveness of clinical education: systematic review. *BMJ, 331(*7513), 387-391.

Mark B, Davaa S, Seth S, John CW. (1994). Transition from socialism and the financing of higher education: the case of Mongolia. *Higher Education Policy, 7*(4), 36-42.

Michael O'R, Don H. (2001). Mongolia's system-wide health reforms: lessons for other developing countries. *Aust Health Rev, 24*(2), 152-160.

National Statistics Office. (1963, 1979, 1989, 1997, 2000, 2019). *Mongolian Statistical Yearbook*. Retrieved from Mongolia: https://www.en.nso.mn/

Nomin A, Shin JS, Lee SH, Oyungoo B, and Yoon HB. (2019). Applying a mixed methods design for needs assessment of an international fellowship training program for Mongolian health professions. Korean J Med Educ, 31(3), 227.

Mongolian Academy of Sciences. Institute of History. (2003). *Mongolian History* (5 ed.). Mongolia.

Mongolian National University of Medical Sciences. (2015). Report of the Strategic Planning Workshop for the Strengthening Capacity of Mongolian National University of Medical Sciences.

Oldokh S, Tumurbaatar N, Tserendagva T. (2007). Current trends of traditional medical education. *Mongolian Medical Education Assciation, 1*, 37-38.

Otgonbayar D, Tserendagva T, Ganbat B, Dungerdorj D, Amarsaikhan Ts, Lhagvasuren Ts. (2009). The history of development of Mongolian medical education. *Mongolian Medical Education Assciation, 2*, 14-17.

Otgonbayar R, Sarantuya Ts, Oyungerel R, Ichinnorov D, Otgonbayar D, Amarsaikhan D. (2012). Quality development of medical education service: experiences of Health Sciences University of Mongolia. *Mongolian*

Medical Education Assciation, 4, 4-9.

Oyunsuren E, Batbayar, Zorig D. (2009). Qualitative research on residency clinical training. *Mongolian Medical Education Assciation, 2*, 43-45.

Oyunsuren E, Oyungoo B, Alimaa G. (2007). Assessment of MCQ in the postgraduate training. *Mongolian Medical Education Assciation, 1*, 66-68.

Oyuntsetseg G, Gansukh S, Tsetsegmaa B. (2009). Review of accreditation of healthcare organizations. *Mongolian Medical Education Assciation, 2*, 80-81.

Pan American Health Organization / World Health Organization .(2004). Analysis of Health Sector Reforms, Region of the Americas.

Parmelee DE, Henderson G, Cohen MS. (1982). Medicine under socialism: some observations on Yugoslavia and China. *Soc Sci Med, 16*(15), 1389-1396.

Pitschmann A, Purevsuren S, Obmann A, Natsagdorj D, Gunbilig, D, Narantuya S, Kletter Ch, Glasl Sabine. (2013). Traditional Mongolian medicine: history and status quo. *Phytochem Rev, 12*(4), 943-959.

Romaniuk P, Semigina T. (2018). Ukrainian health care system and its chances for successful transition from Soviet

legacies. *Globalization and health, 14*(1), 1-11.

Romney AK, Weller SC, Batchelder WH. (1986). Culture as consensus: A theory of culture and informant accuracy. *Am Anthropol, 88*(2), 313-338.

Roxanne JK, Timothy PJ, Søren RK, Neha S, Josephine B. (2020). How are pay-for-performance schemes in healthcare designed in low-and middle-income countries? Typology and systematic literature review. *BMC Health Serv Res, 20*, 291.

Sarantuya O. (2005). *Social issues of Education in the Transition Period*. Mongolia Bambi San.

Seesregdorj S, Oldokh S, Tsend-Ayush D, Lagshmaa B. (2012). Development of traditional medicine-medical education policy. *Mongolian Medical Education Assciation, 4*, 25-28.

Sjaak G, Johan DS, Pieter HS. (1990). Primary healthcare in a multi-level perspective: towards a research agenda. *Soc Sci Med, 30*(9), 1025-1034.

Sophie W, Jurrien T, Bruno M, Jean K, György F, Kelsey V. (2013). Performance-based financing as a health system reform: mapping the key dimensions for monitoring and evaluation. *BMC Health Serv Res, 13*, 367.

Sumberzul N. (2001). *Medical Education*. Mongolia: Admon.

Suprunova LL. (2007). Education in Mongolia: The difficulties and achievements of the period of transition. *Sov Educ, 49*(1), 78-97.

Trivić J, Petković S. (2015). Different features of transition economies: Institutions matter. *Family businesses in transition economies* (pp. 71-96)

Tserendagva D, Solongo B, Oyuntsetseg S, Erdenechimeg L. (2009). Current situation and future trend of nursing education. *Mongolian Medical Education Assciation, 2*, 51-52.

Uranchimeg Ts, Hebe G, Peter B, Hill SP. (2017). Role of emerging private hospitals in a post-Soviet mixed health system: a mixed methods comparative study of private and public hospital inpatient care in Mongolia. *Health Policy Plan, 32*(4), 476-486.

Valsiner J, Rosa A. (2007). *The Cambridge handbook of sociocultural psychology*: Cambridge University Press.

Vrasidas C. (2000). Constructivism versus objectivism: Implications for interaction, course design, and evaluation in distance education. *International journal of educational telecommunications, 6*(4), 339-362.

World Bank. (2007). *Growth Diagnostics for a Resource-Rich*

Transition Economy: The Case of Mongolia. Retrieved from: https://openknowledge.worldbank.org/handle/10986/7520

World Health Organization. (1978). *Health Manpower Planning: Principles, Methods, Issues*. Retrieved from Geneva: https://apps.who.int/iris/bitstream/handle/10665/40341/924154130X_%28ch1-ch6%29.pdf?sequence=1&isAllowed=y

World Health Organization. (2006). *The World Health Report*. Retrieved from://www.who.int/whr/2006/whr06_en.pdf?ua=1

World Health Organization. (2013). *Health systems in transition: Mongolia: health system review*. Retrieved from: http://www.searo.who.int/entity/asia_pacific_observatory/publications/hits/hit_mongolia/en/

Wittick TA, Bouphavanh K, Namvongsa V, Khounthep A, Gray A. (2019). Medical education in Laos. *Med Teach, 41*(8), 877-882

Yamagata L, Lisa C (2003). Using activity theory as an analytic lens for examining technology professional development in schools. *Mind Cult Act, 10*(2), 100-119.

Yamagata L, Lisa C (2010). *Activity systems analysis methods: Understanding complex learning environments*: Springer Science & Business Media.

Yoon HB, Shin JS, Lee SH, Kim DH, Minsun S, Nomin A,

Tselmuun Ch. (2016). Transnational collaboration for faculty development in health professions education in Mongolia. *Korean J Med Educ, 28*(4), 381.

Zolfagharian M, Walrave B, Raven R, Romme A, Georges L. (2019). Studying transitions: Past, present, and future. *Research policy, 48*(9), 103788.

Zubair A, William PB, Avinash S, Tejinder S. (2010). Relevance of the Flexner Report to contemporary medical education in South Asia. *Acad Med, 85*(2), 333-339.

Appendix

Appendix 1. Document review.

Year/ Type	Author / Title	Contents (Abstract of articles, book chapters, and reports)
1994 / Article	Mark Bray, Surengiin Davaa, Seth Spaulding and John C. Weidman / Transition from Socialism and the Financing of Higher Education: The Case of Mongolia	For the purposes of this paper, higher education is defined as encompassing institutions which partly or wholly focus on degree-level courses, and excluding other post-secondary institutions. Mongolia's higher education system was originally modelled on that in the USSR. All institutions were operated by the government, which provided not only tuition fee-free education but also generous stipends for students (Wu, 1993). Since 1991, private institutions have operated alongside public ones, and all institutions now charge fees. 1992, the government announced that, with almost immediate effect, all students in public higher education institutions would pay fees. This requirement was later postponed for a year, though some students did pay fees even in 1992 to 93. The institutions were pleased to

		have the revenue from these fees, and some students gained places which would otherwise have been denied to them. During the 1992−93 academic year, more thorough preparations were made for implementation of the policy in 1993 to 94. Under the new system, the government distinguished between fixed and variable costs. The former included infrastructure and administrative expenses which had to be paid more or less regardless of the size of institutions; and the latter included faculty members' salaries, laboratory expenses and other costs which depended on the number of students. The government remained responsible for fixed costs, but expected variable costs to be covered from fees.
1995 / Book	Griffin Keith / Poverty and the Transition to a Market economy in Mongolia	In the health sector, high levels of investment resulted in a medical infrastructure which provided effective access to health services by the population despite the low levels of population density. Mongolia’ s past achievements in developing her human resources base are outstanding on the basis of international comparisons. The decision to invest major share of resources in education was wise, since investment in human resources,

		especially in basic education. The socialist period on Mongolia was characterized by extremely high gross enrollment rates: in 1989 these were 98% in primary schools, 85% in secondary schools, and 15% in tertiary education. During the period of transition since 1990, the austerity measures undertaken by the government have involved significant cuts in real levels of expenditure on education and health, with expenditure on education falling by 69% in real terms over the period 1990–1992.
1996 / Article	Barr Donald A and Schmid Rudi / Medical Education in the Former Soviet Union	Despite the historical differences between Soviet and American medical education, there are several issues that face present-day medical educations in both the United States and the Soviet successor states. These include an overabundance of specialists, the need to provide equitable professional opportunities for physicians of both sexes, and the need to provide medical education for qualified candidates from underrepresented social or ethnic groups. In the Soviet system, some ideologically inspired policies that profoundly reshaped medicine and medical education. One was the political classification of medical practice as a "non-productive"

		occupation, thereby relegating it to a lower social and economic status than that of "productive" occupations such as working in industry or manufacturing. Thus, approximately 70% of Soviet physicians were women. Also, it emphasized the early specialization. Medical institutions generally were structured into five parallel but distinct faculty members: therapeutics, pediatrics, sanitation and hygiene, stomatology, and pharmacology. Therapeutics was further subdivided into internal medicine, surgery, and obstetrics–gynecology. Early in their training, students were asked to choose a specialty, to which they are maintained committed for the rest of their medical and postgraduate education. The expertise of Soviet physicians was much more narrowly limited, rendering potential career changes later in life very difficult.
2001 / Book	Sumberzul Nyamjav / Medical Education	Since 1961, the Faculty of Medicine became an independent university and prepared physicians, pediatricians, dentists, hygienists, and pharmacists. From 1961 to 1990, the medical curriculum was revised seven times. The medical university changed its five–year program to a six–year program in

		1973. Russian medical textbook was used for the medical program, and classes were taught in Russian. Based on the five-year plan by the government, the medical education system aimed to prepare an adequate number of health professionals. For example, a new course was launched to train only pediatricians. The government assigned workplaces to medical graduates based on strict planning. So there were not any issues related to unemployment. From 1990 to 2000, the medical curriculum was revised four times. Since 1996, the medical university has attempted to introduce an integrated block system including credit hours, self-learning activities, a grade point average, and student-centered teaching and learning methods. The public health courses included in the medical curriculum from 1998. Medical research was developing rapidly; the central laboratory of research was built to support faculty members and graduate research students (p11-p18).
2001 /	Michael O' Rourke and Don Hindle / Mongolia's	The dominant objective of health care in the former Soviet Bloc countries was universal access. Nation-wide networks of government facilities were

Article	System-Wide Health Reforms: Lessons for Other Developing Countries	established, mainly to provide curative services free of charge. Hospital and medical services were considered most useful. In contrast, primary health care (including illness prevention, family medicine, and holistic approaches) were given little emphasis. Success was judged mainly in terms of inputs such as the numbers of doctors and hospital beds per capita. There was a high degree of specialization and compartmentalization of labor. This resulted in a high doctor to population ratio, because it was considered necessary to provide specialist services in all hospitals, even in the most remote areas. The clinic-based system favored self-referral to specialists, and provided little incentive for primary care physicians to manage patients as part of a holistic general practice approach. Human resources planning and development refocuses medical education to emphasize primary care and general practice and to address oversupply and maldistribution of doctors and health personnel.
2003 /	International Monetary Fund / Growth and	First, reforms introduced early in the transition were typically followed by a temporary period of output declines. Second, initial conditions are

Working paper	Recovery in Mongolia During Transition	important factors in determining the speed of recovery. In particular, over industrialization during the socialist-regime may hinder the transitional process. Third, traditional factor inputs appear to have had a limited role in explaining growth over time and across countries for transition economies. In particular, econometric studies have found no strong link between the level of aggregate investment and the strength of recovery from the fall in output recorded in the early years of transition. Therefore, most researchers agree that efficiency gains are the main source of growth during the recovery phase of transition, with the development of good institutions and sound economic policies playing an important supportive role. The major findings of this paper concur with those of most studies on transition economies. Specifically, while the Mongolian economy suffered great output losses at the outset of its transition, it has subsequently benefited from efficiency gains following its market reforms. In addition, Mongolia's transition process was relatively smooth compared with other transition economies, probably due to the combined effects of its relatively under

		industrialized economy prior to the transition, a peaceful and relatively stable social and political environment, and sound economic policies.
2003 / Book	Mongolian Academy of Sciences / Mongolian History	During the socialist era, the government strategies followed the characteristics of the socialist system, such as free education and universal access to health care. Most of the human resources were trained by Russian scholars based on the contract in the 1930s. The National University of Mongolia was established in 1942. The first central hospital was built in 1971 as the main provider for healthcare services. The government provided vouchers for nursing camps and public housing to the state employees. In 1976, the Council of Ministers introduced additional salaries for highly educated, skilled, experienced, hard-working, and active employees. Also, there was short-term training under the government five-year plan.
2005 / Article	Batsaikhan Dorjsuren, Kwon Soonman, and Ron Aviva /	The government of Mongolia introduced social health insurance in 1994, which is compulsory for all public and private sector employees and low-income and vulnerable population groups. The scheme also provided

	Development of Social Health Insurance in Mongolia: Successes, Challenges and Lessons	voluntary insurance for unemployed people of working age. About 95% of the population was covered by health insurance within the first two years thanks to a high level of government subsidy for vulnerable population groups. There are two basic forms of insurance contribution. Children under 16, students, pensioners, mothers with newborn babies, persons on military service, herders and citizens covered by social assistance have been recognized as low-income and vulnerable population groups. Another form of insurance contribution was established for employees of economic entities, institutions and organizations, and business owners and sole proprietors, at a rate of 6% of the individual's salary or in come. However, all types of employers are required to pay a minimum 50% of their employees' pre-payment. The insurance benefit initially covered nearly all inpatient services except the treatment of some specified chronic and infectious diseases, which were directly funded by the government. The scheme not only had many successes but also faced challenges in maintaining universal coverage. The new financing arrangement has

		provided little financial incentive for healthcare providers to contain health expenditure, contributing to rapid health cost inflation. In addition to reforming the payment system for providers, there has been an increasing need to expand benefits into ambulatory care. The development of compulsory health insurance in Mongolia shows that a prepaid health insurance mechanism based on risk sharing and fund pooling is feasible in low-income countries given political commitment and government financial support for vulnerable population groups.
2005 / Book	Sarantuya O / Social Issues of Education in the Transition Period	In Mongolia, the female gender was dominant in the higher education enrolment and health sector. A total of 70% of health professionals, and 62% of medical students are women (p116-p117). Since the 1990s, privatization was the biggest reform in the education sector. There were nine public universities in 1991, but the number of private universities was increased to 130 in 2001. The private universities were not different from the profit company, and had different quality of educational services. Many factors such as legal environment, classrooms, faculty members, and governing

		skills of leaders were not well developed in the higher educational institutions. Development of information technology provided more opportunities for faculty development. But, the salary and supportive environment for faculty members were decreased. So many faculty members left their profession to start bargain (p38-p39).
2006 / Report	Word Health Organization / The World Health Report	Insufficient information is available on the sex distribution of health management and support workers for them to be included. Men continue to dominate the medical profession, while other health service providers remain predominantly female. Notable exceptions exist, however, Mongolia, the Russian Federation, a number of other former Soviet republics and Sudan report more female than male doctors. Health workforce performance is critical because it has an immediate impact on health service delivery and ultimately on population health. A well-performing workforce is one that works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances. Efforts, ranging from the simple to the sophisticated, are under way to

		assess the extent to which health workers are competent, and exhibit aspects of responsiveness such as respect towards the people they see. The proportion of patients who thought they were treated with respect when they visited health facilities varied from 60% to 90%. Responsiveness refers to the goal that people should be treated decently regardless of whether or not their health improves, and irrespective of who they are. Team-based interventions that make health workers feel valued and permitted to innovate can also boost responsiveness.
2007 / Article	Ganbat B and Uranchimeg D / Evaluation of Medical Professionals Licensing System in Mongolia	The research intends to study the current licensing system of health care professionals of Mongolia and to make a recommendation for further development of the policy and system. In Mongolia, the Department of Accreditation and Licensing was established in 1998, and the health professionals' licensing system has been implemented for almost ten years. However, there are still absent evaluations of good quality. It seems there is much quality assurance or state control-based system that exists due to the Law of Health, Mongolia which indicates that the government of Mongolia

		is responsible for licensing procedures of health professionals rather than continuous quality improvement. Because the non-governmental organizations of health professionals are not in a power position as they are poorly developed in capacity and sustainability to implement the licensing procedures in the past. We suggest the professional societies and private companies could be the main stakeholder and role players to implement licensing procedures in the future. In order to realize the mechanism, government policy should support them to develop their capacity and sustainability.
2007 / Article	Suprunova L.L / Education in Mongolia: The Difficulties and Achievements of the Period of Transition	In the 1990s, Russia, which had gone through social and economic difficulties, was no longer able to provide large-scale assistance to Mongolia. Hundreds of thousands of people, including specialists of high qualification, found themselves out of work. In accordance with the Law on Education, local bodies of self-government have had major powers conferred on them. It needs to be noted that Mongolia's Ministry of Education, Culture, and Science suffers from chronic underfunding in its

		activity. Local administrations as well do not have the necessary funds to develop their system of education. For this reason, a substantial portion of financial spending in this sphere has been taken on by "donors" of the Mongolian economy, entities that in 1991 came to be formed into an independent structure. The group of donors includes more than thirty countries and twenty international associations. The main donors to Mongolia are Japan, South Korea, the United States, China, Great Britain, and Germany. The leaders among the international organizations in the group of donors are the International Monetary Fund, the World Bank, the Asian Development Bank, the United Nations Children's Fund (UNICEF), and the European Union. Between 1991 and 2004, donor countries and international organizations allocated $2.6 billion for the development of Mongolia. Foreign investors have been willing and eager to invest funds in the sphere of education, rightly assuming that this will make it possible to exert the greatest influence on the character of social and political processes in Mongolia.

2007 / Article	Oldokh S, Tumurbaatar N, and Tserendagva D / Current Trends of Traditional Medical Education	Mongolian traditional medicine has a history of 5,000 years, and it has developed its own system throughout its history. In 1662, the medical school of traditional medicine was established and had a systemic medical training. Prior to 1937, there were more than 30 medical schools in Mongolia. The curriculum and teaching methods were similar to those of Tibetan medical schools. In 1924, modern medicine entered Mongolia. Since 1937, the training of traditional medicine was ceased. In 1989, the Department of Traditional Medicine was established and expanded to the School of Traditional Medicine at the MNUMS. School of Traditional Medicine had a six-year training, but now 65% of courses are for modern medicine.
2007 / Article	Dungerdorj D, Enkhjargal N, and Lhagvasuren Ts / The Development of Medical Education in Mongolia and Its	Results of the study indicated that the development period of Mongolian Medical Education has been divided into 3 stages. The first stage was until the 1921 year – Mongolian medical education system improved both Buddha religion. The second stage was from 1921 to 1990 year – Modern medical education system was established and developed. Newly graduates worked for the Faculty of Medicine. The third stage – Innovation of the new

	Perspectives	development is opened and made on Mongolian medical education. So medical education system is developing and improving on the international level. Mongolian medical schools and colleges have developed and changed their curriculum. Also, we are implementing and renovating our training and curriculum such as student−centered, problem−based, community−based, elective, scientific, team worked, and integrated. All that innovations will enable us to achieve on a Regional educational level in the future. In 2001, The Mongolian Medical Education Association created the first document of performance standards for the medical graduates, which was important for the private medical schools.
2007 / Article	Oyunsuren E, Oyungoo B, and Alimaa G / Assessment of MCQ in the Postgraduate Training.	The licensing exam was introduced in 1998. Medical graduates should pass a licensing exam after graduation in order to get medical licenses. The study was conducted in a descriptive format and analyzed the results of the residency graduation exam and the license exam. Differences in the examiner's scores reduce the reliability and validity of the test; comparative evaluation of the test indicates that the discrimination index is negative, too

		light, or too heavy. It is necessary to estimate constantly is this test was prepared according to educational curriculum and methodology.
2009 / Article	Oyunsuren E, Batbayar O, Zorig D, Lhagvasuren Ts / Qualitative Research on Residency Clinical Training	The study was to explore the clinical training of residency students. The result of the interview showed that students should improve their problem-solving and communication skills. Resident students should find the answers through active learning rather than just receiving the prepared answers. The absence of the salary is the main influential factor for the active learning of resident students. During the practice of the residents, 41.7% of them help daily work of the coordinator, 29.2% of them have interests to improve their clinical skills and knowledge, 26.3% of them have lack of fundamental knowledge, 26.3% of them do not have self-interest of learning, 23.7% of them do not have the ability of problem-solving, 15.8% cannot give a diagnosis, and 7.9% do not understand themselves to became a doctor with responsibility and ethics.
2009 /	Baasankhuu B, Tsendsuren Ts, and	In the 1930s, medical schools prepared feldshers as medical assistants based on the social needs. In 1934, a three-year diploma program was

Article	Tserendagva Ts / The Current Situation and Future Trends of Feldsher Preparation by Undergraduate Training	launched. Currently, it is necessary to prepare medical assistants with a bachelor's degree. This research showed that the feldshers working in the countryside have not been involved in courses for quality improvement. Also, they work overtime in heavy working conditions with low salaries.
2009 / Article	Otgonbayar D, Tserendagve D, and Ganbat B / The History of Development of Mongolian Medical Education	The development of the Mongolian medical education system could be divided into 6 periods of time. 1. B.C 209 year: Hunni empire 2. 1578−1921 year: the foundation period of "Mamba datsan" medical school; 3.1921−1942 year: the foundation period of modern medical education; 4. 1942−1990 year: the development of a national system of medical education; 5. Evaluation period of the medical education system. 6. 21st century: incorporation period to the international system of medical education. The knowledge of medicine was based on observation developed during the neolith period when the first diagnosis tools were found and used in healing the nomadic lifestyle−related diseases until B.C 209. The revolutionist

		party implemented a policy to combine Tibetan and European medicine during 1921−1930 and gradually eliminated traditional medicine which had a long history. This was the basis of contemporary medicine development.
2009 / Book	Jugnee Amarsanaa / Transitional Period and Legal Reform in Mongolia	The Constitution of Mongolia from 1960 was effective for 30 years. One of its achievement that it is guaranteed and actually provided some social and economic rights of citizen, however during this time serious violation of human rights and freedom took place and almost up to the middle of 1980s under the name “Intelligent people delusion” oppression and discrimination of people occurred (p11). The government strictly controlled the activities in the socialist era. In 1992, when the new constitution was promulgated, Mongolia broke away from socialist law and proclaimed respect for the law as the highest maxim. However, the narrow technical focus is limiting the understanding of broader context of transition (p31).
2009 / Article	Tserendagva D, Solongo B, and Oyuntsetseg S /	Nursing education has a long history in Mongolia, which could be divided into four periods. 1st period (until 1929): Local nurses were trained by Russian doctors and traditional medicine doctors. 2nd period (1929−1972):

	Current Situation and Future Trend if Nursing Education	Nursing training was organized by three-months, six-months, one-year, two-year, three-year, and four-year training. 3rd period (1972-1993): Since 1972, high school graduates could enter a two-year nursing diploma program and graduated as mid-level health workers, and specialized nurses were trained. 4th period (since 1993): Traditional system of nursing education was changed, and started to have a diploma, undergraduate, graduate, and postgraduate training programs for nursing education.
2010 / Article	Frenk Julio, Lincoln Chen, Zulfiqar A. Bhutta, Jordan Cohen, Nigel Crisp, Timothy Evans, and Harvey Fineberg / Health Professionals for a New Century: Transforming	Our framework identifies three key dimensions of education: institutional design (which specifies the structure and functions of the education system), instructional design (which focuses on processes), and educational outcomes (which deal with the desired results). Different configurations of institutional and instructional design will lead to varying educational outcomes. Making the desired results explicit is an essential element in assessment of the performance of any system. Two outcomes were proposed for the health professional education system—transformative learning and interdependence in education. Transformative learning is the

	Education to Strengthen Health Systems in an Interdependent World	proposed outcome of improvements in instructional design; interdependence in education should result from institutional reforms. Because they are the guiding notions of our recommendations, they will be discussed in the final section of this report. By adaptation of a framework that was originally formulated to understand health-system performance, we can think of four crucial functions that also apply to educational systems: (1) stewardship and governance, which encompass instruments such as norms and policies, evidence for decision making, and assessment of performance to provide strategic guidance for the various components of the educational system; (2) financing, which entails the aggregate allocation of resources to educational institutions from both public and private sources, and the specific modalities for determining resource flows to each educational organization, with the ensuing set of incentives; (3) resource generation, most importantly faculty development; and (4) service provision, which refers to the actual delivery of the educational service. Instructional design involves what can be presented as four Cs: (1) criteria for admission, which

		include both achievement variables, such as previous academic performance, and adscription variables, such as social origin, race or ethnic origin, sex, and nationality; (2) competencies, as they are defined in the process of designing the curriculum; (3) channels of instruction, by which we mean the set of didactic methods, teaching technologies, and communication media; and (4) career pathways, which are the options that graduates have on completion of their professional studies, as a result of the knowledge and skills that they have attained, the process of professional socialization to which they have been exposed as students, and their perceptions of opportunities in local or global labor markets.
2011 / Article	Baljinnyam B, Undram M, Bayarmagnai B, Otgonbayar D, and Tseden P/ Some Issues on Evaluation of Faculty Members	A cross-sectional and descriptive study was conducted from December 2010 to March 2011 in MNUMS. Data analysis was performed in questionnaires from 180 faculty members and teaching workforce information of MNUMS. In a week, faculty members used 28.4 hours for training, 9.4 hours for research, and 13.9 hours for professional activities. An 83.9% of study participants were affirmed that the faculty member

	Workload	evaluation strategy which is in use at the Health Sciences University of Mongolia should be changed.
2012 / Article	Jargal T and Ganbat B / Study on Specialty Choices of Graduate Medical Students and Influencing Factors	The study is the cross-sectional study based on the quantitative and qualitative descriptive methods. This study involved 231 graduate year students of Health Sciences University of Mongolia and Ach Medical Institute of academic year 2010-2011. The result showed 64.5% of all participants had a moderate knowledge about specialty and 89,6% of those had decided on choice of specialty. Influencing factors on the choices of specialty were student's own interest, social demand, professional reputation, vacancy, parent's suggestion, and inheritance. However, there was not any clear guidance for the career pathways to the students. Apparently 59.7% of all graduate medical students didn't have any information on specialty necessity of the health sector.
2012 / Article	Otgonbayar R, Sarantuya Ts, Oyungerel R,	Consolidated program of preparing medical doctor of School of Medicine, Health Sciences University of Mongolia had been evaluated by Association for Medical Education Western Pacific Region. To develop medical education

	Ichinnorov D, Otgonbayar D, Amarsaikhan D, and Lhagvasuren Ts / Quality Development of Medical Education Service: Experiences of Health Sciences University of Mongolia	in the region, “Standard for Medical education”, “International guideline to satisfy quality development medical basement education” and “Global standards for medical education” are used as a model for national and regional accreditation. The eight experts from Australia, Japan, South Korea, Philippines, Taiwan, USA, etc. in the team worked for evaluating consolidated program of preparing medical doctors in Oct.2−7, 2011 at Health Sciences University of Mongolia, was created by Association for Medical Education Western Pacific Region.
2012 / Article	Seesregdorj S, Oldokh S, Tsend−Ayush D, and Lagshmaa B / Development of Traditional Medicine−Medical Education Policy	School of Traditional Medicine is one of 9 schools of Health Sciences University of Mongolia. The curriculum of traditional medical education has been revised four times, and there is a strong need to develop it towards international standards. The MES has set a ratio of 30:40:30 for basic sciences, clinical sciences, and professional training in the curriculum of traditional medicine. Traditional medical education policy should be developed based on the constant supply of population and medical

		practitioners with useful information and expanding research activities. Also, there is an increasing need to enhance constant communication with graduates and improve their knowledge and skills.
2012 / Article	Dungerdorj D, Lhagvasuren Ts, Tserendagva D, and Daariimaa Kh / Modern Medical Education Development and Future Trend	Mongolian People's Revolutionary Party approved the first constitutional law for the invitational training program in 1927. In addition to short- and medium-term temporary medical courses, a two-year nursing diploma program was established in 1929 at a local hospital to train the first 12 nurses in 1930 and 17 in 1931. In 1934, a six-month temporary course was launched to train feldshers in rural areas, and a three-year medical training program started to accept the pupils. By the 1960s, the medical education system was fully established at the national level. On December 6, 1940, the Minister of the People's Republic of Mongolia and Council of Ministers issued a resolution on the establishment of a university. According to this resolution, one of the three faculties of the National University of Mongolia in 1942 was the Faculty of Medicine. The Faculty of Medicine graduated trained 14 doctors in 1947. These 14 people were our first senior doctors,

		not counting the few doctors who graduated from Soviet universities at that time.
2013 / Article	Pitschmann A, Purevsuren S, Obmann A, Natsagdorj D, Gunbilig D, Narantuya S, Kletter Ch, and Glasl S / Traditional Mongolian Medicine: History and Status quo	The rather unknown Traditional Mongolian Medicine (TMM) developed from Mongolian folk medicine and was highly influenced by Ayurveda and Traditional Tibetan Medicine. The TMM went down under the Soviet influence in the first half of the twentieth century, but experienced a revival after the political changes in the Soviet Union. Nowadays, traditional medicine is officially recognized as its own Mongolian medical heritage. The revival of TMM during the 1990s initiated a new development. Education and training centers for TMM were established, and Mongolian academic institutions started to focus on investigations providing a scientific basis for TMM. Today, various hospitals and clinics apply Western as well as traditional methods. Many Mongolians even prefer to consult primary doctors who are trained in both medical systems
2013 /	World Health Organization / Health	From 1941 to 1990, the health system and infrastructure had expanded rapidly throughout the country under the influence of the Soviet Union and

Report	Systems in Transition: Mongolia	modelled on a strong centrally-planned Semashko healthcare system. It was a centralized and hierarchical health system where health-care services were fully financed by general government revenues. Health care was free of charge at the point of delivery but the system, mostly reliant on curative services, was very resource-intensive and based on large numbers of beds and medical personnel. In 1990, adequate number of health professionals were providing healthcare services. Despite many achievements, including improved equity and access to health care and control of communicable diseases, there were weaknesses, including low efficiency and a lack of responsiveness to patients' rights. In the early 1990s, with the collapse of the Soviet Union and democratic changes in Mongolia, it became evident that with the significant falls in GDP, the Semashko health system with funding from the state budget was not self-sustaining. During this transitional period, the government continued to fund administrative health expenditures but international aid and donors' assistance played an important role in helping the government to maintain a

		functional health system. The health care financing reform with the adoption of the Health Insurance Law in 1993 introduced social health insurance as part of a larger social security scheme. Also, the government decided to cover fixed fee of higher education institutions. Since 1991, piecemeal attempts were made to strengthen the management of MoH and health departments at provinces. Move towards decentralization has seen more administrative success than financial. MoH is the main regulatory body as indicated in the Health Act. Other institutions, such as Department of Health, General Agency for Specialized Inspection, Ministry of Finance, Social Insurance General Office, and local governments, have decision-making powers in terms of administration, regulation and budget. However, the unified policies between the government organizations does not exist. Mongolia experienced three different governments between 2004 and 2008, and the health system itself has seen four different ministers in those four years. This political instability might have affected the continuity and sustainability of policy in this sector. As a result of prioritized and targeted

		efforts, health outcomes and indicators are improving. However, there are still significant problems associated with poor quality of care, inefficiency, and inadequate implementation of reforms and institutional improvements. Like many other countries with a Semashko health system, the Mongolian health system is heavily hospital-based. Major parts of both total (53.5% in 2005) and general government expenditure on health (54.8% in 2009) in Mongolia were allocated to inpatient care. The hospital-oriented system inherited from the socialist period has been the most significant barrier to improving efficiency of the health system in Mongolia even though the legislative environment and policy directions have changed substantially during transition. Due to shortages of finances during years of economic hardship, medical equipment in hospitals is old and inappropriately used in many circumstances. The MoH is also taking numerous steps to improve working conditions of allied health staff and introduce incentives to work in rural areas. In terms of coverage, there are fewer primary care physicians per 1000 population in Ulaanbaatar than in the rural areas, due mostly to the

		heavy rural–urban migration. Health care reforms in Mongolia have been notable for their slow speed of implementation, inconsistency and the contradictory nature of processes. The frequent changes in the governmental or ministerial leadership have impeded the progress of policy reforms, and as a result, some of the desired policy reforms have not been achieved. An integrated health and management information system is needed to support the effective use of information in decision–making about planning, financial management, resource allocation, and implementation of policies and laws. Official patient pathway in Mongolia is based on three–layer system in order to improve the system efficiency and encourage public health priority. In general, popular opinion of the quality of health services is not positive especially for PHC and secondary health care. Information distribution channels for patients (hotlines, letters, and logbooks), patient complaint boxes, and patient satisfaction surveys are becoming more regular among hospitals, but the analysis of the information, feedback to patients, and further improvement activities are unsatisfactory. For the

		patient information system, there is a need to improve patient-centered communication and consultation skills of health-care providers. The citizen's right to choose a physician, hospital and health institution was laid down in the Health Act of 1998. The Mongolian health sector has built a referral system where family group practitioners should play a gatekeeping role, while providing PHS to a certain number of people in a defined catchment area. The license is revalidated every five years, and health practitioners need to have a certain number of professional education credits in order to be relicensed. Because of past socialist values and state commitment to maintain the access to health services through a high population coverage of public prepaid schemes, private health insurance has played minimal role in health financing, although there is an increasing interest in expanding its services and population coverage. Due to their high acquisition and even higher maintenance costs, big ticket technologies were introduced to public hospitals in Mongolia relatively late. The major problem that hospitals in rural areas face is a lack of repair and maintenance services

		at the local level, especially in the primary level. The lack of a regular supply and maintenance system for medical equipment and laboratory technology weakens diagnostic capacity in the system, which is further aggravated by problems related to budget constraints and maintenance procedures. Although the services provided by these hospitals are less likely to be free of charges, having the services available in the country certainly creates opportunities to reduce the number of patients seeking diagnostic services abroad. The social security of the health workforce is weak. Low wages, harsh working conditions and a lack of proper incentive packages negatively affect morale and productivity. These conditions may cause deteriorations in the quality and availability of health services, the failure to meet population health needs, and a loss of confidence in the health system. Regarding the rationalization of health facilities and human resources and improvement of healthcare quality, numerous quantitative and qualitative changes have been made in the human resource for the health sector during the past years

2014 / Report	Center for Health Development, Ministry of Health in Mongolia / Report of the Strategic Planning Workshop for the Continuing Professional Development Project.	A citizen can choose the doctors. So the number of patients in the tertiary level hospital are increasing. Patient education should be improved through the training. Lack of capacity for distance and online education is one barrier for the CPD of health professionals in a rural and remote areas. There should be a formal plan and guideline for the CPD, especially training in the primary and secondary level hospitals. The government budget should be planned for the CPD. Implementation of e-learning for the CPD is crucial such as introducing a blended curriculum, and flexible online training. Korean experts analyzed training needs assessment of health professionals in the tertiary level hospitals in Mongolia. Poor CPD was one of the main barriers to the development of health professionals. The needs assessment of health professionals showed that team training is the priority area for future training. Majority of the clinical training is conducted in the central hospitals. Increasing clinical training at the primary and secondary healthcare centers are needed.

2014 / Article	Lindskog Benedikte V/ Natural Calamities and 'the Big Migration' : Challenges to the Mongolian health system in 'the Age of the Market'	Over the course of the past two decades, considerable changes have taken place in Mongolia, as in all other post-socialist nations. Within the radically reformed health system, population health and access to affordable health care are significantly linked to socioeconomic disparities. Since 1990, the earlier centralized and socialist health system has come to be replaced by a system consisting of a package of 'essential' and 'complementary' health care services, the former providing free of charge primary health care, the latter covered by health insurance through the Health Insurance Fund. The coupling of privatization of the secondary and tertiary levels of health care and a limited essential primary health care, as well as high levels of referral from primary to secondary and tertiary levels of care, produces a fragmented system of health services.
2015 / Report	Mongolian National University of Medical Sciences / Report of the Strategic Planning	Proper management system for the commitment of hospitals should be assured. Recognition of the evaluation and follow-up monitoring is important. Medical educators should increase their participation in the decision making process

	Workshop for the Strengthening Capacity of Mongolian National University of Medical Sciences.	without the political influences. There is a high political influence on the university strategy. In the decision making, the various fields and stakeholders should be involved. Curriculum accreditation should be strengthened. There is no planned budget for the training for health professionals. International projects have been implementing, but the outcome could not be sustainable. Facilities for the clinical training is lacking such as standardized centers, rooms, and equipment. University hospital should be established. Gap between existing training facility and training curriculum should fulfilled. The medical schools should provide adequate environment for the self-learning of the students. Team based learning should be improved. Needs of the infrastructure change is the one of the major needs of training of health professionals in Mongolia. Sustainable planning for the human resource development is needed. Integration between undergraduate and postgraduate training curriculum should be improved through the cooperation between curriculum developers. Specific objective and expected outcome of the curriculum should be clearly defined

		and aligned with each other. Dominated classroom training should be decreased. Curriculum for the inter-professional education and teamwork skill should be improved. Establishment of curriculum committee and participation and collaboration of stakeholders in the curriculum development is recommended. Licensing exam take place once in a month that is not quality oriented. Correlation between curriculum and license examination should be strengthened. Licensing exam could follow the standards in the developed countries such as involving three levels including knowledge and practice. Item analysis should be conducted regularly. Fund for research should be increased through the support from government and international organizations.
2016 / Book	Lhagvasuren Tserenkhuu / Medical Education	In the socialist era, the medical curriculum was dependent on the political dogma, which included the history of MPP, the history of the Soviet communist party, the theory of scientific communism, materialism, and political and economic sciences. These classes were taught in Russian; the student assessment was based on an oral exam with three exam questions

		(p175–p176). There were four grades including excellent, good, average, and bad. There were several tracks for the student admission based on the work experiences and performances. At that time, the medical curriculum was approved by the government. Even though the medical education system was at the beginning stage of development, the quality of the medical graduates was remarkable due to the qualified faculty members and adequate clinical learning environment by the hospitals. At that time, medical technology was not well developed in Mongolia; however, their skills and knowledge were high, so that we called them doctors with golden hands (p70). After the political transition, we started to decrease political content in the medical curriculum (p76–p77). The medical curriculum was kept revising, and the clinical practice hours kept increasing. Core standards for the medical training programs were developed. Postgraduate training became separated from undergraduate training. Currently, MNUMS provides both undergraduate, graduate, and postgraduate training. The medical curriculum was revised by the Association for Medical Education in Western

		Pacific Region from 1995 to 1996 (p168–p169). The integrated curriculum was introduced on September 1st, 2000 to MNUMS, which was accredited by the international organization in 2011. Currently, MNUMS has seven branch schools in the capital city and three colleges in the provinces. The first private medical school was established in 1994. As a negative effect of the transition, the quality of education was deteriorated due to the defects of the system. There is no planning for the professionals' development of health professionals. For example, the policy required the medical graduates to work in the primary health center, however, their continuing education, social security, and supervision are not covered. In the socialist era, all the social security was protected by the government such as housing, medical vouchers, and so on (p257–p264).
2016 / Article	Hyun Bae Yoon, Jwa–Seop Shin, Seung–Hee Lee, Do–Hwan Kim, Minsun Sung, Nomin	The Mongolian National University of Medical Sciences is the only national university in Mongolia and has produced more than 90% of health professionals in the country. Experts from Mongolia and Korea embarked on a collaborative effort to develop educational programs for faculty

	Amgalan, and Tselmuun Chinzorig / Transnational Collaboration for Faculty Development in Health Professions Education in Mongolia	development based on the personal and professional needs of faculty members. This study aimed to evaluate the outcomes of those educational programs to determine whether this transnational collaboration was successful. A needs assessment survey was conducted among 325 faculty members. Based on the results of this survey, the joint expert team developed educational programs on seven core topics: clinical teaching, curriculum development, e-learning, item writing, medical research, organizational culture, and resident selection. Surveys evaluating the satisfaction and the attitudes of the participants were conducted for each program. Throughout the 17-day program, 16 experts from Korea and 14 faculty members from Mongolia participated as instructors, and a total of 309 participants attended the program. The average satisfaction score was 7.15 out of 8.0, and the attitudes of the participants towards relevant competencies significantly improved after each educational program. The faculty development programs that were developed and implemented as part of this transnational collaboration between Mongolia and Korea are expected

		to contribute to the further improvement of health professions education in Mongolia. Future studies are needed to evaluate the long-term outcomes of these educational programs.
2017 / Book	Chen Lincoln C, Reich Michael R, and Ryan Jennifer / Medical Education in East Asia: Past and Future	This collection of essays outlines the history of medical education in East Asian countries and territories. Medical schools in the countries received and used to establish and maintain Western-style hospitals, schools, and support services throughout the twentieth century. Despite the differences in medical education systems, many common themes emerge from the essays. Asian countries transitioned away from their traditional medical models because of various Western influences. China's medical education system changed throughout the twentieth century, as European, Japanese, and Soviet models came and went in the Chinese schools. Western medicine and medical education may be the dominant system now, but they have by no means completely replaced local traditions. As one essay author noted, "in the face of the globalization of medical education, we must not unreflectively assume that educational practices in the West are the best.

		While maintaining aware-ness of best practices globally, we also have to develop a curriculum that respects local cultural values.
2017 / Article	Uranchimeg Tseveelchimeg, Hebe Gouda, Peter Baker, and Peter S Hill / Role of Emerging Private Hospitals in a Post-Soviet Mixed Health System: A Mixed Methods Comparative Study of Private and Public Hospital Inpatient care in Mongolia	The collapse of the Soviet Union in 1990 severely impacted the health sector in Mongolia. From 1990, the main reforms of the Mongolian health system focused on gaining allocative efficiency in the system through scaling back the oversupplied, specialized hospital capacities—particularly in the capital city-Ulaanbaatar—and strengthening primary care in Mongolia. Government licensing authorities have been granting permission to operate to private hospitals based mainly on the accurate completion of documentation, with no consideration of their quantity and distribution compared to local health needs. There were four Health Ministers between 2010 and 2015, and each brought major changes in the MoH senior staff and new policy directions. Consequently, granting licenses for private providers was mainly determined by political preference rather than long term health system policy. Mongolian MoH lacks this comprehensive coherent policy delight of an unstable post-Soviet political history, and strong political

		influence on the upper levels of the public service, government policies, regulations and financing in Mongolia have been inconsistent. Re-establishing universal health coverage (UHC)—providing everyone access to the health services they need without financial hardship is a pressing policy issue for the Government of Mongolia
2018 / Book	Batsaikhan Ookhnoi / History of Mongolia	Since the middle of 1970, Mongolia received one billion tugriks from Russia to build the cancer center, third central hospital, maternal and child health center, national center for infectious diseases in the Ulaanbaatar, and six general hospitals in the provinces (p420). Evening schools provided sufficient training in the capital city; 47.7 thousand people were trained from 1961 to 1966. State officials had a chance to participate in professional training after four years of working experience. (p423-p425) In 1990, 98% of external trade was with the socialist countries, especially with Russia (81.8%); the cooperation with other countries was limited (p405-p408). The first meeting for financial assistance to Mongolia was held on September 5th-6th, 1991 in Japan. The meeting was organized by United

		Nations, World Bank, and Japan to launch the committee of donor countries in Mongolia. From 1992 to 2003, a total of ten meetings were held. In the 8th meeting, a total of 20 countries including the United States, Japan, Germany, Canada, France, South Korea, and others participated. Also, the six international organizations such as International Monetary Fund, World Bank, Asian Development Bank, and others attended the meeting (p571-572). After the transition to the free-market economy, new laws such as The Law for Education in 1995 and The Law for Health Insurance Fund were approved by the government to emphasize humanity, democracy, continuity, and accessibility in the health and education sectors (p603-p612). On August 28th, 1998, the government approved The Law for Freedom of Broadcasting; there were eight television channels, 51 studios, 561 newspapers, and nine radio channels were operating in Mongolia (p-627). In the higher education curriculum, the history of MPP, history of Soviet Union, philosophy of Marxist-Leninist, and theory of scientific communism were accounted as 11.3% (p425). In 1980, the population

		consisted of 40% of the working class, 21% of officials, and 38% of citizens. There were not any differences between social classes due to the characteristics of the socialist system (p418).
2019 / Article	Nomin Amgalan, Jwa-Seop Shin, Seung-Hee Lee, Oyungoo Badamdorj, and Hyun-Bae Yoon / Applying a Mixed Methods Design for Needs Assessment of an International Fellowship Training Program for Mongolian Health Professions.	A training needs assessment was conducted using a convergent parallel mixed methods design in two steps. The survey and interview questions were developed to identify priority areas, targeted trainees, and effective training methods. Current health policy areas, areas related to future national plans, and areas not currently receiving governmental or international support were suggested as the main priorities. Building teams including various professions, such as nurses, technicians, and biomedical engineers, was recommended as a way to exchange ideas with each other and to build teamwork for future collaboration. Improving skills (24%) and the incentive system (23%) were identified as major needs, followed by improving the attitudes, human resources policy, and knowledge of health professions. Medical training needs are dynamic and complex; therefore, a deep understanding of the context and setting is necessary.

2020 / Ph.D dissertation	Alimaa G / Item Analysis of Graduates Exit Examinations and Medical Licensing Examination of Graduates in Mongolia	The research was conducted to analyze and compare results of graduation and licensing exams determining knowledge level of medical graduates, and define correlation between them. The reliability of the medical licensing examination (0.82−0.83) is lower than graduate exam (0.89−0.94) because medical licensing examination has MCQ tests with low discrimination (12−27 %) and high difficulty (14−18 %) indexes. The success rate of medical licensing examination is inconsistent and has high fluctuation by different medical schools. It depends on the excessive exam test content than the medical curriculum, and incorrect keys. We recommend to develop and maintain a professional team for the development of medical licensing examination.

Appendix 2. Interview questions

Opening	Please summarize your working experience thus far.
	In your opinion, what are the current challenges in the health professional education (HPE) system in Mongolia?
Politics	How does reduction of government authority influence on HPE system?
	How could HPE institutions secure their commitment during the changes of the political cycles?
	How do reforms such as accreditation and licensing systems reflect on quality of educational services of HPE institutions?
Economics	How does transition from the centralized economy to free market economy influence on HPE system?
	What were the changes of role of hospitals on HPE system?
	What could be appropriate way to increase financial sources in HPE system?
Society	How should current HPE system adapt in the market environment?
	How would you describe implementation of HPE reforms in your institution?

	What type of behavior and skills of health professionals should be obtained in the Mongolian situation?
Culture	What were the behavioral changes of public and patients in the market era compared to the socialist era?
	What could be learned from HPE system in the socialist era?
	What were the attitude changes of health professions in the market era compared to the socialist era?
Closing	In your opinion, what types of educational changes are needed in HPE system in Mongolia?

Appendix 3. Interview scripts

Question areas	Answers
Opening	Decision maker 1: There is no perfect system in the world; our HPE system is developing, but it is facing challenges too. There are many private medical schools in Mongolia; we don't know how many of them are qualified enough. We need a long-term mission and planning for the HPE system. I do not think the HPE system in Mongolia is below the global standard. HPE system is top in the higher education sector in Mongolia. However, unskilled human resources at the higher level are the barrier to the development of the HPE system. Faculty members of private medical schools are not qualified in teaching methods. Also, some private medical schools do not have adequate learning environments.
	Decision maker 2: MNUMS is labeled as a public medical school, however, there is no financial support from the government. The president is assigned by the government, which leads to the many challenges.
	Decision maker 3: The following challenges and needs exist: Increasing health care demands; Needs

	for globalization and continuous innovation; Needs of cooperation with foreign universities; Supports from international organizations; Needs of government policy to support education and sciences.
	Decision maker 4: Due to the poor quality of faculty members, there is a decreasing public trust on the quality of educational services. There is a lack of standardization for private medical schools. There is no system for continuing professional development.
	Decision maker 5: Medical education researches are developing in our country. In recent years, development is carried out based on scientific evidence. There seems to be a lack of a unified policy on the HPE system. The following challenges exist: Insufficient criteria for the establishment of a new medical school; Insufficient criteria for student admission; Insufficient criteria for teaching strategies.
	Decision maker 6: The following challenges exist: Imbalanced supply and demand of health professionals; Poor management for higher education.
	Decision maker 7: There is a need to train health professionals by the same standard. Promotion of medical education research and joint researches are needed.
	Decision maker 8: The interviewee from the preliminary interview has no answer for this part.
	Decision maker 9: The following challenges exist: Teacher-centered teaching methods: Non-active

	students; Lack of self-learning; Systemic problems in postgraduate training: No affiliated hospitals; No salary for residency students; Varying curriculum and learning environment; Lack of teaching skills of clinical educators at the hospitals.
	Faculty 1: Clinical training will be meaningful if we have a university hospital with 400-500 hospital beds. Although the current Mongolian-Japanese training hospital is equipped with modern laboratories and equipment, the number of beds is less than 120. Since the 1990s, hospitals have been limiting the clinical training of medical students. The reason is the fragmented policies between MoH and MES.
	Faculty 2: HPE system is dependent on the economic situation. HPE program is more based on traditional classroom-based learning. So the medical graduates are not qualified to work in the clinics, and they do the clinical practices in their workplace to provide qualified healthcare services. So HPE system should focus more on continuing professional development at the workplace.
	Faculty 3: The learning environment is not adequate due to the lack of financial sources. Private medical schools and new faculty members are not lacking in quality. Also, human resources for health planning is not based on social needs.
	Faculty 4: The following challenges exist. In the undergraduate medical education: Poor criteria for

	student admission; Poor clinical practices; Poor curriculum development due to time management of faculty members; Poor research bases; Tuition–fee based revenue. In postgraduate medical education: Hospitals have their own postgraduate training; No standardized curriculum; Lack of experiences of clinical faculty members; Lack of teaching skills of clinical educators at hospitals. In the graduate medical education: No research bases; Unfair grant provision; Poor curriculum for future researchers. Accreditation has good influences. Licensing system is weak, which is based on the collection of credits.
	Faculty 5: The policy of HPE has been lost; the supply and demand planning has been imbalanced. There is no unified HRH planning in the MoH. A lack of coordination between the MoH and the medical schools for HRH planning is the problem. Currently, 14 private medical schools prepare health professionals.
	Faculty 6: Medical graduates are not qualified enough due to the unstable educational policies, unqualified faculty members, inadequate learning environment, and poor criteria for student selection.
	Faculty 7: The interviewee from the preliminary interview has no answer for this part.
	Faculty 8: The HPE system in Mongolia has been developing since 1946 when the Faculty of Medicine was established. Since that time, the education and training of medical doctors and nurses were

	organized by the Soviet educational system. At that time, the number of health professionals was sufficient for the population. At the beginning of the 1990s, so health system was collapsed due to the transition. At the end of the 1990s, MNUMS had a project funded by TEMPUS TASIS and worked in close collaboration with Groningen University. As a result of the project, the medical curriculum was organized by the integrated block system. The curriculum development is a continuous process; the health system should follow a global development. Knowledge−based learning is not enough for medical doctors; we should base it on outcome based medical education. Also, new teaching and learning methods should be introduced into the HPE system.
	Faculty 9: The following challenges exist: Poor quality of private medical schools; Lack of faculty members; Lack of teaching skills of faculty members; Poor clinical learning environment. Accreditation should be done by the third party.
	Faculty 10: The following challenges exist. 1. Increasing number of private medical schools: Only 18.5% of the curriculum is accredited. Political influences and conflict of interests are the reasons for an increasing number of private medical schools. 2. Poor quality of faculty members.
	Faculty 11: HPE system is facing many challenges. Poor government policy is the barrier to sustainable

	and evidence−based development of the HPE system.
	Faculty 12: The interviewee from the preliminary interview has no answer for this part.
	Faculty 13: Undergraduate medical education is not following the global standard. Clinical practice is not sufficient due to the absence of university hospitals. Textbooks are translated from old Russian books. Most of the faculty members are trained by the traditional system and use teacher−centered methods.
	Doctor 1: Medical education could not exist without a university hospital. The HPE system is dependent on government policies. The current issues are related to the unstable government; the government resigns after an average of 1.2 years. For example, we faced difficulties to decide where the new university hospital will build due to the absence of decision−making by the government.
	Doctor 2: The following challenges exist: Poor criteria for student selection; Poor clinical skills of faculty members; Poor clinical practices; Unqualified human resources at the higher level.
	Doctor 3: The following challenges exist: Increasing number of medical schools; Long period of postgraduate training and cost of tuition fee; Poor clinical practices; Unstable administrative team due to political influences; Lack of teaching skills of faculty members; Inefficient self−learning; No

	systematic CPD for doctors.
	Doctor 4: The interviewee from the preliminary interview has no answer for this part.
	Doctor 5: Introduction of e-learning and improvement of distance education are needed. We have a lack of human resources and lack of equipment.
	Doctor 6: The following changes exist: Too many reforms in the medical curriculum; Unstable human resources in higher-level; No long term government policies and strategies.
Politics	Decision maker 1: Educational experts and health professionals should involve in the government policies for the HPE system. Accreditation does not influence the quality improvement of medical schools. Soviet HPE system was not a bad system. The role of the professional societies is not included in the educational law. The power of professional societies should be emphasized.
	Decision maker 2: Political situation has a big influence on the HPE system. Educational policies are not sustainable and unified due to the unstable human resources in the government. So human resources planning is not based on social needs. There is no government regulation for quality of the private medical schools. Professional societies do not have an important role in the continuous quality improvement of health professionals. Introducing accreditation was a good decision, but the

	implementation process is influenced by political power and conflict of interests.
	Decision maker 3: HRH planning in the socialist era was based on social needs. The following challenges exist in the market era: Different regulations for public and private medical schools; No authority of medical schools on its budget and tuition-fee; Political influences on the administration and educational services of MNUMS. Accreditation has good effects on quality of schools, but licensing exam only assesses the knowledge of medical graduates.
	Decision maker 4: Since the 1990s, the quality assurance of the HPE system has deteriorated. Private medical schools have a predominant business interest and make a profit from medical training. The quality of medical graduates is varied by different institutions. In the socialist era, medical graduates were directly assigned to the workplaces as physicians. The accreditation process is very ineffective.
	Decision maker 5: After the socio-economic transition, we lost the good policies for human resources and financial sources, which had a negative impact on the quality of education.
	Decision maker 6: Government should play important role in the education sector, but the policies of MES are lacking in both quality control and monitoring. Tuition-fee became one type of business activity. Political instability is the main reason for the failure of the education sector. Accreditation and

licensing should be performed by an independent agency; the implementation process should be improved.

Decision maker 7: It can be said that the political situation did not significantly affect the HPE system. HPE system has developed in its way. In the 1990s, along with the transition to a market economy, all levels of society and the education system faced challenges. At that time, overcoming those challenges was hard for the leaders. We remember that limited budget and financial issues were difficult. One of the keys to success is a leader's commitment to work together. However, unstable human resources at the government level have slowed the development by failing to manage the education, policies, and plans. According to international standards, accreditation and licensing should be done by an independent body. There is no other country that takes licensing exams every month, as our system. The licensing system has not still led to quality improvement.

Decision maker 8: We had our first institutional accreditation in 2001. Since then, MNUMS was accredited three times. MES does the external evaluation for accreditation. The first curriculum accreditation was done in 2011. The professional counseling team under the MES is responsible for curriculum accreditation, which consisted of members from the Mongolian Medical Education Association. We approved six professional standards based on the three standards from World

	Federation of Medical Education. From 2005, we started to focus on outcome based medical education. We approved ten criteria for institutional accreditation and seven criteria for curriculum accreditation. In 2017, MNUMS was accredited by the accrediting body from ASEAN countries.
	Decision maker 9: The following changes have appeared: Attainment of the academic authority of medical schools for its curriculum, student selection, and human resources; Increasing private medical schools with different curriculums; Poor regulation for private schools; Absence of quality control by the government. An increasing number of professional societies is good, but few of them involve in educational services. Currently, the government provides continues to provide quotas to the provinces. Permission to establishing new medical schools was weak in the beginning. There is no difference in the licensing exam for medical graduates and experienced doctors.
	Faculty 1: The unstable government and conflict of interests are the reasons for the quality deterioration of the HPE system. A lack of focus on research and clinical training has a negative impact on the quality of healthcare and education.
	Faculty 2: In the socialist era, we had centralized planning for human resources. After the socio-economic transition, we follow fragmented policies by different organizations. A total of 17 different

political parties were in the government; the unstable government had a big influence on the HPE system. For example, the administrative team was changed following the changes in the government. So we should prepare our team to be more adaptive to this situation. Privatization was introduced without sufficient preparation, so private schools are more likely business companies. Faculty members of private medical schools are not qualified enough to provide educational services. The quality of medical graduates from MNUMS and other private medical schools is varied. Accreditation only exists in the paper, which does not have any influence on the quality improvement of medical schools. Also, it does not have any follow-up evaluation. Licensing system does not have positive effects on continuing professional development. The collection of credits has not resulted in quality improvement of health professionals. Licensing exam does not assess the competencies of medical graduates. For the past ten years, we did not see any improvement for the HPE system through the introduction of a licensing system.

Faculty 3: The government has a big influence on the HPE system; unstable policies have negatively affected the quality of education. Professional societies should have an important role in the HPE system, however, most of the professional societies have a lack of human resources and limited budget. After the socio-economic transition, HRH policies and planning were blurred in the HPE system. In the

	socialist era, we had strict rules and high responsibilities. For example, people who had an ethical issue were fired. Accreditation has not resulted in the quality improvement of medical schools. The number of medical graduates is too high, and the quality of them is varied.
	Faculty 4: The following changes have appeared: We attained academic authority for the educational services. In the socialist era, we memorized political subjects, which were not useful. Currently, private medical schools are just copying the curriculum from MNUMS. Unstable human resources at the higher level has a negative impact on the HPE system. The government made a policy of a mandatory two-year of working experiences in primary health centers from the medical graduates. However, this policy has led to unstable human resources in the primary health centers.
	Faculty 5: Unstable human resources at the higher level is the problem. The government gives little attention to the higher education institutions. It is time to change the content and methods of the licensing exam.
	Faculty 6: Unstable government and different educational policies have negative effects on the HPE system. We need a long-term mission and strategy for education. Higher education institutions should be independent of the political changes and continue to implement previous strategies. The role of

	professional societies should be emphasized in the HPE system. Some private medical schools are more likely to be profit organizations rather than educational organizations. We are not sure that accreditation has properly assessed the private medical schools. Also, there are no big differences between a licensing exam and a national graduation exam. The current content and structure of a licensing exam and collection of credits have not resulted in quality improvement of health professionals.
	Faculty 7: Before the 1990s, there was a close relationship between hospitals and the medical school. After the socio-economic transition, the hospital started to have postgraduate training. The education system is dependent on the political situation. Social media has also bad influences on the reputation of the HPE system.
	Faculty 8: Reduction of government authority on the HPE system had positive influences. But there is no regulation for the quality of all private medical schools and the number of student enrollment. The HPE system is independent of political influences. The government should increase the control on the student enrolment and quality of medical graduates of private medical schools. There is a big demand for higher education, so all medical schools have enough students. In terms of the number of health professionals, Mongolia has a sufficient number of health professionals, we need to focus on quality. I do support accreditation and licensing system. But I think we need to make it more quality-oriented.

Accreditation should have unique requirements for medical schools and obligate all medical schools to follow them. The licensing exam should be organized by professional societies.
Faculty 9: In Mongolia, a local-specific feature is missing in the HPE system. Political changes could influence the HPE system, so the HPE system needs short, mid-, and long-term strategies for sustainable development.
Faculty 10: There is an increasing role of hospitals in postgraduate training. Also, unstable government influences higher education. Leadership and management skills should be increased. We should develop a good vision with faculty members. Strategies should contribute to national health development and address the national problems. The cooperation of professional societies is weak. The accreditation process could have a conflict of interests.
Faculty 11: As the government changes, the implementation of laws, rules, and regulations in the education field could not be completed. Accreditation is one of many steps taken by the government to improve the quality of education, but individuals use it for their interests by distorting accreditation criteria or changing certain rules and regulations. The only way to prevent this is to strictly follow the law and regulations. We should change the accreditation criteria to GLASS and stop the activities of

	medical schools that do not meet these criteria, regardless of the form of ownership. The most absurd decision was to allow fresh graduates to work in the primary health centers for two years. As a result, the reputation of primary health centers has declined, and people's trust has been eroded. On the other hand, postgraduate training of hospitals indeed has a lack of regulations and integrated programs, which creates many conflicts.
	Faculty 12: The interviewee from the preliminary interview has no answer for this part.
	Faculty 13: Unstable government has direct influences on the HPE system. The minister is changed when the government changed; so the educational policies are changed again, and previous policies could not be completely implemented. There is no regulation for the permission of establishing new private medical schools. Private medical schools focus on the collection of money. To prepare for the licensing system, the medical graduates only memorize the tests.
	Doctor 1: Clinical faculty members spend a lot of time working in private hospitals. In the market era, salary is low. In times of political instability, the principle of responsibility and proper evaluation seems to have disappeared. Since the 1990s, there has been no accountability system, and our younger generation does not understand responsibility. Accreditation and the licensing system should have a

positive effect on education. However, the accreditation criteria are the same for almost all categories, which leads to the creation of false documents.
Doctor 2: Competition has started in the market era, but it is more focused on business rather than the quality of educational services. The human resources of MoH should have leadership skills. For instance, the language skill was required for the head of the department in the socialist era.
Doctor 3: There is no big role of professional societies in education and training; they collect taxes from doctors and do not strengthen the capacity of health professionals. Even though accreditation and licensing system exist, there is no quality improvement.
Doctor 4: Since 1998, MNUMS changed the system from a traditional system to a new integrated block system. In the socialist era, we had only lectures and oral exams. Classes were in logical order. We started to learn from anatomy followed by clinical pathology. One course was approximately taught one week. When I was in the third year, the system was changed. So we started to have lectures and practice at the same time. A test-based exam was introduced, which had 100 items. The guideline of the test did not include the answers, so students had to find answers by studying. We had to rotate the basic four clinical courses including pediatric, internal medicine, obstetrics and gynecology, and

	surgery. In 1998, graduates could directly enter the one-year postgraduate training. In 1999, one-year mandatory internship was launched. The first central hospital was the main teaching hospital that provides adequate clinical practices to the students. One student had to lead at least four birth deliveries before graduation. Medical graduates, who had high grades, received master's degrees.
	Doctor 5: We attained academic freedom. Accreditation will bring positive changes in the long run.
	Doctor 6: There are too many private medical schools and unstable human resources at the higher level. The role of professional societies is to train health professionals, organize events, and discuss problems with rural areas. Licensing system is only based on the collection of the credits, which is not oriented to quality improvement.
Economics	Decision maker 1: The government should give financial authority to the medical schools. Private medical schools focus on the financial benefit rather than the quality of educational services. Two medical schools are enough in Mongolia. The salary of health professionals is too low, but health professionals do not leave their profession due to the low salary.
	Decision maker 2: The socio-economic transition had negative and positive effects. We attained academic authority for the educational services. However, we were not prepared for the deterioration

	of financial assistance from the government. Health and education systems have not even transited to the market economy.
	Decision maker 3: The following changes have appeared: Limited financial support for medical schools; Tuition-fee based revenue of medical schools; Increasing labor market; Increasing number of people who seek higher education; Misbalances between medical doctors and nurses; Low salary compared to the services. Salary should base on the performance, especially for the faculty members, who need to do innovation and researches.
	Decision maker 4: A lack of sustainable educational policies and plans has led to a decline in the quality of education. In the market era, government restrictions on financing of medical schools have limited further development. And the government has failed to provide sufficient financial support for infrastructural development. Building a university hospital is the one way to increase the income of medical schools. In general, the economic freedom of medical schools will have a positive effect on educational services.
	Decision maker 5: The socio-economic transition to the free market economy has led to the fragmented policy of human resources, a lack of funding, and a negative impact on the quality of education. Because

of the patient's rights, the clinical practice has limited for medical students.
Decision maker 6: The socio-economic transition to the free-market economy has not taken place in the health and education sectors. One example is tuition-fee based revenue of medical schools. We have no choice to increase the number of students to adapt to the market environment. We don't have a performance based payment system, so many faculty members have a poor quality of performance. It is not possible to get paid for the differences in knowledge and skills.
Decision maker 7: We must not forget the efforts of previous leaders and experts, who shamelessly begged help from foreign organizations to overcome the difficulties in the transition period. The current tuition-fee based system is no longer viable. The low quality of education has led to a large number of unqualified medical students. Further changes of salary system will probably be decided by the government, but incentives need to be aligned and introduced in the internal rules of organizations. The value of human resource development should be increased. It is necessary to take measures aimed at attracting the best faculty members and scientists in medical education. And this is directly related to salaries and bonuses. Incentives encourage faculty members' skills and creativity. It should be noted that there is a very wrong concept of the HPE system because hospitals have become more involved in postgraduate training. There is a tendency in all hospitals to create their education plan and promote

	their activities.
	Decision maker 8: The interviewee from the preliminary interview has no answer for this part.
	Decision maker 9: The following challenges exist: Increasing number of students due to the tuition-fee based revenue of medical schools; Low salary; No incentives; Inefficient payment system. The government should give a salary based on the performance.
	Faculty 1: In the socialist era, we were fully mobilized by government planning. Good students had a chance to choose their specialists, but others just were assigned to the planned quotas for their profession. HPE system is funded solely by tuition-fee that has led to an increase in tuition-fee from year to year, which in turn harms the education system. A financial support system needs to be established to encourage research. To increase the salary, it is necessary to decrease teaching hours. There are many faculty members publishing books, textbooks, and research papers at their own expenses. Since the transition to the free-market economy, the introduction of paid healthcare services has helped health professionals to provide qualified services, as well as to raise public awareness of the value of health.
	Faculty 2: Since the 1990s, only tuition-fee became the revenue of medical schools, so the number of

student enrollment is around 800 in a year. Other developed countries recruit only 150 students in a year.
Faculty 3: Health professionals and faculty members were qualified in the socialist era. A market economy should encourage fair competition. The learning environment is not adequate due to the lack of financial sources. Private medical schools and new faculty members are not prepared for qualified educational services. Also, HRH planning is not based on social needs.
Faculty 4: The following challenges exist. A number of students has increased due to the financing of medical schools. Health professionals have left their position for bargaining or opening private hospitals. Faculty members have decreased a number of hours to spend with students. Performance based payment system should be introduced.
Faculty 5: Due to the lack of preparation for the transition to the free−market economy, medical schools began to "live" on tuition fees. It is unclear how many programs of the MoH are completely implemented. Accountability has been weakened by decreasing value of health professionals. In the market environment, there must be a proper payment system for performances. The work of the doctors in the hospital is not appreciated at all. The relationship between hospitals and medical schools has been

weakened. The medical training is not based on community-based healthcare services.
Faculty 6: In the socialist era, we provided incentives to faculty members and medical students. Tuition-fee became pressure on the medical students. Also, there was no guidance to the students for their careers. Tuition-fee became the only financial resource to the medical schools. The payment system should be based on the performance or degree level of health professionals and faculty members.
Faculty 7: In the socialist era, health professionals did not feel financial pressure and followed the government plan. There is a low salary for health professionals and no salary for postgraduate students.
Faculty 8: The number of unqualified private medical schools has increased. Private medical schools recruit newly graduates or retired faculty members as faculty members. Medical schools don't receive financial supports from the government, so the main financial source is tuition-fee that has a negative effect on the quality of education. Medical schools attempt to have a greater number of students. There should be other sources of funding that support research and medical training. If faculty members have a high salary, they will be more motivated. We should decrease the number of students and increase tuition-fee. We could provide scholarships to good students and give the best education to the best

ones. We need to increase opportunities for research projects. Salary is fixed by the government. The health system needs systemic reforms in the market era. Everybody speaks about doctor's oath, but no one cares about their income.
Faculty 9: Medical schools are dependent on tuition-fee, and cannot increase it. We need to find extra financial sources for researches, innovations, and scientific laboratories.
Faculty 10: Medical schools are dependent on tuition-fee. Increasing financial sources from research projects is needed.
Faculty 11: Tuition-fee based revenue has led to the shift from quality to quantity. An increasing number of students has limited qualified medical training. Medical schools should accomplish the mission of research-training-clinical complex. Strategies for the development of the HPE system should be financially supported through research projects and revenue from patient care. It is necessary to have a legal regulation.
Faculty 12: The interviewee from the preliminary interview has no answer for this part.
Faculty 13: In the socialist era, free education was helpful for students who cannot pay by themselves. But it is better to have tuition-fee. Social security such as giving a chance to include in the apartment

	loan or providing free children care are needed for the faculty members. Medical schools make contracts with hospitals for their provision of clinical training. Students have more chances to practice in the district hospitals. Clinical faculty members prefer to work in the hospital rather than the medical schools due to the absence of university hospitals.
	Doctor 1: Transition has affected the education system in many ways. When a person's work is properly valued, the performance becomes good, and the financial capacity is improved. There are standards for the number of patients that medical doctors can see in a day, the number of procedures that can be performed, and the number of classes that faculty members can teach. These standards are approved by order of the ministers, but they should be matched with global standards. It is not possible to increase the salaries of the health sector alone when the GDP is low. Except one or two hospitals, new hospitals have not been established so the clinical learning environment is inadequate. Many modern private hospitals do not contribute to clinical practices.
	Doctor 2: Privatization decreased the overload of the public sector, but some areas are still underserved. Organizations do not have sustainable plans and strategies. To have qualified health professionals, educational strategies should be controlled and planned by the government. Salary is low compared to the number of healthcare services.

	Doctor 3: Because of the tuition-fee, some good students could not enter medical schools. In the socialist era, government policy was based on social needs, but now it more focuses on business activities. We should conduct a training needs assessment of health professionals. Hospitals prefer to recruit male doctors. Salary is low compared to the provision of healthcare services.
	Doctor 4: The interviewee from the preliminary interview has no answer for this part.
	Doctor 5: Transition had positive effects and increased competition. We need to introduce a KPI system. Public hospitals have not changed in their services and quality. With an increasing number of private hospitals, the choice has increased for the patients.
	Doctor 6: In the socialist era, health professionals only worked for the government. Currently, they have dual practice for their goods. Social security issues such as apartment loans and international training are needed to increase motivation. The salary of health professionals is low.
Society	Decision maker 1: We need evidence-based research for further planning in the HPE system. We have an association for medical education that provides scientific evidence for medical curriculum, program evaluation, and student assessment. MNUMS was accredited by the international accrediting body.
	Decision maker 2: We have too many private medical schools compared to the population. The quality

	of educational services is poor in those schools that use traditional educational methods. Private medical schools are more likely business companies. The government has built a national research center and organized international training for faculty members. Information technology development has a good influence on faculty development. However, it is not sufficient enough. Also, faculty members from private medical schools are not qualified for teaching.
	Decision maker 3: Faculty assessment is based on teaching hours, so limited time for research and patient care is the obstacle to the development of faculty members. Information technology has rapidly developed. Rapid development has led to changes in teaching methods. Demands for higher education have led to an increasing number of private medical schools. Private medical schools are based on business activity, while MNUMS has more developed teaching methods, faculty members' skills, learning environment, quality of the curriculum, international cooperation, and regulations. MNUMS introduced an integrated curriculum, which was accredited by ASIIN. The current postgraduate training of MNUMS is based on the global standard, and faculty members are invited to teach in Japan.
	Decision maker 4: In developed countries, professional societies should the criteria and trustworthiness and contribute to the work of the government. Our professional societies do not have the level of credibility, and they are not able to act on behalf of the government. The difference in the quality of

	faculty members of private and public medical schools has led to the different quality of educational services.
	Decision maker 5: Students, who have high scores, are enrolled in MNUMS, while students of private medical schools are not qualified enough. An increasing number of student enrollment is the only way to adapt to the market environment. We need the following changes: Not to be left behind the global development; To ensure the integrity of training; To make changes/updates based on evidence and research; To improve management and leadership skills; To teach/use new technologies in training and patient care; To provide socially acceptable education
	Decision maker 6: There are more than five professional societies in some fields. If the professional society is strong and capable, it will reduce the workload of the government. Private medical schools are established with weak government regulation. Private medical schools should be powerful and qualified in the market environment. In our country, private medical schools are similar to private companies. Educational services and faculty members of private medical schools are not qualified.
	Decision maker 7: Many professional societies organize different activities with different qualities. An increasing number of medical schools and medical students have a negative social impact. In the

	socialist era, only smart students could enter medical school. Currently, there is a lack of coordination among government organizations. Decision-making is not based on evidence and social needs. The medical schools do not have an adequate learning environment. There are differences in the knowledge and skills of medical graduates from postgraduate training of MNUMS and hospitals. We need the following changes: To provide education based on social needs; To carry out activities aimed at developing health professionals; To train students for life-long learning.
	Decision maker 8: We changed our traditional curriculum into an integrated curriculum. We started to use the SPICE model for our curriculum. We have a regular evaluation of the curriculum. Now we need systemic changes in the HPE system.
	Decision maker 9: There is an increasing demand for faculty development due to the expansion of the curriculum. Flexible time management and performance based payment system for faculty members is needed. Distance learning and online database should be improved. Private medical schools are following traditional curriculum. Wrong government policy has led to the decreasing quality of medical graduates. A mandatory two-year working experience at the primary health center was a failure. People expect curative healthcare services rather than preventive care. Since the 2000s, MNUMS introduced an integrated block system; the current system consists of 8-10 blocks of an integrated

curriculum. Postgraduate training is not related to social needs.

Faculty 1: To strengthen the capacity of health professionals, professional societies hold many seminars and annual conferences with the cooperation of international organizations. In recent years, they have sought to repeat the previous topics. After the transition to a free−market economy, a large number of private medical schools has been established. The poor quality of medical training has been reported as a result of the pursuit of money. Private medical schools have significant differences in their teaching skills, the scope of research, clinical base, and laboratory capacity. The result of reforms will be determined by the performances of health professionals. The medical schools have ongoing curriculum reforms, but there is still a lack of time for research, faculty development, and innovations.

Faculty 2: Clinical practice is not sufficient due to the absence of university hospitals. Fortunately, MNUMS built the university hospital in 2020. In the socialist era, the government approved the medical curriculum and assigned the workplace for medical graduates. After the transition, higher education institutions were left behind due to the lack of appropriate vision. We were not prepared for the market economy, so our educational services were left behind from the global standard. Almost half of the faculty members of MNUMS were trained in the developed countries. We should invite experts from developed countries to improve the capacity of faculty members. Professional societies in Mongolia are

not powerful, but they should have the biggest role in the HPE system. For example, professional societies should involve in human resources planning. The research field has been emphasized in the past years; so one of the requirements of qualified faculty members became a good researcher. We also provide some incentives for the research that attract faculty members to the research field. Before the 1990s, faculty development programs were only based on improvement of teaching skills. Information technology development is a good side of the market environment; however, it needs financial sources.

Faculty 3: Qualified faculty members, well-developed medical curriculums, and proper student selection are the main factors for improving the quality of educational services. The development of information technology gives enough opportunities for faculty development. Quality control is not sufficient in Mongolia, so the number of unqualified medical schools is increasing. Private medical schools are more likely to be profit organizations, which do no focus on social needs.

Faculty 4: In the socialist era, human resource management was systematically organized by the government. But current recruitment of faculty members is not based on fair competition. Faculty assessment should be changed. We have limited research bases but the current faculty assessment requires the publication of articles in the journals with high impact factors. The curriculum is not based

on the educational theory in the private medical schools. Faculty members in the private medical schools are medical doctors, who are not experienced in teaching skills or part-time faculty members from MNUMS. Criteria for student selection are poor for both MNUMS and private medical schools. Hospitals prefer to prepare their postgraduate students, and not to receive students from MNUMS.

Faculty 5: In the socialist era, the quality of medical graduates was high. The different quality of educational services between MNUMS and private medical schools is caused by the different teaching skills of faculty members. Private medical schools recruit faculty members who have retired from MNUMS or many young faculty members with a lack of experience.

Faculty 6: There are over ten private medical schools, which is too many for the population. Faculty members and learning environments are not qualified and sufficient in those medical schools. A proper competition could decrease the unqualified medical schools. Private medical schools recruit unqualified students without considering limitation. Some private medical schools have good clinical practices based on their private hospitals. HPE reforms should not be only the modification of the medical curriculum. HPE system is rapidly developing in Mongolia.

Faculty 7: In the socialist era, senior faculty members trained their juniors. The opportunity for short-

term training for health professionals was limited. After the transition to the free-market economy, the clinical skills of faculty members became poor due to the patients' rights issues. Limited opportunities for continuing professional development and clinical practices for common diseases have still existed. In the socialist era, the good student could enter medical schools.

Faculty 8: Professional societies focus more on continuous education of health professionals and the development of guidelines and standards. There are several differences. MNUMS has a long history of medical education, better facilities, and faculty members. Medical training is well organized in the MNUMS, and faculty members have better performances. MNUMS has high criteria for student selection, thus the best students enter the MNUMS. Medical graduates from MNUMS easier to get jobs, and have a better chance to study in postgraduate training. Also, they have better knowledge not only in professional terms but usually have better language skills. Our university is the pioneer in the implementation of medical education reforms.

Faculty 9: We should increase the number of faculty members, who have experience in teaching skills. Sometimes we could not follow the high technology development and new teaching methods. Now information technology gives unlimited possibilities to learn. Updated information is available on the internet. Private schools are varying in their quality of educational services, thus we have doubts about

the accreditation system.
Faculty 10: Open information gathering, distance learning, and e−learning are good effects in the market era. But there is no national regulation for faculty development. The quality of educational services is different by MNUMS and private medical schools. In private medical schools, faculty members are newly graduates, and the medical curriculum is not integrated. Professional societies do not have a clear role in the HPE system.
Faculty 11: It seems that professional societies are developing and operating in all fields, but there is no unified management and policy due to the conflict of interests of the leaders. For example, there are more than ten professional societies registered in one field. Some of them deny each other, and some of them support each other. The quality of educational services and faculty members in MNUMS is higher than in private medical schools. But the HPE reforms in the MNUMS are introduced without the proper preparation of faculty members. Even the curriculum is changed, the number of students is too high for qualified medical training.
Faculty 12: Before the 1990s, faculty members taught the students based on their own experiences. Students had more opportunities to practice in the real clinical setting. Sometimes faculty members talk

about non-relevant content during lecture time. After the 1990s, teaching methods were more developed and improved. The role of faculty members was started to be discussed. Sometimes faculty members try to entertain the students using videos or some interesting activities.
Faculty 13: Quality differences between MNUMS and private medical schools are high. Private medical schools are copying the program of MNUMS and recruiting new graduates as faculty members. On the other hand, MNUMS requires a master's degree from faculty members. All private medical schools are following the traditional program from Russia. Even though many curricular reforms have been introduced, faculty members are not prepared yet.
Doctor 1: There are professional societies in each field, but the legal environment is weak. Government support for professional societies is poor. Short-term training fee is very high compared to the salary of health professionals. Our country has a high number of medical doctors and a good distribution of health professionals across the country. Human resources in private medical schools are weak in professional development. Retired faculty members of MNUMS work in private medical schools. I know that it is very difficult for retired faculty members to adapt to rapid development.
Doctor 2: Well-developed libraries and hospitals provide more opportunities for self-learning of health

professionals. Lack of skilled faculty members in private medical schools, insufficient criteria for student selection, and lack of clinical learning environment have led to low quality of educational services. Health professionals collect the credits to extend medical licenses, but this process has not led to the quality improvement of health professionals.
Doctor 3: Private medical schools based on the business; there is an inadequate clinical learning environment in the private medical schools. There is no follow−up monitoring from faculty members on the clinical practices; faculty members just send medical students to the hospitals.
Doctor 4: In the socialist era, classes were in the logical sequences from anatomy to clinical pathology. We memorized the meeting report of the political party. Most of the medical doctors were specialized doctors. Primary health centers had a limited human resource and role in the health system.
Doctor 5: Professional societies should play a key role in the development of health professionals. A distortion of the legal system has led to an increasing number of unqualified private medical schools. Faculty members and learning environments are different in the MNUMS and private medical schools.
Doctor 6: All the textbooks were Russian in the socialist era. But now everyone can find enough information from the internet. Private medical schools are based on business interests. Faculty

	members are not skilled and the clinical learning environment is not adequate in private medical schools. Also, the criteria for student selection are poor in private medical schools. The learning environment and learning materials are increased in the market era. The medical curriculum involves the content of research methodology. Sometimes hospitals make students work for non-medical activities such as paperwork. Hospitals have a bias for their postgraduate students.
Culture	Decision maker 1: Attitude of health professionals has not changed since socialist era; the defect of health system is only reason of decreasing social prestige of health professionals. The government should increase the social prestige of health professionals.
	Decision maker 2: In the socialist era, the health system was responsible for population health, so MoH assigned the workplaces for health professionals based on social needs. But current health system could not even define social needs. Also, low salary is the main reason for decreasing attitude of health professionals. There is no clear information for career pathways for medical students. There is a different attitude between older and younger generations.
	Decision maker 3: There is a lack of motivation due to the fixed salary by the government. Attitude of health professionals has not changed due to the fixed salary. Health professionals prefer to establish

	private hospitals for more income earning. In the socialist era, short-term training by the government motivated health professionals. Patients respected the health professionals, and health professionals used all their strengths to serve the population. Patients respected even medical students in the socialist era. In the market era, patients do not understand protecting health is their duty, and they complain about the doctors.
	Decision maker 4: Information technology has been rapidly developing, but it is not being used enough in the health sector. Significant advances in medical technologies have taken place, but there are also challenges. Vulnerable group of population have facing the negative effects from the market economy. We need to create a system which is continuous and specific to local needs. We should promote PHS and provide incentives to the health professionals.
	Decision maker 5: Technological advances such as electronic registration and remote diagnosis have been introduced. Ethical issues have been raised; there has been a growing interest in income and discrimination. There is a long-standing tradition of respect for doctors, but it seems to have diminished. Adequate distribution of health professionals, proper balances in the workload, and coverage of social security issues should be the priorities for government policies.

Decision maker 6: Information technology has rapidly developed. One negative effect of transition was that patients have to pay more money to get qualified healthcare services.
Decision maker 7: The development of information technology began in 1995. The first distance learning center has been established in 21 provinces, which was funded by The United States Agency for International Development (USAID). Defects in the healthcare system are the reason for decreasing social prestige of health professionals in society. Also, the work overload of health professionals has led to the decreasing quality of healthcare services. The government policies should base on the evidence and researches.
Decision maker 8: The interviewee from the preliminary interview has no answer for this part.
Decision maker 9: Attitude of health professionals has not changed from the socialist era. Health professionals and faculty members do not prefer to work for extra hours without compensation. The hierarchical communication between faculty members is decreased. Career choices of medical students based on income earning. Patients do not accept clinical practice by students. Critics from social media are increased. The fall of social prestige is the result of policy mistakes by the government. For instance, the mandatory two-year program was a failure. Many choices of hospitals are increased; rich

people go to private hospitals, and poor people choose public hospitals.
Faculty 1: Transition to the free-market economy has led to increased cooperation with other countries, usage of high technology and internet, and rapid development of information technology. Government should increase the salary, improve working conditions, and provide incentives to the health professionals to improve their skills and provide quality healthcare services.
Faculty 2: In the socialist era, patients strictly followed the doctors' decisions and respected even the medical students. Now patients have more attention to their health due to the market environment. The attitude of health professionals has been increasingly discussed. Health professionals are more interested in their professional development.
Faculty 3: Patient right was emphasized after the socio-economic transition. In the socialist era, we had the exam of communication and ethical skills. However, our current system is just based on the rules rather than communication with people. Also, fee for the healthcare services has negative influences on the population perspective for the health system. The prestige of primary health centers is decreasing in the market era.
Faculty 4: People wanted to earn a diploma without qualified education. When the administrative team

	of medical school is changed, the belief of faculty members has decreased. We need better faculty assessment to increase motivation for the researches. Attitude of health professionals has shifted to focus on consumer relationship. Patients prefer private hospitals or go abroad for medical services. After the socio-economic transition, poor families are increased, and patient education is decreased. Poor clinical practices of medical graduates have resulted in the fall of public trust.
	Faculty 5: There are many differences in the culture of the socialist and market eras. In the socialist era, we had one-sided information so the creativity of people and innovation were limited. We had loyalty, responsibility, high standards, good training, and positive social environment in the socialist era. Medical doctors had high social prestige and good ethic. In the market era, open discussion of medical mistakes on social media has decreased public trust in the health system.
	Faculty 6: The only capacity of health professionals is not enough for patient satisfaction; patients require also good communication skills. Attitude of health professionals has been improving compared to the past years. In the socialist era, the health system had full responsibility for the population's health. But current market environment gives responsibility to the patients for their own health. The public perspective has changed in the market environment.

	Faculty 7: In the socialist era, there was no competition between health professionals. Health professionals had high salary and high social prestige. After the socio-economic transition, patient right was emphasized, so medical students become more careful to see patients.
	Faculty 8: In the socialist era, health professionals had a high salary and high social prestige. Health professionals were proud to work in the health sector. After the transition to the free-market economy, many health professionals left their profession and started private businesses. So we faced a shortage of health professionals. Low salary in the market environment has decreased the attitude to study hard and improve professional skills. But it depends on the individuals; we have many doctors with a high standard of knowledge, skills, and attitude who like their job and improve themselves continuously. In the socialist era, patients respected the health professionals; doctor's decision was law. In the market era, we talk about patient rights and have many patients who have no respect for the health system and health professionals. Sometimes the quality of health professionals becomes not enough because people become more educated and seek better care. Patients compare local doctors with doctors from developed countries such as Japan and Korea. MoH needs to assign quotas to the medical schools, so the number of medical graduates will be adequate for the population. There should be close cooperation between MoH and MNUMS in terms of continuous medical education, curriculum development, medical

licensing exam, and the development of guidelines and standards. Increasing international exchange programs is helpful to gain knowledge, have experiences, and implement new advanced methods of diagnosis and treatment.
Faculty 9: Current medical curriculum emphasizes a good attitude toward the patient, which is a good point. People still don't understand the protecting their health is their duty.
Faculty 10: Health professionals have more opportunity for self-development and life-long learning using various methods such as e-learning and distance learning. Ethical issues and medical mistakes are increasing.
Faculty 11: It seems that we have a misunderstanding of the market system. Therefore, the government's misleading promise to make health and education free is hampering the development of these sectors. We need to change the health insurance system to increase the value and responsibility of the health system and health professionals.
Faculty 12: Patients followed the doctor's decision and accepted medical students to provide a medical examination. Patient rights started to be discussed in the market era. So faculty members started to use case scenarios in the clinical training. The openness of social media could have negative influences

	on the social prestige of the health system and health professionals.
	Faculty 13: Faculty members and students have more open communication in the market era. Hierarchical culture has still existed in patient–doctor communication. The slogan, “the consumer is king” is not suitable in the health sector. There is no system for protecting the rights of health professionals. Social prestige of health professionals has been falling. Unstable government and corruption at the higher level have negative influences on the social prestige of the health system.
	Doctor 1: During the socialist era, the attitude of health professionals was sincere. Health professionals could be penalized if they did not follow the rules. For example, if the doctor was absent for two weeks, he/she was called to the court. Nowadays the hospitals recruit health professionals who have better soft skills rather. This trend will have a good impact on the attitude of health professionals. However, hierarchical culture has still existed in patient–doctor communication. In the market era, the accessibility of healthcare services has improved as long as you pay for it. The working environment is favorable, and health professionals are active in learning. If health professionals have enough salary for living, they can focus on professional development and maintain professional values. Recognition of the value of the health profession and provision of incentives and rewards are needed.

Doctor 2: Health professionals have not lost their value of the profession. Patient respected health professionals in the socialist era. And doctors visited the home if the patient did not come for the medical appointment. But now patient behavior is getting hard to communicate.
Doctor 3: Young health professionals sometimes change their attitudes based on the appearance of patients. But it is not so many. Patients complain a lot and become more aggressive.
Doctor 4: The interviewee from the preliminary interview has no answer for this part.
Doctor 5: Compassionate attitudes remain largely the same. In the patient view, choices of hospitals were added. It is now possible to compare the differences between public and private hospitals. As a result, attitudes have changed. Financial support is needed. Health professionals started the dual practice in the market era.
Doctor 6: Medical students more focus on self-learning. Sometimes older generation is too strict without flexible thoughts. We should more focus on the attitudes of health professionals. Patients prefer older generation because they don't believe in young health professionals. In the socialist era, patient education was high. People compare our health system to the developed countries such as Korea and Japan.

Closing	Decision maker 1: The HPE system should be independent of politics. We need a systemic change if we want to see an efficient HPE system after 20 years later.
	Decision maker 2: We need systemic changes in the HPE system.
	Decision maker 3: In the socialist era, we had good HRH planning based on social needs. Resources were fully mobilized to carry out government planning. Jobs were guaranteed for health professionals; social security issues were adequately addressed. We need the following changes: Improving coordination of human resources planning and management in the health sector; Developing national core curriculum; Increasing cooperation of all stakeholders; Introducing advanced technologies for lifelong learning; Building university hospitals; Organizing general and specialized professional training; Promoting medical education research and joint research; Providing adequate coverage of social security issues; Increasing incentives based on performance. In the rapid development of information technology, lifelong learning is one way to survive in a competitive environment. We need to improve the accreditation criteria for the curriculum and add more requirements. We should not permit the establishment of new medical schools for a certain period. So, we could strengthen the capacity of faculty members in the existing schools. Also, we should focus on improving the quality of educational services and the learning environment. We could reduce the number of medical schools by merging

some of them.

Decision maker 4: In the socialist era, human resource policy was planned that had a positive effect on the quality of education. The most important change should be provision of supports for medical schools to become a research university. Also, all medical training should be conducted in English.

Decision maker 5: We had a proper human resources policy and an adequate number of health professionals in the socialist era. The quality of education was good; the medical students had enough opportunity to practice at the hospitals. Many issues should be addressed in the current HPE system. We should improve the content of the medical curriculum, strengthen the capacity of faculty members and administrative offices, make students understand their roles and responsibilities in social accountability, and teach science–based knowledge. We should update the medical curriculum following the global standard, and develop a clear strategic plan in the HPE system.

Decision maker 6: In the socialist era, human resource planning was based on social needs. Many changes are needed such as reforms for continuing education and training for faculty members. We need to build a university hospital and close medical schools without university hospitals. Also, we need to strengthen the capacity of faculty members, decrease the number of student enrollment, and make

	medical schools independent from politics.
	Decision maker 7: The main goal of educational institutions is to provide qualified educational services and train qualified professionals who meet social needs. We have been providing educational services for 70 years. In the socialist era, we adopted the medical curriculum and teaching methods of the former Soviet Union. At that time, the social need was to prepare an adequate number of health professionals who could directly work in rural areas and perform curative services such as surgeries and labor deliveries. But, the current focus of healthcare services has shifted from curative services to preventive care through the protection of health, prevention of chronic non-communicable diseases, and avoiding potential risks. So the concept of education and social needs have changed too. Everyone should know that the socialist system was the basis of our education system. Even if we cannot reach the global standards, we need to make our medical schools meet the local needs in terms of quantity and quality. We need changes such as offering a flexible curriculum with a wide range of options for students to value their profession and elective careers. Also, we need to develop an independent higher education system to conduct qualified training. We should prepare health professionals who meet social needs. Also, we should close the gap between MNUMS and private medical schools. We should update the general requirements for higher education institutions through the development of criteria for

	qualitative improvement and specific requirements to meet the minimum criteria for medical education. We could give permission for vocational and technical education and training if medical schools do not meet the minimum requirements for higher education institutions.
	Decision maker 8: The interviewee from the preliminary interview has no answer for this part.
	Decision maker 9: Hospitals and the medical school were almost one organization under the MoH; we had one goal and one system in the socialist era. The skills of health professionals on using high technology and self-learning should be improved. The contents of the medical curriculum should base on social needs. International cooperation and exchange programs are needed for faculty development.
	Faculty 1: The younger generation must learn from the fact that the socialist system taught us to be extremely honest and have high moral principles of being a human. We should select the leaders and managers who could recognize the patterns of social development and take advantage of them in the development of medical education. The HPE system in Mongolia should focus following aspects for further reforms. 1) Improving clinical learning environments such as hospital-based training and bedside teaching; 2) Preparing highly educated young generation and researchers to develop medical sciences; 3) Establishing a modern center of diagnostic equipment and laboratories.

	Faculty 2: The new system could not exist without learning from the former system. In the socialist era, we had good centralized planning based on social needs. In the market environment, people more focus on the financial benefits. Health professionals should prepare themselves in the competitive market environment. The medical schools and hospitals should be governed by one organization, and work together for the planning and management of the HPE system.
	Faculty 3: In the socialist era, financial assistance from the Soviet Union had great achievements in the health sector. The socialist system had strict rules and government control which led to the qualified provider of educational services. Social needs should be analyzed through joint research by health and educational organizations. The educational system should have proper management at the national level.
	Faculty 4: In the socialist era, the medical school was under the MoH; human resource planning and management were based on social needs. The government required health professionals to work in underserved areas. The socialist system had good clinical practices; hospitals trained their human resources in the other socialist countries. In the market era, we need to increase the social prestige of health professionals. Also, we should support social security issues of health professionals to improve motivation and professional development. Clinical researches should base on the hospitals. Criteria of student selection should be improved.

	Faculty 5: In the socialist era, clinical faculty members were medical doctors, who work in hospitals. The capacity and quality of health professionals were high. Faculty members of the medical school were asked to have at least three years of working experience in the related field. Also, faculty members were trained in medical education before they teach to students. The following changes are needed. First, the government and medical schools need to identify the social needs and training needs of medical students. Second, we need different content, teaching methods, and program evaluation for undergraduate, graduate, and postgraduate medical education. Third, we need cooperation between the government, medical schools, and faculty members to develop the HPE system based on evidence. Also, it is time to pay attention to the following issues and correct them immediately. 1. We need to improve the quality of medical schools. 2. According to our study, Mongolia will face a deep shortage of nursing resources in 2021. Although a large number of nurses have been trained, it is time to investigate whether they work in their field. 3. We need to estimate the increasing drug costs due to a large number of doctors and nurses. 4. Urgently, we should introduce a payment system that is based on performance. Fixed salaries have decreased the value of doctors and nurses which has led to decreasing quality of healthcare services. 5. We need to prepare human resources to work with healthy people through step-by-step training, and create a new legal environment for nurses to work in

households, kindergartens, and schools.
Faculty 6: HPE planning was sustainable and effective in the socialist era. The development of the HPE system should be different from other sectors. For example, it needs strict control on the quality of educational services because the health professionals work with the people's lives. Also, we could provide quotas for private medical schools to limit the number of student enrollment.
Faculty 7: The fee for healthcare service should be introduced. Social needs are changing but the medical curriculum is still based on former contents. Faculty members should be involved in the decision-making process of the medical schools.
Faculty 8: The HPE system was well organized and had high social prestige in the socialist era. Educational institutions gave the income bonus to the faculty members, who had good performance; also the support for a professional career was good. MoH governed the HPE system through unified planning and regulation. Health professionals were very respected by the public and well paid by the government. We need to have a unified policy on HPE through the cooperation between MoH and MECSS. We need to promote continuing education and give guidance to medical graduates in their career paths. Outcome based medical education is the keyword for the future development of HPE.

Increasing motivation is crucial in the current setting. The patient-centered approach of hospitals requires specific behaviors and skills from professionals. Leaders in the higher level should have the knowledge and the ability to develop regulations and management. Modern hospitals are similar to business-oriented organizations. A systemic reform is needed. Well-designed strategic planning is needed to improve the quality of medical schools, faculty members, medical students, and health professionals.
Faculty 9: In the socialist era, the quality control by the government resulted in a good performance; all the health professionals were sincere at that time.
Faculty 10: Government should emphasize the value of the health profession in its policy and planning. Also, the government should increase salary and support social security issues of health professionals; it should promote continuous professional development. Evidence-based information is needed to meet social needs. In the socialist era, the academic achievement of medical students was high. Now we could do the research to compare our existing programs with international programs in other countries. Also, we should develop a national core curriculum, which is based on social needs.
Faculty 11: In the socialist era, the government fully funded the education and health sectors; there

was no financial burden on those systems. The introduction of the HIF was a good decision for both the government and the people. If the health insurance system has a proper implementation, it will be helpful for the self-sustaining of all hospitals. In addition, joint strategic planning is needed to train and support health professionals. Attitudes of health professionals are discussed, but the attitudes of patients should be also addressed. In the absence of legal framework to address the attitude of patients, poor communication and negative attitudes the patients have appeared.
Faculty 12: The interviewee from the preliminary interview has no answer for this part.
Faculty 13: We could directly adopt the effective HPE system from the developed countries. Because we don't have analysis of our local situation.
Doctor 1: In the socialist era, the social accountability of the health system was good. People are the products of society, so HPE needs the reforms based on societal changes. It is necessary to train health professionals who can adapt to new changes and maintain their continuing professional development.
Doctor 2: All people rigidly follow the rules in the socialist era. In the market era, the criteria of student selection should be improved. HPE system should not be influenced by politics.
Doctor 3: In the socialist era, students were active learners and closely communicated with faculty

	members. In the market era, training for the attitudes of health professionals is needed. The government should protect health professionals from unethical complain from the patients. The fee for healthcare services should be introduced. We need a government policy for the increasing motivation of health professionals.
	Doctor 4: The interviewee from the preliminary interview has no answer for this part.
	Doctor 5: We need to prepare the required number of specialists. We need to organize short-term training to improve the quality of specialists. All stakeholders, including the government, medical schools, and hospitals, should join to improve the quality of the HPE system.
	Doctor 6: The government should cover social security issues such as housing and children care of health professionals. We need to decrease the number of private medical schools.

Abstract in Korean

몽골은 사회주의 시대에 무상의료를 통해 질병률과 사망률을 낮췄으며, 무상교육을 통해 문맹을 극복했다. 그러나 20세기 말 몽골은 사회주의 체제에서 시장경제체제로 전환되면서 심각한 경제위기를 겪었다. 이에 따라 사회경제적 전환과 함께 많은 개혁이 시도되었다. 여러 개혁들 중 성공한 제도도 있었고 실패한 것들도 있었다. 세계 다른 국가들의 경험에 따르면 사회경제적 전환은 의료전문교육 분야에 있어서도 보다 효과적인 관리와 발전에 대한 새로운 요구로 이어졌다. 그러나 사회경제적 전환이 의료전문직 교육 시스템에 미치는 영향에 대한 연구는 제한적이다. 그러므로, 본 연구는 전환경제국가인 몽골을 대상으로 의료전문직 교육 시스템의 발전과정을 통시적으로 고찰하고, 사회경제적 전환기에 의료전문직 교육 시스템의 긴장(tension)을 파악하고 그 긴장에 대처할 전략을 찾는 것을 연구 목적으로 하였다.

본 연구 목적의 목적을 이루기 위해서 다층적 관점 (Multi-level perspective)과 활동체계분석 (Activity system analysis)를 포함한 두 가지 분석틀을 활용하였다. 두 가지 분석 틀은 서로 보완적이다. 의료전문직 교육 시스템의 투입(input), 과정(process) 및 결과(output) 세 가지 수준으로 사회경제적 전환의 효과를 검토하기 위해 다층적 관점을 사용되었다. 투입 수준은 계획 및 관리를, 과정 수준은 교육 서비스의 실제 운영을, 결과 수준은 그 시스템에서 교육된 의료전문가와 관련된 문제를 의미한다. 또한 활동체계분석 를 통해 의료전문직 교육 시

스템의 긴장을 검토하기 위해 다층적 관점에서 나타난 분석 결과를 이용하였다. 본 연구는 문헌 검토 및 몽골 현지인 대표와의 인터뷰를 포함한 질적 연구 디자인을 활용했다. 수집된 자료 분석에는 내용 분석을 사용하였다.

다층적 관점 분석 결과 사회경제적 전환기간 의료전문직 교육 시스템의 주요개념이 정의되었다. 전환은 투입 수준에서 지역 의사 결정자들의 권위, 의과대학 재정 조달, 학생 등록률 및 환자 권한에 영향을 미쳤다. 과정 수준에서는 학습 환경, 인적자원, 교육 전략, 교육의 질 평가에서 영향을 미쳤다. 결과 수준의 영향은 진로 경로, 지속 전문성 개발, 사회적 명성, 의료전문가의 동기부여에서 나타났다.

주요개념을 바탕으로 의료전문직 교육 시스템의 다섯가지 긴장(tension)을 탐구하였다. 첫번째 긴장은 의료분야 인적 자원에 분열된 계획과 사회적 의료 요구사항 사이에서 발생한다. 두 번째 긴장은 의과대학의 재정 부족과 학문추구의 지속가능성 사이에서 나타난다. 세 번째 긴장은 자격이 없는 사립 의과대학과 교육질 관리의 표준화 사이에서 생긴다. 네 번째 긴장은 제한된 자원과 교수진의 수월성 추구 사이에서 발생한다. 다섯 번째 긴장은 의료 전문가의 구체적인 인센티브와 동기부여 부족에서 발생한다.

의료분야 인적 자원에 대한 통합적 계획의 부재는 의료전문가의 양적 불균형을 만들어냈다. 의과대학은 적절한 규정과 재정 지원 없이 학문적 계획 및 관리의 권위를 얻었다. 정부는 의과대학의 유일한 재원인 등록금을 제한하고 있으며 따라서 의과대학은 시장 지향적 환경에 적응하

기 위해 더 많은 학생들을 등록하려고 시도했다. 동시에 의료기관들은 사회적 의료 요구에 기반한 체계적인 계획 없이 의료전문 교육 프로그램을 시작했다. 교육의 질에 대한 관리 제도 없이 사립 의과대학 수가 급격히 증가했고 핵심 커리큘럼의 부재와 다양한 학습 환경은 의료전문가의 질적인 불균형의 주요 요인이 되었다. 또한 의료 전문가들은 시장 지향적 환경에서 전문적 가치와 지속적 발전을 유지하기 위해 고군분투하고 있다. 의료분야에서 교수진과 의료전문가 모두 탁월함을 추구할 수 있는 자원과 기회가 제한된 상황인 것이다. 또한 고정된 급여와 인센티브의 부재로 인해 동기가 부족한 상태였다.

이러한 긴장들에 대처하기 위해 본 연구는 다섯 가지 주요 전략을 제시하였다. 첫째, 정부기관, 의과대학, 의료기관, 국가 간의 공동 계획 수립을 통해 사회적 의료 요구사항을 해결해야 한다. 둘째, 의과대학의 학문적인 임무를 지속하기 위해 의과대학의 재정적 재원을 확대할 필요가 있다. 셋째, 사립 의과대학의 교육의 질 관리를 위해서는 관련 이해관계자 참여를 통한 인증과 교육 개혁을 추진해야 한다 넷째, 교수진의 지속적인 발전을 지원하는 환경을 조성할 필요가 있다. 다섯째, 동기부여를 제고하기 위해 재정적, 비재정적 인센티브를 도입할 필요가 있다.

몽골은 사회경제적 전환 과정에 있고, 현재 의료전문직교육 시스템은 사회주의체제과 시장경제체제의 공존을 특징으로 한다. 전환기간 동안 두 시스템의 긍정적인 공존성을 고려하고 혼합 시스템을 적용하는 것이 필수적이다. 본 연구의 결과는 전환경제국가들 간에 의료전문직교육 시스템에 대한 정보 공유에 기여할 수 있을 것으로 기대한다. 또한 몽골의

현지 의사 결정자들에게 보다 효율적인 전략에 대한 시사점을 줄 수 있을 것으로 기대한다.

Keyword: 전환 경제, 의료전문직교육, 몽골

학번: 2017-37095

Acknowledgement

Throughout the writing of this dissertation I have received a great deal of support and assistance. First and foremost, I would like to thank my supervisor, Professor Jwa-Seop Shin, for the continuous support and supervision during my study. Your insightful feedback pushed me to sharpen my thinking and brought my work to a higher level. It has been an honour to be your student. I would also like to thank my tutors, Professor Hyun Bae Yoon and Professor Oyungoo Badamdorj, for their valuable guidance and continuous encouragement throughout my studies. You provided me with the tools that I needed to choose the right direction and successfully complete my dissertation. In addition, I would like to express my sincere gratitude to Raphael International for their patient support and all of the opportunities I was given during my study. Also, I want to thank you for my colleagues from Department of Medical Education at Seoul National University College of Medicine for their kind help and support. Finally, I would like to thank my parents, Amgalan Zagal and Oyungerel Ravjir, for all the unconditional support and love. To all my family members and friends, thank you for always there for me.

Sincerely,
Nomin Amgalan

2021.08.11