

Data Collection Survey on Health Sector in Mongolia (Noncommunicable Diseases)

Final Report

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Abbreviations

ADB	Asian Development Bank
BMI	Body Mass Index
BP	blood pressure
CT	Computed Tomography
DBP	diastolic blood pressure
FHC	Family Health Center
HBV	hepatitis B virus
HCV	hepatitis C virus
IACR	International Association of Cancer Registries
ICD	International Classification of Diseases
IVR	Interventional radiology
JICA	Japan International Cooperation Agency
KOFIH	Korea Foundation for International Healthcare
MNT	Mongolian Tugrik
MOH	Ministry of Health
MRI	Magnetic Resonance Imaging
MSDV	Mongolian Sustainable Development Vision
NCC	National Cardiac Center
NCDs	non-communicable diseases
NCPH	National Center for Public Health
PET	Positron Emission Tomography
SBP	systolic blood pressure
SHC	Soum Health Center
STEP	STEPwise Approach to Surveillance of NCD Risk Factors
UB	Ulaanbaatar
WHO	World Health Organization
WPRO	WHO Regional Office for the Western Pacific

Photos



Angiography machine
The Third State Hospital



National Cancer Center
Cancer Registry Office



CT scanner (out of order)
Regional Diagnostic and Treatment Center (RDTC),
Orkhon Province



Rehabilitation Room
Regional Diagnostic and Treatment Center (RDTC),
Orkhon Province



Sukhbaatar General Hospital
Dialysis Room



Clinical Laboratory - Automatic clinical chemistry analyzer
Sukhbaatar General Hospital



Diabetes Center
Sukhbaatar District Health Center



Health education materials for outpatients
Sukhbaatar District Health Center



Sumcall Family Health Center, Sukhbaatar District



Medical devices for measuring blood glucose and lipid
Sumcall Family Health Center, Sukhbaatar District



Ankhinii och Family Health Center, Orkhon Province



Urine analyzer
Ankhinii och Family Health Center, Orkhon Province



Body composition analyzer
Intermed Hospital



Food replicas for nutrition counseling
Intermed Hospital



MRI machine
Medipas Hospital



Endoscopic Examination Room
Medipas Hospital



National Center for Public Health



Public Health Center,
Darkhan-Uul Province Health Department



Public Health Center,
Orkhon Province Health Department



Seminar Room
Public Health Center,
Orkhon Province Health Department



The elderly practicing tai chi in Fitness Room
Public Health Center,
Orkhon Province Health Department



Fitness Room
Public Health Center,
Orkhon Province Health Department

1 Introduction

1.1 Background

Since the socialist period, Mongolia has developed basic health care infrastructure nationwide, including the rural areas. Once people have registered to the health facility in their area, they have access to essential health care services. Since the 1990s, when the country transitioned to a market economy, the indicators related to maternal and child health and infectious diseases have been steadily improving. By contrast, the burden of noncommunicable diseases (NCDs) has been increasing and NCDs account for 80% of total deaths. The increase in NCDs is associated with increased urbanization and lifestyle changes. Unfortunately, the current health system does not have the enough capacity to ensure prevention, early diagnosis, and prompt and adequate treatment and rehabilitation of NCDs. In addition, public awareness of preventive health care is low.

While the number of private hospitals which provide specialized and advanced medical care has been increasing mainly in the urban areas, the access to advanced medical care is limited in the rural areas due to unavailability of tertiary hospitals. The vast territory of Mongolia combined with low population density pose an additional challenge to health care accessibility, and as a result, the urban-rural disparity in health care services is considerable. Furthermore, insufficient knowledge and skills of health workers at primary and secondary health facilities has led to people's distrust in these facilities. As a result, the tertiary hospitals are overcrowded due to dysfunction of the referral system.

Against this backdrop, the Mongolian Government approved "Mongolian Sustainable Development Vision 2030 (MSDV)" in February 2016. One of the ten ultimate goals is to "Improve the living environment of the Mongolian people to lead a healthy and long life, and to increase life expectancy at birth to 78 years". Hence, MSDV aims to "Create national disease prevention system, increase the access to diagnosis services and increase life expectancy of the population", and "Reduce the main non-communicable diseases, reduce health risk factors, and preventable deaths through an active and inclusive partnership of individuals, families, communities and organizations. In order to achieve MSDV, the establishment and enhancement of NCDs prevention and control system is urgently required.

Japan's assistance to the Mongolian health sector is included in "Realization of Inclusive Society" of the Country Assistance Policy for Mongolia. JICA has assisted the Mongolian health sector through provision of facilities and equipment, strengthening of institutional management, and human resources development by implementing various health projects. They have included the Grant Aid "Project for Improvement of Medical Equipment (1990 and 1993)" and "Project for Construction of Mongolia-Japan Teaching Hospital", and the Technical Cooperation "Project for the Establishment of Hospital Management and Medical Services at the Mongolia-Japan Teaching Hospital (2017-2022)" and "Project for Strengthening Post-graduate Training for Health Professionals in Primary and Secondary Level Health Facilities (2015-2020)". Nevertheless, great need exists for further assistance in NCDs prevention and control.

1.2 Objectives

“Data Collection Survey on Health Sector in Mongolia: Noncommunicable Diseases” (the Survey) aims to grasp the status of the health sector in Mongolia with special focus on NCDs prevention and control and the development partners’ activities in order to identify future directions and priorities for JICA’s cooperation.

1.3 Schedule and Methodology

The Survey was implemented from February to March 2019. The outline of Survey schedule is shown in Table 1. The in-country survey was conducted from 14 - 27 February 2019. The detailed in-country survey schedule and the list of people interviewed are attached as Annexes 1 and 2 respectively.

Table 1 Survey Schedule Outline

Tasks	Period
1. Preparatory work in Japan	4 - 8 February 2019 (5 days)
2. In-country survey	14 - 27 February 2019 (14 days)
3. Compilation of final report	1, 4 and 8 March 2019 (3 days)

The outline of each task is as follows:

(1) Preparatory work in Japan

The literature and relevant documents on NCDs in Mongolia were collected and analyzed to get an overview of current situation and challenges surrounding NCDs in the country. Then, the topic areas of the survey were identified. The work plan of the in-country survey was developed accordingly.

(2) In-country survey

The in-country survey was conducted in Ulaanbaatar (UB) City, Darkhan-Uul Province and Orkhon Province. Interviews, observation, and data collection were conducted at the government organizations such as the Ministry of Health, UB City and Provincial Health Departments, health facilities at tertiary, secondary and primary levels, private health facilities, and relevant donors.

Table 2 Organizations and Institutions Visited

Government Organizations	Ministry of Health, National Center for Public Health, Center for Health Development Darkhan-Uul Province Health Department, Orkhon Province Health Department
Tertiary Health Facilities	The Third State Hospital, National Cancer Center Regional Diagnostic and Treatment Center (RDTC), Orkhon Province
Secondary Health Facilities	Darkhan-Uul General Hospital ¹ , Sukhbaatar General Hospital in UB City
Primary Health Facilities	Suncall Family Health Center (FHC), Sukhbaatar District, UB City Ankhonii och FHC, Orkhon Province
Private Health Facilities	Intermed Hospital (UB City), Medipas Hospital (Orkhon Province)
Donors	World Health Organization (WHO), Asia Development Bank (ADB)

(3) Compilation of final report

Based on the results of in-country survey, the current situation and challenges of NCDs prevention and control in Mongolia were analyzed and recommendations for future directions and priorities of JICA’s cooperation are compiled in this final report.

¹ Only a brief observation of the hospital was conducted.

2 Status and Trends of Noncommunicable Diseases (NCDs)

2.1 Health Status of the Population

The total population of Mongolia was 3.18 million in 2017, out of which 67.6% resides in urban areas and 32.4% resides in rural areas. 1.46 million people or 46% of the population resides in Ulaanbaatar [1]. The main demographic indicators are presented in Table 3.

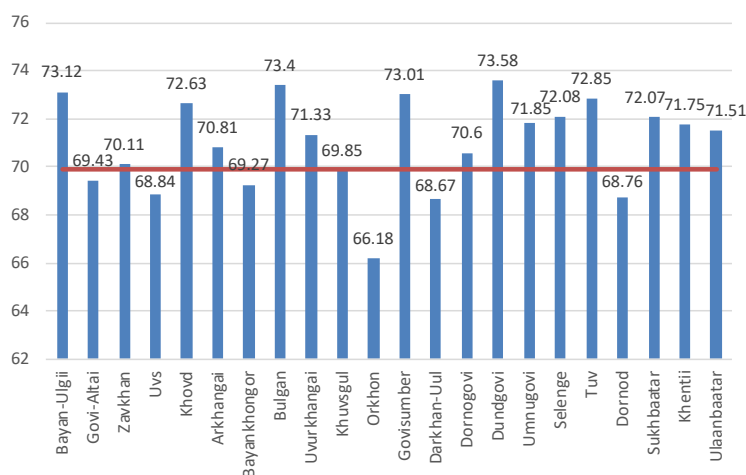
Table 3 Main Demographic Indicators

Indicator	1990	2010	2011	2012	2013	2014	2015	2016	2017
Total Population (thousand)	2,149.2	2,780.7	2,811.6	2,867.7	2,930.3	2,995.9	3,057.7	3,119.9	3,177.9
Urban Population (%)	54.6	63.3	67.1	67.2	68.1	66.4	68.0	68.9	67.6
Rural Population (%)	45.4	36.7	32.9	32.8	31.9	33.6	32.0	31.1	32.4
Crude Birth Rate (per 1,000 population)	35.3	23.8	25.3	26.3	27.5	27.6	26.7	25.3	24.0
Crude Death Rate (per 1,000 population)	7.9	6.3	6.2	5.9	5.6	5.6	5.4	5.2	5.1
Annual Growth Rate	4.3	2.4	2.6	2.7	3.0	3.1	3.1	3.0	2.8

Source: Center for Health Development (2018) Health indicators 2017 [1]

2.1.1 Life Expectancy and Healthy Life Expectancy

In 2017, The average life expectancy at birth in Mongolia is 69.89 years. Male life expectancy is 65.88 years and female life expectancy is 75.44 years. The female life expectancy is longer than that of male by 9.56 years. Six Provinces (Govi-Altai, Uvs, Bayankhongor, Khuvsgul, Orkhon, Darkhan-Uul, and Dornod Provinces) are below the national average [1].

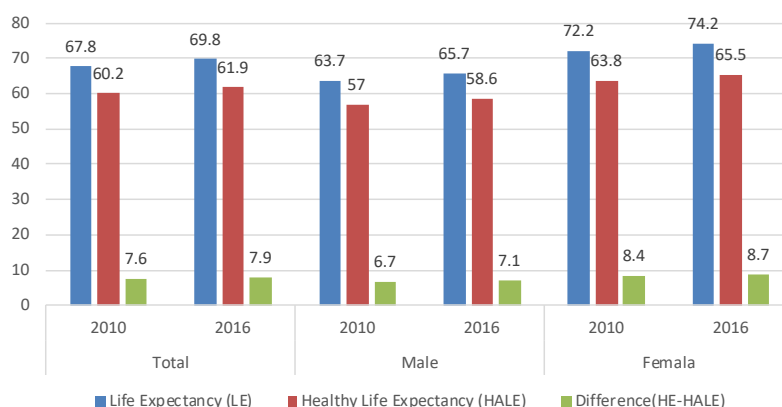


Source: Center for Health Development (2018) Health indicators 2017 [1]

Figure 1 Life Expectancy by Province/City (2017)

According to estimates by World Health Organization (WHO), both life expectancy at birth and healthy life expectancy² at birth have increased from 2010 to 2016 in Mongolia (Figure 2). However, life expectancy has increased by more years than healthy life expectancy and therefore the number of years lived in poor health has also increased.

² Healthy life expectancy summarizes total life expectancy into equivalent years of "full health" by taking into account years lived in less than full health due to diseases and injuries.

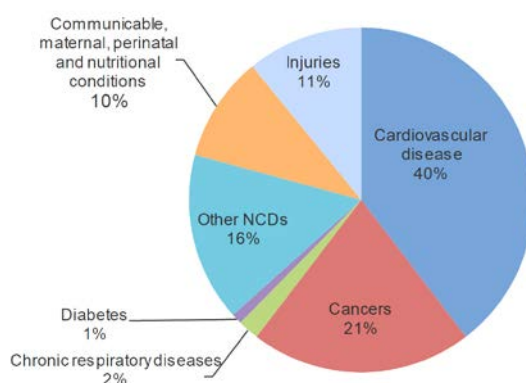


Source: WHO Mortality and global health estimates (<http://apps.who.int/gho/data/node.main.686?lang=en>)

Figure 2 Life Expectancy at Birth and Healthy Life Expectancy at Birth

2.1.2 Morbidity and Mortality

Cardiovascular diseases (diseases of the circulatory system) and malignant neoplasms (cancer) have been the leading causes of death since 1995 [1]. According to WHO [2], NCDs are estimated to account for 80% of all deaths as indicated in Figure 3. Cardiovascular diseases (40%) and cancer (21%) account for about 60% of all deaths.

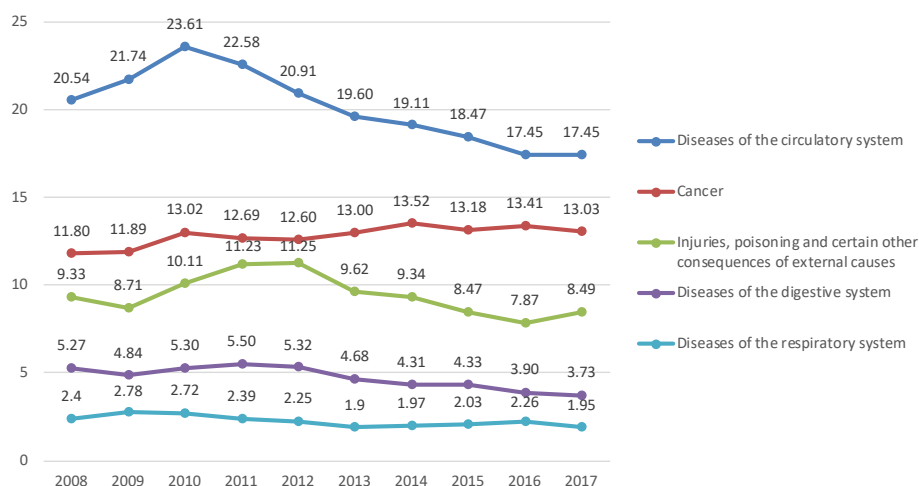


Source: WHO (2018) Noncommunicable Diseases (NCD) Country Profiles 2018 [2]

Figure 3 Proportional Mortality (2016)

In 2017, a total of 15,812 deaths were registered nationally, out of which 27.1% or 4,292 deaths occurred in hospitals. The leading causes of mortality in 2017 were: 1) diseases of the circulatory system (34.2%), 2) cancer (25.5%), 3) injuries, poisonings and certain other consequences of external causes (16.6%), 4) diseases of the digestive system (7.3%), and 5) diseases of the respiratory system (3.8%). Deaths from these diseases accounted for a combined 87.4% of all deaths [1]. The five leading causes of mortality (per 10,000 population) from 2008 and 2017 are shown in Figure 4.

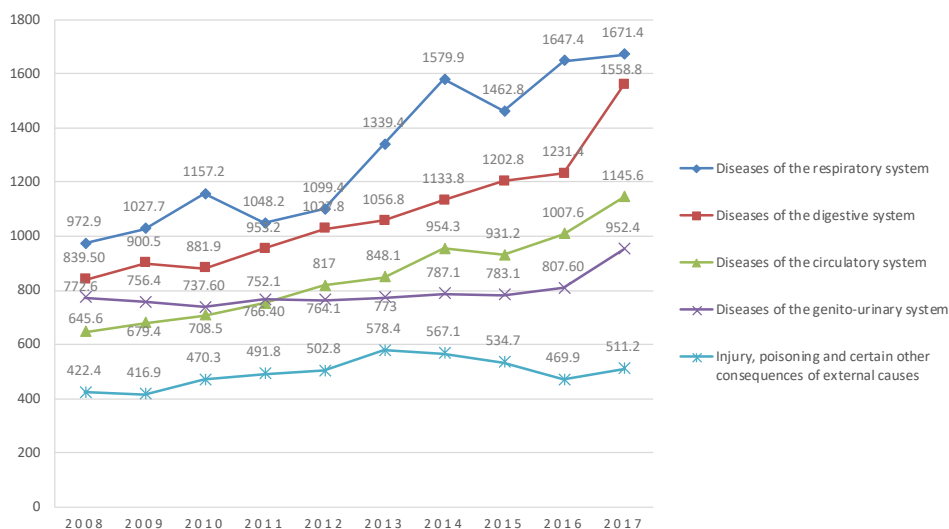
The top five causes of death by the International Classification of Diseases (ICD) are: 1) liver cancer, 2) heart isotope disease (ischemic heart diseases etc.), 3) stroke, 4) other cardiovascular disease, and 5) acute heart attack [1].



Source: Center for Health Development (2018) Health indicators 2017 [1]

Figure 4 Five Leading Causes of Mortality (per 10,000) (2008-2017)

As of 2017, the five leading causes of morbidity were: 1) diseases of the respiratory system, 2) diseases of the digestive system, 3) diseases of the circulatory system, 4) diseases of the genito-urinary system, and 5) Injury, poisoning and certain other consequences of external causes [1]. Figure 5 shows the five leading causes of morbidity (per 10,000) from 2008 to 2017.



Source: Center for Health Development (2018) Health indicators 2017 [1]

Figure 5 Five Leading Causes of Morbidity (per 10,000) (2008-2017)

2.2 Status of NCDs

The following section provides an overview of the major NCDs in Mongolia such as cardiovascular disease and cancer.

2.2.1 Cardiovascular Diseases

Around 5,000 - 5,500 people (1 in 3 people) die due to cardiovascular diseases every year in Mongolia. Cardiovascular diseases remain the number one cause of death. The gender-specific mortality rates (per 10,000) were 21.06 for males and 13.97 for females in 2017. Compared to the mortality rate of women at the same age group, rate of ischemic heart disease was 5.7 times higher, stroke was 1.9 times higher and arterial hypertension was 1.8 times higher in men [1]. Table 4 shows the cardiovascular disease mortality rate by age-group (per 10,000) in 2017.

Table 4 Cause-specific Cardiovascular Disease Mortality Rate by Age-Group (per 10,000) in 2017

	Cardiovascular Diseases	Stroke	Arterial hypertension	Ischemic heart diseases
Total	17.45	5.17	0.67	7.90
Under 20 years old	0.2	0.1	0.0	0.0
20-44	3.7	1.2	0.1	1.5
45-64	36.2	14.3	1.0	14.3
Over 65 years old	233.5	51.6	11.8	116.7
Male	21.06	6.08	0.58	10.12
Under 20 years old	0.3	0.1	0.0	0.1
20-44	5.6	1.7	0.1	2.5
45-64	56.1	19.2	1.3	25.7
Over 65 years old	281.8	64.8	10.5	144.8
Female	13.97	4.30	0.75	5.76
Under 20 years old	0.2	0.1	0.0	0.0
20-44	1.8	0.8	0.0	0.6
45-64	19.2	10.1	0.7	4.5
Over 65 years old	201.4	42.8	12.7	98.1

Source: Center for Health Development (2018) Health indicators 2017 [1]

2.2.2 Cancer

Since 1990, cancer has been the second cause of mortality. In 2017, a total of 6,073 new cancer cases were diagnosed in Mongolia, of which 50.7% (3,078 cases) were males and 49.3% (2,995 cases) were females. Table 5 shows the percentage distribution of new cancer cases in 2017 [1].

Table 5 Percentage Distribution of New Cancer Cases (2017)

Rank	Total	%	Male	%	Female	%
1	Liver	38.1	Liver	40.4	Liver	35.7
2	Stomach	14.6	Stomach	18.7	Cervix uteri	11.9
3	Lung	7.2	Lung	11.6	Stomach	10.5
4	Cervix uteri	5.9	Esophagus	6.0	Breast	8.2
5	Esophagus	5.7	Colon and rectum	3.4	Esophagus	5.3
6	Breast	4.1	Urology, nephrology	2.3	Colon and rectum	4.5
7	Colon and rectum	4.0	Pancreas	2.0	Ovary	3.0
8	Urology, nephrology	2.7	Lymphoid leukemia	1.9	Urology, nephrology	3.0
9	Pancreas	2.3	Brain nerves	1.4	Pancreas	2.6
10	Ovary	1.5	Pharynx	1.2	Lung	2.6

Source: Center for Health Development (2018) Health indicators 2017 [1]

In 2017, a total of 4,004 cancer deaths (2,262 cases in males and 1,742 cases in females) were reported in Mongolia. The number of cancer deaths and percentage distribution by site in 2017 are shown in Table 6 [1].

Table 6 Number of Cancer Deaths and Percentage Distribution by Site (2017)

Rank	Male	Deaths	%	Female	Deaths	%
1	Liver	920	40.7	Liver	649	39.8
2	Stomach	402	17.8	Stomach	219	12.6
3	Lung	316	14.0	Cervix uteri	127	7.3
4	Esophagus	155	6.9	Esophagus	120	6.9
5	Colon and rectum	68	3.0	Colon and rectum	89	5.1
6	Pancreas	50	2.7	Breast	75	4.3
7	Lip, oral cavity and pharynx	30	1.3	Pancreas	69	4.0
8	Brain	30	1.3	Lung, bronchial	66	3.8
9	Lymphoid leukemia	30	1.3	Ovary	55	3.2
10	Urology, nephrology	28	1.2	Brain	32	1.8

Source: Center for Health Development (2018) Health indicators 2017 [1]

Liver cancer is the most prevalent cancer both in male and female and both in terms of incidence and mortality. Liver cancer age-standardized incidence rate in Mongolia is 93.7 (per 100,000) and far exceeds that of any other country³. The seroprevalence of hepatitis B virus (HBV) and hepatitis C virus (HCV) in general population in Mongolia is very high⁴. The main causes of primary liver cancer in Mongolia are chronic infections with HBV and HCV, and co-infections of hepatitis B virus carriers with hepatitis C or hepatitis D viruses, as well as alcohol abuse [3] [4].

In 2017, 78.3% of cancer patients diagnosed at stage III/IV or in a late stage [1]. The delay in diagnosis of cancer remains as one of the major challenges in cancer control for these 20 years⁵.

Although the number of new cancer patients has been around 6,000 for these 5 years⁶, it is forecasted that annual new cases of cancer will increase to 7,500 by 2025 [5].

2.2.3 Diabetes

The morbidity (per 10,000) of diabetes was 100.8 in 2017, which increased as compared to the rate of 78.6 in 2016. The gender specific rate was 94.6 for males and 106.8 for females. When stratified by age-group, the highest rate was recorded among people aged 45-65 years with a rate of 354.2. When stratified by location, the highest rate was reported in the central region with a rate of 79.6. In the central region, the rates were higher in Dornogovi Province (107.1), Darkhan-Uul Province (99.6) and Selenge Province (97.8) [1]. According to WHO, the age-standardized prevalence of diabetes has steadily increased in Mongolia [6].

³ Mongolia had the highest rate of liver cancer in 2018, followed by Egypt. Mongolia had the highest rates both in men (117.0) and women (74.1). <https://www.wcrf.org/dietandcancer/cancer-trends/liver-cancer-statistics> (Accessed on 28 February 2019)

⁴ The high prevalence of HVB and HVC is attributed to improper sterilization and disinfection of medical and dental equipment such as syringes that might contribute to the spread of hepatitis viruses [4] [13].

⁵ Interview at the National Cancer Center on 20 February 2019.

⁶ Ibid.

2.3 Status of Risk Factors

STEPwise approach to NCD risk factor surveillance (STEPS Survey) was conducted three times in 2005, 2009 and 2013 in Mongolia. Table 7 shows the summary of key findings of each survey.

According to the survey results, the prevalence of NCD risk factors among people aged 15-64 years has been increasing since the time of the first survey in 2005. As of 2013, 1 in 2 people are overweight and obesity, 1 in 3 people have high blood pressure, 1 out of 4 people are physically inactive, and 1 in 2 men smoke cigarettes [5]. Although the percentage of people who consumed alcohol has decreased as compared to the 2005 level, the mean standard drinks per single occasion had increased as compared to the 2009 level. Furthermore, the proportion of the population with 3 or more risk factors have increased by about 13% since 2005 and the people with none of the risk factors were only 1% of the total population aged 15-64 years.

Table 7 NCD Risk Factors in 2005, 2009 and 2013

Risk Factors	2005 (n=3,411)	2009 (n=5,438)	2013 (n=6,013)	Trend ⁷
Tobacco Use, Alcohol, Fruit and Vegetable Consumption, Physical Activity (aged 15-64 years)				
Percentage who currently smoke tobacco	26.6%	27.6%	27.1%	Deterioration
Percentage who currently smoke tobacco daily	23.3%	24.3%	24.8%	Deterioration
Percentage who consumed alcohol in the past 12 months	66.9%	58.5%	64.6%	<u>Improvement</u>
Percentage who drank on 5 or more days per week in the past 12 months	0.6%	0.8%	0.3%	<u>Improvement</u>
Mean number of standard drinks consumed on a drinking occasion among current (past 30 days) drinkers ⁸	-	7.7	9.0	Deterioration
Mean number of days fruit consumed	1.8	1.2	1.1	Deterioration
Mean number of days vegetable consumed	5.7	4.8	4.5	Deterioration
Percentage with low levels of activity ⁹	7.4	7.5	22.3	Deterioration
Overweight/obesity, Raised blood pressure (aged 15-64 years)				
Mean Body Mass Index (BMI) (kg/m ²)	23.9	24.6	25.9	Deterioration
Percentage who are overweight (BMI ≥ 25 kg/m ²)	32.4	39.8	54.4	Deterioration
Percentage with raised blood pressure (BP) ¹⁰	28.5%	27.3%	27.5%	<u>Improvement</u>
Percentage with raised BP ¹¹ who are not currently on medication for raised BP	50.4%	61.1%	71.9%	Deterioration
Raised blood glucose, Abnormal blood lipids (aged 25-64 years)				
Mean fasting blood glucose, including those currently on medication for raised blood glucose (mmol/L)	4.9	4.7	5.0	Deterioration
Mean total blood cholesterol (mmol/L)	4.7	4.4	5.1	Deterioration
Percentage with raised total cholesterol ¹² or currently on medication for raised cholesterol	23.9%	41.7%	61.9%	Deterioration
Prevalence of Combined NCD Risk Factors¹³ (aged 15-64 years)				
Percentage with none of the NCD risk factors	3.4%	3.0%	1.0%	Deterioration
Percentage with 3-5 of the NCD risk factors	23.8%	26.4%	36.9%	Deterioration

Source: Public Health Institute et al. (n.d.) Third national STEPS Survey on the Prevalence of Noncommunicable Disease and Injury Risk Factors-2013 [7]

⁷ As compared to the result in 2005.

⁸ A standard drink is any alcoholic drink containing 10 grams of pure alcohol, ethanol.

⁹ defined as < 600 MET-minutes per week

¹⁰ Systolic Blood Pressure (SBP) ≥ 140 and/or Diastolic Blood Pressure (DBP) ≥ 90mmHg or currently on medication for raised BP

¹¹ SBP ≥ 140 and/or DBP ≥ 90 mmHg

¹² Total blood cholesterol ≥ 5 mmol/L

¹³ Risk factors are 1) Current daily smokers, 2) Consuming less than 5 servings of fruit and/or vegetables per day, 3) Low level of physical activity, 4) Overweight (BMI ≥ 25 kg/m²) and 5) Raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP

3 Status and Challenges of NCDs Prevention and Control

3.1 Policy and Strategies

Mongolia’s national development policy, “Mongolian Sustainable Development Vision 2030 (MSDV 2030)” (2016), identifies ten ultimate goals to be achieved by 2030. One of the ten goals is to “Improve the living environment of the Mongolian people to lead a healthy and long life; increase life expectancy at birth to 78 years”. The following four objectives are set for the health sector. NCDs are included in Objective 3.

- Objective 1: Create national disease preventable system, increase the access to diagnosis services and increase life expectancy of the population.
- Objective 2: Reduce factors affecting preventable maternal and child mortality by improving the quality and accessibility of reproductive health care services, and decrease maternal and child mortality and malnutrition.
- Objective 3: Reduce the main NCDs, reduce health risk factors, and preventable deaths through an active and inclusive partnership of individuals, families, communities and organizations.**
- Objective 4: Decrease the spread of communicable diseases through prevention, early detection of communicable diseases, and preparedness to treat them, through improving the capacity of health services for fast response actions, and ensuring access to extremely necessary vaccines for everyone.

MSDV 2030 is being implemented in three phases: Phase I (2016-2020), Phase II (2021-2025) and Phase III (2026-2030). The indicators are defined for the four objectives above and numerical targets are set for each phase. The indicators and targets relating to NCDs are presented in Table 8.

Table 8 Indicators related to NCDs in “Mongolian Sustainable Development Vision 2030”

Indicator	2015 (Baseline)	Phase I 2016-2020	Phase II 2021-2025	Phase III 2026-2030
Average life expectancy (Years)	69.89	71	74	78
Deaths caused by cardiovascular diseases (per 10,000)	18.47	17.4	16	14
Deaths caused by cancer (per 10,000)	13.18	10.5	9	8

Source: State Great Hural of Mongolia (2016) Mongolia Sustainable Development Vision 2030 [8]

The current national health policy, or “State Policy on Health (2017)” aims to extend the average life expectancy of Mongolians by improving quality and inclusivity of healthcare services through disease prevention, introduction of new technology of evidence-based diagnostics and treatment, and ensuring proper system of health sector financing in order to meet the health needs and demand of the population. The policy is being implemented in two phases: 2017 - 2021 and 2022 - 2026. NCDs related indicators and numerical targets are presented in Table 9.

Table 9 Indicators related to NCDs in “State Policy on Health (2017)”

Indicator	2015 (Baseline)	2021 Target	2026 Target
Coverage of arterial hypertension screening (%)	61.5	75.0	85.0
Coverage of diabetes screening (%)	60.3	70.0	80.0
Coverage of cervical cancer screening (%)	39.5	65.0	80.0
Obese children among under five (%)	16.7	16.0	15.7

Source: Government of Mongolia (2017) State Policy on Health, Attachment to the Government Resolution No. 24 of 2017 [9]

Currently, the Third “National Programme on the Prevention and Control of NCDs 2017-2021” (dated September 2017) is being implemented to follow the implementation of the first “National Programme on Integrated Prevention and Control of NCDs 2006-2013” (dated December 2005) and the second “National Programme on the Prevention and Control of Diseases Caused by Unhealthy Lifestyles 2014-2021” (dated February 2014)¹⁴.

The Third National NCDs Programme is being implemented in two phases: 2017 - 2019 and 2020 - 2021. Annex 3 contains the indicators and targets of the Third National NCDs Programme”. The Third National NCDs Programme is summarized in Table 10.

Table 10 Overview of the Third National Programme on the Prevention and Control of NCDs (2017-2021)

Roles and Authorities	<ul style="list-style-type: none"> ■ Minister of Health is to develop and implement a comprehensive action plan on implementing the national programme nationwide and monitor the implementation of the Programme. ■ Minister of Finance, Minister of Health and Governors of the capital city and aimags (Provinces) are to take financing measures for the Programme. ■ Minister of Health is to report back to the Government Cabinet on the implementation progress of the Programme in the 1st quarter of each year.
Financing	The financing of the Programme shall be comprised: State and local budget; Grant aid and loan of foreign countries and international organizations, projects and programs; Donation and financial assistance of individual citizens and organizations; and Other resources.
Management, Monitoring and Evaluation	<ul style="list-style-type: none"> ■ Health Councils under the capital city and <i>aimag</i> (Provincial) Governor’s Offices will be responsible to approve and implement sub-program at local level, be accountable for and report back on the implementation of the sub-program and annual workplan to the State Central Administrative Authority responsible for health matters by February annually. ■ State Central Administrative Authority responsible for health matters will submit a comprehensive report on the Programme implementation to the Government Cabinet within the 1st quarter annually. ■ State Central Administrative Authority responsible for health matters will conduct the medium term review for the Programme in 2019, and capital city and <i>aimag</i> (Provincial) Governor’s Offices will be responsible for conducting the Programme reviews at local level. ■ Process evaluation will be organized at State Administrative Authorities at least 4 times a year during the Programme implementation.
Scope	Prevention and control of preventable NCDs, namely, cardiovascular diseases, cancer, diabetes, kidney disorders, chronic obstructive pulmonary disease, digestive system diseases, bone and muscle disorders, arthritis, mental disorders, and their primary causes, which are smoking, harmful consumption of alcohol, unhealthy diet, physical inactivity, stress, allergies of non-infectious causes, avoidable blindness and deafness.
Goal	To contain the prevalence of commonly occurring NCDs and their risk factors based on the multilateral cooperation among organizations, communities, families and individual citizens, to strengthen the prevention, control, early detection and surveillance of diseases.
Objective 1	To reduce the prevalence of primary and intermediate risk factors of NCDs by enabling the environment for promoting health at organizations and entities, and by improving the knowledge and attitude of the people on healthy living.
Objective 2	To create the environment for reducing the morbidity and mortality by strengthening the preventive measures for NCDs and comprehensive care services of early detection, diagnosis and treatment based on the participation of health care organizations and the provision of early and regular check-ups for NCD patients.
Objective 3	To establish and strengthen the open electronic system on NCDs registration, information, surveillance, monitoring and evaluation at national, local levels and other sectors, and to enhance the scientific and research activities on reducing NCDs and its risk factors.
Objective 4	To strengthen the participation and cooperation of local and international organizations, other social sector institutions, to improve the governance, leadership and capabilities of local and national organizations in order to prevent and control of NCDs.

Source: The Government of Mongolia (2017) National Programme on the Prevention and Control of Non-Communicable Diseases (Annex to the Government Resolution No. 289 of 2017) [5]

¹⁴ The second programme was void in 2017. The third programme was developed in 2017 and is being implemented until 2021.

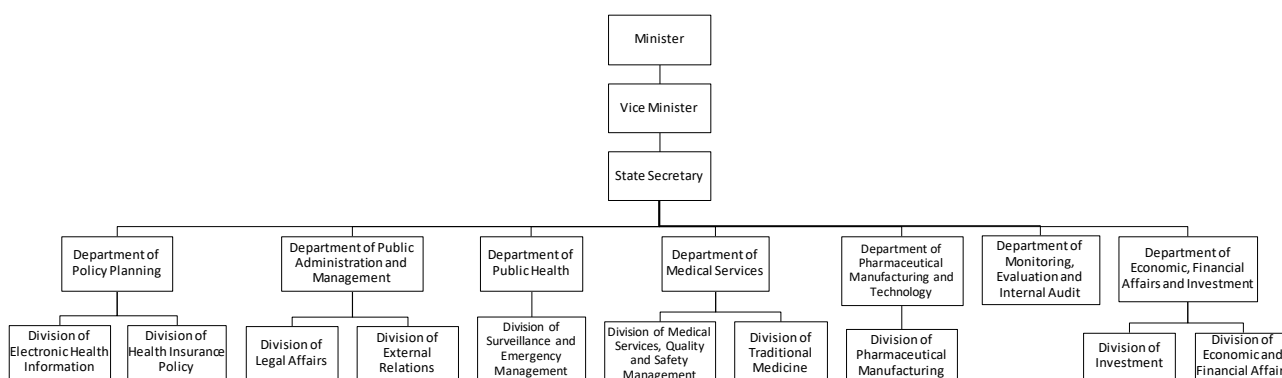
3.2 Implementation Structure and Budget

Main government organizations involved in NCDs prevention and control include the Ministry of Health (MOH), National Center for Public Health (NCPH), and City and Province Health Department. An overview of these organizations is presented below.

3.2.1 Ministry of Health

The Department of Public Health, MOH is mainly responsible for NCDs prevention and control. The number of officials in charge of NCDs is eight. Apart from the Department of Public Health, various departments involved in NCDs prevention and control in MOH. For instance, while the Department of Public Health is responsible for prevention and early detection, and the Department of Medical Services is in charge of treatment. The Department of Monitoring, Evaluation and Internal Audit conducts evaluation of the national NCDs programme. The Department of Public Health is also in charge of the Health Promotion Fund¹⁵ which potential sources of the fund are the tax on alcoholic beverages, tobacco and drugs¹⁶.

MOH has been implementing the National Programme on the Prevention and Control of NCDs with multisectoral collaboration with other related ministries and organizations. Other ministries report back to MOH about their activities implemented¹⁷. The implementation mechanism is also described in Table 10.



Source: Website of Ministry of Health <https://www.mohs.mn/p/6> (as of 11 February 2019)

Figure 6 Organigram of Ministry of Health

The financing sources of the Third National NCDs Programme (2017-2021) include State and local budget; Grant aid and loan of foreign countries and international organizations, projects and programs; Donation and financial assistance of individual citizens and organizations; and other resources [5]. The Programme is not budgeted. The total amount of budget required for the implementation of the Programme is unknown. MOH has started developing a budget plan per Programme in 2019. Budget for local health departments will be allocated based on performance such as number of screenings performed¹⁸.

¹⁵ Potential sources of the fund are 1% of the excise tax on alcoholic beverages; 2% of the excise tax on tobacco and 2% of import and excise taxes on drugs.

¹⁶ Interview with MOH on 20 February 2019.

¹⁷ Ibid.

¹⁸ Ibid. Amount of budget is unknown.

3.2.2 National Center for Public Health (NCPH)

NCPH is under the supervision of MOH and is responsible for public health research activities at the national level in order to provide MOH and other related organizations with evidence for policy formulation [10]¹⁹.

NCPH consists of seven departments and Public Health Reference Laboratory. The seven departments are: 1) Department of Public Health Policy Implementation and Coordination, 2) Department of Environmental Health, 3) Department of Food and Nutrition Research, 4) Department of Health Promotion and Disease Prevention, 5) Department of Biotechnology and Innovation, 6) Department of Epidemiology and Emergency Operation, and 7) Department of Finance and Logistics.

The mission of NCPH is as follows [11]:

- To promote and protect public health by preventing diseases and providing health education to the public.
- To instill healthy behaviors in individuals and set up a system to conduct advocacy activities nationwide.
- To develop evidence-based interventions and expand surveillance of disease and risk factors impacting population health.
- To strengthen national public health capacities, improve human resource preparation system and ensure human resource development.
- To ensure continued financial stability of the system with stable sources of funding sufficient to implement public health activities nationwide.
- To provide technical and methodological assistance to other health organizations.

NCPH has conducted NCDs related surveys such as STEPS Survey and National Nutrition Survey. The fourth STEP survey will be conducted in 2019.

The Department of Health Promotion and Disease Prevention, the main department responsible for NCDs, conducts health education for local people, and plans and implements national campaigns. For example, the department provides technical support to City and Province Health Departments by developing and providing policy direction for the conducts of events and providing technical materials and information. Also, in order to reduce risk factors for NCDs, NCPH conducts campaigns such as salt reduction campaign in cooperation with other sectors and private entities²⁰.

3.2.3 City and Province Health Department

According to the Third National NCDs Programme (2017-2021), a sub-programme and annual workplan is to be developed at city and provincial levels. Darkhan-Uul and Orkhon Provinces implement the sub-programme after its approval from the Governor's Offices. UB City develops and implements an annual workplan based on the National NCDs Programme. Districts of UB City also develop an annual workplan and numerical targets such as number of screening and conduct activities.

¹⁹ Interview with NCPH on 20 February 2019.

²⁰ In salt reduction campaign, NCPH cooperates with the Ministry of Food, Agriculture and Light Industry and the food industry to reduce the salt content in bread and ham. Interview with NCPH on 20 February 2019.

When the Law on Health (2011) was amended in 2016, a section was included that stated “The Public Health Center shall organize activities to implement state policy and legislation on public health and create a favorable environment for health promotion at the aimag (Province) and District level”²¹. Therefore, Public Health Centers are to implement the sub-programme at City and Provincial level. Although Public Health Centers have been established in Provinces, Public Health Centers have not been established in Districts of UB City. As of February 2019, the UB City submitted the plan for the establishment of Public Health Centers to the Parliament and the plan awaits the Parliament’s approval²².

The forms and situations of Public Health Center vary depending on the budget and other circumstances of the Provinces. The following sections present the overview of Public Health Centers in Darkhan-Uul and Orkhon Provinces.

(1) Public Health Center of Darkhan-Uul Province Health Department

The Public Health Center of Darkhan-Uul Province is established and managed independently and separatory from the other three divisions (Medical Service Division, Finance and Administration Division, and Monitoring and Evaluation Division) of Province Health Department. The Public Health Center was established by the Mayor’s order in 1997. The number of staff is 34 (17 medical doctors and 17 instructors such as nurses).

The main tasks of Public Health Center relating to NCDs are: 1) implementation of the National NCDs Programme, 2) conduct of seminars and health education for local residents, 3) implementation of health examination and screening (health checkups for company employees, screening for pregnant women, the elderly, and adolescent and youth), 4) survey and surveillance, and 5) advocacy and mass media campaign for health promotion. Apart from the NCDs related activities stated above, the Public Health Center conducts public health activities such as adolescent health (telephone consultation, pelvic examination etc.) cancer registration, nutrition counselling and others.

In Darkhan-Uul Province, the Provincial Assembly approves the NCDs sub-programme and allocates budget for the sub-programme. The budget necessary for implementing the sub-programme is estimated at 795.15 million MNT for four years (see Table 11). The breakdown of Item 4 of Table 11 (Provincial budget and investment form Local Investment Fund²³) is described in Table 12.

Table 11 Budget of Darkhan-Uul Province NCDs Sub-Programme

Item	Budget (MNT)
1. State budget from MOH and Health Insurance Fund	402,800,000
2. Health Promotion Fund	23,300,000
3. Donor support	60,000,000
4. Provincial budget and investment from Local Development Fund	115,000,000
5. State budget for Province Health Department	194,050,000
Total	795,150,000

Source: Darkhan-Uul Province NCDs Sub-Programme

²¹ <https://www.legalinfo.mn/law/details/49> (Accessed 28 February 2019)

²² Interview with the UB City Health Department on 19 February 2019.

²³ Орон нутгийн хөгжлийн сан (OHXC) in Mongolian.

Table 12 Breakdown of Provincial budget & investment from Local Investment Fund (Item 4, Table 11) (MNT)

Item	2018	2019	2020	2021
1. Spirometer		10,000,000		
2. Portable Ultrasound Machine		35,000,000		
3. Electrocardiographic Monitor		5,000,000		
4. Equipment for osteoporosis examination			15,000,000	
5. Preventive screening of young people of conscription age	5,000,000	5,000,000	5,000,000	5,000,000
6. Screening equipment for predicting myocardial infarction / stroke risk			30,000,000	
Sub total	5,000,000	55,000,000	50,000,000	5,000,000
Total		115,000,000		

Source: Darkhan-Uul Province NCDs Sub-Programme

(2) Public Health Center of Orkhon Province Health Department

Same as Darkhan-Uul Province, the Public Health Center of Orkhon Province is established and managed independently from the Province Health Department²⁴. The Public Health Center has a counseling center, a television broadcasting studio, a training room, an exercise room, etc. The number of staff is 11. In addition, four staff members who specialize in dentistry, vaccination, adolescent health etc. are seconded from RDTC in Orkhon Province. The number of staff should be from 18 to 20. The Province Health Department requested MOH to increase the number of staff as the number of staff required for the center is from 18 to 20. However, the request was not approved by the Ministry of Health.

In Orkhon Province, the Provincial Assembly approves the NCDs sub-programme and allocates budget for the sub-programme. However, budget necessary for implementing the entire sub-programme is not estimated.

3.3 Surveillance and Information System

The situation of surveillance and information system relating to NCDs prevention and control is explained below.

3.3.1 Data and Information on Mortality, Morbidity and Others

The Center for Health Development under MOH publishes “Health Indicators” annually. NCDs related data such as morbidity, mortality, and screenings are contained in Health Indicators. The Center for Health Development gathers data using the programme called “H info” from around 4,000 health institutions in the country. The Center also collects related data and information from Provincial Health Offices. “H info” is hospital-based information system and is not used at the primary health facilities such as FHCs²⁵.

The programme called “eHealth” is installed to input screening data at the Sukhbaatar District Health Center and Suncall FHC in Sukhbaatar District.

²⁴ The Provincial Health Department and the Public Health Center used the same building from 2014 to 2018. The Public Health Center has become physically independent since the Provincial Health Department has moved to another building in 2019.

²⁵ Interview with Center for Health Development on 19 February 2019.

3.3.2 Cancer Registry

Mongolia has a national cancer registry. The national cancer registry is located at the National Cancer Center. The data is registered by the staff members who underwent the cancer registry training. The registration staff is assigned to each Prefecture and District. The national cancer registry is population-based and has data on all the cancer diagnostic cases. There is no duplication in the registration as the data is coded by the identification card number. The Mongolia's national cancer registry uses software called "CanReg-Mon" which was developed based on the CanReg software developed by the International Association of Cancer Registries (IACR). In addition, there is a software programme for registering screening data²⁶.

The software programmes of CanReg-Mon and screening data registry have to be updated and the server's disk is almost full. Although there is an urgent need to upgrade and expand the software programmes, no measures have been taken due to budget constraints²⁷.

3.3.3 Risk Factor Surveillance and Surveys

STEPS survey, NCDs risk factor surveillance, was conducted in 2005, 2009 and 2013²⁸. The fourth STEPS survey was planned to be implemented in 2018, but it was postponed to 2019 due to the financial and other reasons. NCPH will conduct the survey with the financial and technical support from WHO.

Table 13 lists the NCDs related surveys including the National Nutrition Survey were conducted since 2000.

Table 13 NCDs related Surveys (after 2000)

Year	Survey
2004	3 rd National Nutrition Survey ²⁹
	Global Youth Tobacco Survey
2005	1 st STEPS Survey
2009	2 nd STEPS Survey
2010	4 th National Nutrition Survey
	Global School-based Student Health Survey
2013	3 rd STEPS Survey
	Global School-based Student Health Survey
2017	5 th National Nutrition Survey
2019	4 th STEPS Survey (planned)

Source: Survey Team

²⁶ Can be assessed by logging into <http://news.screening.gov.mn/>

²⁷ Interview with National Cancer Center on 20 February 2019.

²⁸ The Millennium Challenge Account (MCA) project supported the second and third surveys

²⁹ The first survey was conducted in 1992 and the second was in 1999.

3.4 NCDs related Health Services

3.4.1 Health Facilities

Table 14 shows the number and type of health facilities in Mongolia in 2017.

Table 14 Number of Health Facilities by Type (2017)

Level/Type	UB City	Provinces
Tertiary	Central Hospital (3) ³⁰ Specialized Center (10) ³¹	Regional Diagnostic and Treatment Center (RDTC) (5) ³²
Secondary	District General Hospital (12)	Provincial General Hospital (16) Rural General Hospital (6)
Primary	Family Health Center (FHC) (133) Village Hospital (5)	Family Health Center (FHC) (85) Soum Health Center (SHC) (273) Inter-soum Hospital (39) Village Hospital (14)
Private	Private Hospital with beds (134) Private Hospital for outpatients (862)	Private Hospital with beds (106) Private Hospital for outpatients (364)

Source: Center for Health Development (2018) Health indicators 2017 [1]

3.4.2 Status of Medical Equipment (Diagnostic Imaging Equipment)

The number and location of main diagnostic imaging equipment such as Magnetic Resonance Imaging (MRI) units, Computed Tomography (CT) scanners and angiographic machines as of 2017 is as follows:

- A total of 15 MRI units exist in Mongolia (both public and private). 14 MRI units exist in UB City and Orkhon Province has one MRI unit at Medipas Hospital.
- A total of 27 CT scanners exist in Mongolia. In provinces, CT scanner is placed in each RDTC.
- A total of 10 angiographic machines exist in the country. Angiographic machines are placed in the public health facilities such as the First State Hospital, the Third State Hospital (2 machines), the National Cancer Centers. Private health facilities with an angiographic machine include Medipas Hospital.

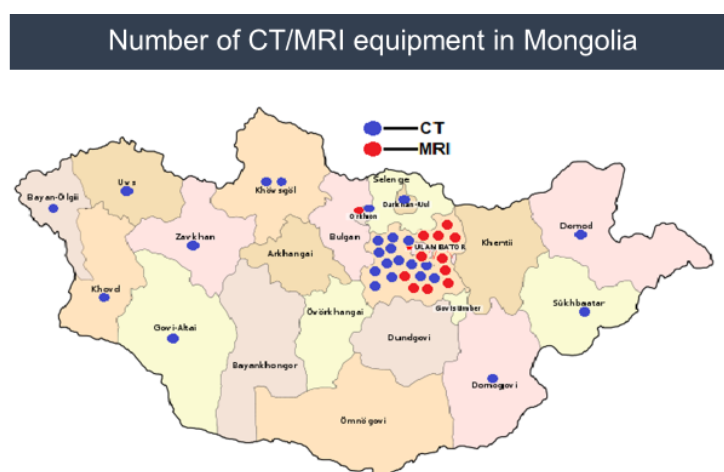


Figure 7 Number and Location of CT/MRI Equipment in Mongolia³³

³⁰ I State Central Hospital, II State Central Hospital and III State Central Hospital.

³¹ National Cancer Center, National Center for Mental Health etc.

³² RDCT is established in Orkhon, Dornod, Uvurkhangai, Khovd and Umnugovi Provinces.

³³ Provided by Dr. Erdembileg, Mongolia National University of Medical Sciences on 15 February 2019.

The number and location of CT scanners and MRI units in Mongolia is shown in Figure 7. The main possible reasons for urban and regional disparity include 1) equipment itself is expensive, 2) economic gains are low in the rural areas with low population density (not profitable), 3) maintenance service providers³⁴ are in UB City³⁵.

3.4.3 Tertiary Health Facility

(1) Central Hospital and Specialized Center

The Third State Hospital and National Cancer Center are, as national specialized hospital, providing highly specialized diagnostic and treatment services and their skills have been improving. For example, LuxDev (Luxembourg) has been supporting the Third State Hospital in the areas of cardiology and cardiac surgery. With the Luxembourg's support, the medical staff have been trained abroad such as in France, Luxembourg, Korea and Japan to improve their skills. The National Cancer Center has been offering the practical trainings to medical staff from abroad (Kazakhstan etc.).

The major hindrance to the provision of highly specialized services is the health insurance system. If the drugs and services are not covered by the health insurance, hospitals cannot provide these drugs and services to the patients as the patients cannot afford to pay. As an example, interventional radiology (IVR) was not covered by the health insurance about five years ago and the patients had to pay fully by themselves. However, the health insurance currently covers 75% of the total cost of IVR and the share of patients' out-of-pocket payments becomes 25%. The number of IVRs has been increasing at the Third State Hospital accordingly.

In Mongolia, rehabilitation services are emerging but remain limited in terms of national coverage or quality. For example, acute rehabilitation services are offered at the Third State Hospital. However, the continuity after discharge is a challenge due to the limited capacity for rehabilitation in the recovery phase.

(2) Regional Diagnostic and Treatment Center (RDTC)

RDTC is categorized as tertiary health facility. However, RDTC in Orkhon Province acts as secondary health facility since the number of staff does not meet the standard as required for RDTC. In addition, medical equipment is a big challenge for RDTC in Orkhon Province considering the fact that essential diagnostic equipment such as CT scanner, mammography and endoscope are out of order. If a patient needs MRI or CT examination, the patient needs to go to Mepipas Hospital to take MRI or CT and examination fee must be paid by patient's out-of-pocket.

3.4.4 Secondary Health Facility

The district general hospitals of UB City provide services for limited specialties such as internal medicine, neurology and pediatrics. Therefore, the district general hospitals are not able to provide services as required by the Law on Health. In response to this situation, the model general hospital in Songinokhaikhan District is being constructed with the support from ADB³⁶. The UB City Health

³⁴ The vendor/manufacturer's service representatives or third-party service representatives.

³⁵ Interview with Dr. Erdembileg, Mongolia National University of Medical Sciences on 15 February 2019.

³⁶ Fourth Health Sector Development Project.

Department has an intention to upgrade all district general hospitals to have more than seven specialty areas.

Furthermore, general surgery, rehabilitation and palliative care departments are being added to the district general hospitals in order to reduce the overcrowding at the tertiary health facilities, state hospitals and specialized centers. Therefore, strengthening of capacity to provide rehabilitation and palliative care services at district general hospitals will be an important issue in the future.

3.4.5 Primary Health Facility

At FHCs, screenings for diabetes, hypertension, cervical cancer and breast cancer are conducted. Blood glucose and lipid levels etc. are measured by point-of-care testing devices. Tests for *Helicobacter pylori* and tumor marker tests are performed by rapid test kits. On the other hand, there are some opinions that it is necessary to improve the capacity of FHC doctors (especially those who are working immediately after the graduation from medical school). Also, it seems that diagnostic ability varies depending on medical doctors and FHCs. In addition, the shortage of human resources at FHCs is also an issue. For example, at Suncall FHC in UB City, health volunteers carry out blood pressure measurement.

FHCs also provide public health services and conduct health education to the local people. However, participation rates of local residents are generally low and the public health service activities are limited

3.4.6 Private Health Facility

The health examination centers of Intermed Hospital in UB City and Medipas Hospital in Orkhon Province are equipped with wide-range of medical equipment necessary for examining items similar to the ones in Japan. Medipas Hospital has advanced diagnostic equipment such as CT, MRI, mammography, ultrasound diagnostic equipment, and various types of endoscopy and offers the Japanese-style health check-up services.

Both centers provide health check-up services mainly for company employees. When individuals undertake health check-up, the check-up fee is paid by the individual. In case of Intermed Hospital, standard package for male costs 596,000MNT and for female costs 659,000MNT³⁷.

³⁷ <http://www.intermed.mn/service/uridchilan-sergiilekh-tuv> (Accessed 1st March 2019)

4 Relevant Donor Support Activities

Activities of major donors providing support in the area of NCDs prevention and control are discussed below.

4.1 World Health Organization (WHO)³⁸

WHO mainly provides financial and technical support to MOH. WHO extends various assistance in the area of NCDs prevention and control including the financial and technical support for the conduct of STEPS survey. Other ongoing and upcoming support activities are as follows:

(1) Cardiovascular Disease Management

WHO will introduce HEARTS (technical package for cardiovascular disease management in primary health care) in 2019 to strengthen the cardiovascular disease management. The Technical Working Group has already been established with the participation from MOH, specialized centers, provincial and city health departments, professional associations and others. HEARTS is planned to be piloted in Songino Khaikhan District, UB City (8 to 10 FHCs) and Darkhan-Uul Province (3 FHCs and 3 SHCs). After the pilot is evaluated, HEART will be implemented nationwide.

With the aim of strengthening diagnosis and treatment capacity at the primary health care level, trainings will be provided to doctors, nurses and social workers at FHCs and SHCs. Also, as one of the main areas of support, an IT system for registration (software called *HeartCare*) will be introduced. WHO will cooperate with the Center for Health Development and Provincial Health Departments in introducing health information system.

(2) Cervical Cancer

The seven UN agencies including WHO has been implementing the UN Joint Global Programme on Cervical Cancer Prevention and Control in Mongolia. Mongolia was selected as one of the six initial partner countries³⁹. WHO provides financial and technical support to strengthen primary prevention (e.g. introduction of human papilloma virus immunization) and secondary prevention (e.g. screening).

(3) Rehabilitation

Although rehabilitation is an important aspect of health care as it relates to various health conditions and impairments, there is no national action plan, and thus the national response is weak. As a way forward of *the Western Pacific Regional Framework on Rehabilitation*, which was endorsed in October 2018, a consultant from WHO Regional Office for the Western Pacific (WPRO) will conduct a situational analysis on rehabilitation in Mongolia in May 2019. The Department of Medical Services is in charge of rehabilitation in MOH.

³⁸ Interview with WHO on 25 February 2019.

³⁹ Other 5 countries are Myanmar, Kyrgyzstan, Morocco, Tanzania, and Bolivia.

4.2 Asia Development Bank (ADB)⁴⁰

ADB does not currently provide support specifically targeting NCDs. However, it provides comprehensive and wide-ranging support including health system strengthening that leads to the improvement of NCDs response. ADB’s support includes development of Health Sector Master Plan, development of clinical guidelines of diabetes and chronic respiratory diseases at the primary health care level, construction of a multifunctional district hospital, legal and regulatory reforms.

In addition, NCDs Prevention (technical assistance, 1.0 million USD) is in the pipeline and will be implemented in 2020.

4.3 LuxDev (Luxembourg Agency for Development Cooperation)

LuxDev, implementing agency for Luxembourg's official bilateral development policy, has been extending assistance to improve the health services in the area of cardiovascular diseases at the National Cardiac Center (NCC) of the Third State Hospital and nation-wide since 2002. The current project (2017-2020) has been conceived as the exit phase of a long-standing intervention. The major activities of the current and past projects include the introduction of the nation-wide telemedicine network (MnCardio), upgrading of cardio surgery activities, provision of equipment such as cardiovascular ultrasound machines, conduct of trainings, and strengthening of strategic and managerial functions of NCC^{41,42}.

Table 15 LuxDev Projects in Mongolia

Implementation Period	Project Title	Budget (EUR)
2002 - 2007	Cardiovascular Diagnostic Centre	954,000
2007 - 2010	Cardiovascular Diagnostic Centre - Phase II	2,431,300
2012 - 2016	Cardiovascular Center, Maternal and Child Health and e-health Expansion	8,371,184
2017 - 2020	Consolidating Cardiovascular Services and National Cardiac Centre in Mongolia	6,280,000

Source: <https://luxdev.lu/en/documents/section/publications> (Accessed on 15 February 2019)

4.4 Korea Foundation for International Healthcare (KOFIH)⁴³

The National Diagnostic and Treatment Center is being constructed in the premises of the Second State Central Hospital with the support from the Korea Foundation for International Healthcare (KOFIH) (concessional loan). Nuclear medicine services will be provided by the center. As part of support, equipment including PET/CT (first in Mongolia) will be installed, and health professionals such as nuclear medicine physician and radio-pharmacist are being trained in Korea.

⁴⁰ Interview with ADB on 20 February 2019.

⁴¹ Interview with the Third State Hospital on 14 February 2019.

⁴² <https://luxdev.lu/en/activities/project/MON/006> and <https://luxdev.lu/en/documents/section/publications> (Accessed on 15 February 2019)

⁴³ Interview with Dr. Erdembileg, Mongolia National University of Medical Sciences on 15 February 2019.

5 Conclusions and Recommendations

5.1 Summary of Findings

Table 16 summarizes the major findings of the current status and issues, and possible intervention of NCDs prevention and control in Mongolia, which were identified as a result of the Survey, in particular the in-country survey.

Table 16 Summary of Major Findings: Current Status and Issues

Items	Current Status and Issues	Interventions and Measures
a. Status and Trends of NCDs	<ul style="list-style-type: none"> • Average life expectancy has been increasing. However, according to WHO estimate, the increase in healthy life expectancy is less than the increase of the average life expectancy. • Cardiovascular diseases and cancer account for about 60% of all death and the burden of both diseases is high. As for cancer, liver cancer is a major challenge. • Over the period from 2005 to 2013, the situation of risk factors generally deteriorates. As of 2013, one in three people of 15-64 years old had more than three risk factors, and the proportion of people with none of the risk factors was only 1%. 	<ul style="list-style-type: none"> • Strengthening of primary prevention (health promotion) to reduce risk factors.
b. NCDs National Response Implementation Structure, Governance, and Fiscal Intervention	<ul style="list-style-type: none"> • The Department of Public Health of MOH is responsible for NCDs (number of officials is 8). The Department of Medical Services is in charge of treatment and the Department of Monitoring, Evaluation and Internal Audit is in charge of NCDs programme evaluation. • The financing sources of National NCDs Programme include state and local budget, Health Insurance Fund, Health Promotion Fund, donor support. The total amount budget is unknown. There are some opinions that the budget for public health is extremely small compared to the one for medical services. • Fiscal interventions have been introduced such as the excise tax on alcoholic beverages and tobacco. The Health Promotion was established to finance health education and awareness campaign activities. 	<ul style="list-style-type: none"> • Evidence-based NCDs programme planning, budgeting, monitoring, evaluation and improvement.
c. NCDs-related National Policy, Strategies, and Action Plan	<ul style="list-style-type: none"> • MSDV 2030 and “State Policy on Health” aim to increase average life expectancy and included NCDs as one of the objectives. • The Third “National Programme on the Prevention and Control of NCDs 2017-2021” is being implemented. The total budget was not costed. The budget plan is developed annually. • At City and Province levels, NCDs sub-programme is developed based on the National Programme and annual workplan is developed accordingly. (In Orkhon and Darkhan-Uul Provinces) sub-programme is approved by the Governor’s Office and the provincial budget is allocated. 	<ul style="list-style-type: none"> • Support in developing health policy/ NCDs programme to shift its focus from extension of life expectancy to healthy life expectancy. • Evidence-based NCDs programme/sub-programme planning, budgeting, monitoring, evaluation and improvement.
d. NCDs Surveillance and Information System	<ul style="list-style-type: none"> • NCDs risk surveillance is conducted principally by National Center for Public Health. The fourth STEPS survey is planned in 2019. Since 2013, the STEPS survey has not been conducted and as a result, comprehensive data on NCDs risk factors does not exist. It is necessary to secure enough budget for surveys. • Center for Health Development publishes “Health Indicators” annually by gathering and consolidating data and information from the national health information system including NCDs mortality and morbidity. • Mongolia has a national cancer registry and cancer screening data registry. These software programs need to be updated 	<ul style="list-style-type: none"> • Strengthening of the risk factor surveillance system (budgeting, planning survey areas, and utilization of results). • Improvement of cancer registry and screening data programme. • Improvement of health information/disease registry system.

Items	Current Status and Issues	Interventions and Measures
	<p>and the server's disk needs to be expanded. However, no measures have been taken due to budget constraints. There is also a need for strengthening the capacity of registry staff.</p> <ul style="list-style-type: none"> • There are multiple health information/disease registration systems. The health professionals are burdened with entering the same data to different programs. 	
<p>e. Health System Capacity for NCDs Prevention and Control (detection, diagnosis, treatment, follow-up and public awareness programme etc.)</p>	<p>(Awareness Raising & Health Education)</p> <ul style="list-style-type: none"> • NCPH plans and implements national campaigns (e.g. WHO World Health Day) and provides technical support to City and Province Health Departments by developing and providing policy direction for the conducts of events and providing technical materials and information. • At Provincial and District levels, the Public Health Departments/Public Health Centers mainly implement NCDs programme. The establishment of Public Health Centers is required by the Law on Health, but the situation differs depending on provinces. The plan to establish Public Health Centers in districts in UB city awaits the Parliament's approval. • There are some opinions that the Public Health Centers and FHCs, which are the public health organizations closest to the people, are not capable enough to conduct activities to change people's behavior. • FHCs provide public health services and conduct health education to the local people. However, participation rates of local residents are generally low and the public health service activities are limited. In addition, the number of human resources is not enough. <p>(Health Examination, Screening & Early Detection)</p> <ul style="list-style-type: none"> • At FHCs, screenings for diabetes, hypertension, cervical cancer and breast cancer are conducted. Blood glucose and lipid levels etc. are measured by point-of-care testing devices. Tests for Helicobacter pylori and tumor marker tests are performed by rapid test kits. • Evaluation and review of screenings are needed. A follow-up of the screening results and the screened population by the screening data system is necessary. <p>(Diagnosis & Treatment)</p> <ul style="list-style-type: none"> • The Third State Hospital and National Cancer Center are, as national specialized hospital, providing highly specialized diagnostic and treatment services and their skills have been improving. • The major hindrance to the provision of highly specialized services is the health insurance system. If the drugs and services are not covered by the health insurance, hospitals cannot provide these drugs and services to the patients as the patients cannot afford to pay. • The nation-wide telemedicine network (MnCardio) enables doctors at RDTC and Provinces General Hospitals to consult with doctors at the Third State Hospital. • RDTC, district and provincial general hospitals are suffering from the shortage and breakdown of diagnostic medical equipment. • The district general hospitals of UB City provide services for limited specialties and are not able to provide services as required by the law. In response, the UB City has been adding general surgery, rehabilitation and palliative care departments to district general hospitals. Thus, strengthening of capacity to provide rehabilitation and palliative care services will be an important issue. • There are some opinions that it is necessary to improve the capacity of FHC and SHC doctors (especially those who are working immediately after the graduation from medical 	<ul style="list-style-type: none"> • Strengthening of primary prevention (health promotion) efforts at Provincial and District Public Health Centers. • Evaluation and review of screening programme. • Strengthening of the NCDs prevention capacity of FHC and SHC doctors (especially those who are working immediately after the graduation from medical school). • Establishment and strengthening of the rehabilitation service provision system.

Items	Current Status and Issues	Interventions and Measures
	<p>school). It seems that diagnostic ability varies depending on medical doctors and facilities.</p> <p>(Rehabilitation)</p> <ul style="list-style-type: none"> • Rehabilitation services are emerging but remain limited in terms of national coverage or quality. Acute rehabilitation services are offered at the Third State Hospital. However, the continuity after discharge is a challenge due to the limited capacity for rehabilitation in the recovery phase. • There remain misconceptions about rehabilitation (e.g. patients should not move after stroke) and the right knowledge and skills are not commonly acquired. The number of physiotherapists and occupational therapists are not enough. 	
<p>f. Donor Support Activities</p>	<ul style="list-style-type: none"> • WHO mainly provides financial and technical support to MOH in NCDs prevention and control. Current support includes the cardiovascular disease control (introduction of HEART), cervical cancer prevention. Upcoming support includes a situational analysis of rehabilitation. • Since 2002, LuxDev has been extending support to the Third State Hospital and nationwide in the areas of cardiovascular disease diagnosis and treatment, introduction of the telemedicine network (MnCardio). The support will be terminated in 2020. • ADB does not currently provide support specifically targeting NCDs, but it provides comprehensive and wide-ranging support to the health sector. • After the NCDs project (2008-2013) by the US Millennium Challenge Account (MCA), there has been no large-scale donor support targeting NCDs. 	<ul style="list-style-type: none"> • (cooperation and coordination with other donors' activities)

5.2 Recommendations for Future Cooperation

Based on the Survey findings, the recommendations for future directions and priorities for JICA's cooperation in the area of NCDs prevention and control in Mongolia are described below.

Firstly, as a future direction, JICA's assistance will be required to provide policy and technical support for Mongolia to shift its focus from extension of life expectancy to healthy life expectancy. If the difference between the average life expectancy and the healthy life expectancy is decreased by strengthening primary, secondary and tertiary prevention, it is expected to prevent the deterioration in the quality of life (QOL) of individuals and to reduce the financial burden of medical expenses and others.

In order to strengthen the primary, secondary and tertiary prevention of NCDs, it is necessary to strengthen the public health system and functions in the whole country, and to train and strengthen human resources for public health, so that NCDs prevention measures will be directly delivered to each individual. The Provincial and District Public Health Centers and National Center for Public Health are expected to play a core role in this regard.

At the same time, in order to strengthen secondary and tertiary prevention, it is required to enhance and expand preventive, diagnostic, treatment and follow-up systems in health facilities at each level. In this connection, JICA's future cooperation for NCDs prevention and control should be planned and implemented to allow maximum complementary and synergy effects by utilizing the outcomes of the technical cooperation projects: "Project for Strengthening Post-graduate Training for Health Professionals in Primary and Secondary Level Health Facilities (2015-2020)" and "Project for the Establishment of Hospital Management and Medical Services at the Mongolia-Japan Teaching Hospital (2017-2022)". The former is expected to contribute to the NCDs prevention and control by strengthening the capacity of future medical doctors working at the primary and secondary levels through the improvement of post-graduate training programme. The latter is expected to improve the advanced diagnostic and treatment capacity for NCDs, and the pre- and post-graduate trainings for health professionals who will provide NCDs related health services.

Consequently, possible areas and activities for future cooperation which are considered to be of high importance and can be implemented by JICA alone or in cooperation with other donors such as ADB are presented below.

Table 17 summarizes the possible areas and activities for future cooperation and main responsible organizations by levels of prevention.

Table 17 Levels of NCDs Prevention and Areas & Activities for Future Cooperation

	Primary Prevention	Secondary Prevention	Tertiary Prevention
Objectives	Health promotion and disease prevention →Reduction of morbidity	Early detection and early treatment →Reduction of mortality and prolongation of survival period	Slow or stop disease progression, minimize damages →Improvement of Activity of Daily Life (ADL) and Quality of Life (QOL), and rehabilitation
Cooperation Areas and Activities	Health Promotion (A) • Health education and awareness raising • Creation of health-promoting environment	Early Detection and Early Prevention (A) • Screening • Health examination/check-up	Rehabilitation (C) • Occupational therapy and physiotherapy etc.
	Surveys and Research on Prevention (A)		
	Health Information System/Disease Registration (B)		
		Medical Equipment Management and Maintenance at Secondary Health Facilities (D)	
Main Responsible Organizations			Tertiary Health Facilities (Central Hospitals and Specialized Centers)
		Secondary Health Facilities (Provincial and District General Hospitals)	
		Primary Health Facilities (FHCs etc.)	
		Provincial and District Public Health Centers	
		National Center for Public Health	
		Center for Health Development Ministry of Health	

The details of the possible areas and activities for future cooperation.

A) Strengthening of NCDs Prevention through enhancement of Public Health Centers

Priority	High
Objectives	Strengthening of primary and secondary prevention of NCDs (corresponds to area A of Table 17)
Implementing Agencies	<ul style="list-style-type: none"> - National Center for Public Health - Provincial and District Public Health Centers (30 centers in total)⁴⁴ - Department of Public Health, Ministry of Health
Main Activities	1) Strengthening of National Center for Public Health <ul style="list-style-type: none"> • Capacity building in the areas of health promotion and education, disease prevention, NCDs programme planning, budgeting, monitoring, evaluation and improvement. • Implementation of NCDs related surveys and research including risk factor surveillance. • Conduct of a situational analysis of health examination (including examinations for company employees in the private sector) and cost-effectiveness study etc. • Strengthening of relationships with Provincial and District Public Health Centers and other related organizations (see Figure 8).
	2) Strengthening of Provincial and District Public Health Centers <ul style="list-style-type: none"> • Conduct of a situational analysis to identify needs. Provision of necessary equipment based on the needs identifies. • Capacity building in the areas of health promotion and education, disease prevention, NCDs sub-programme planning, budgeting, monitoring, evaluation and improvement, and community diagnosis. • Provision of technical support to the primary health facilities.
	3) Strengthening of NCDs programme implementation capacity of MOH <ul style="list-style-type: none"> • Planning and budgeting of NCDs related surveys, research including risk factor surveillance. • Evidence-based NCDs programme planning, budgeting, monitoring, evaluation and

⁴⁴ Currently, there is no Public Health Center established in UB city, but the total number will be 30 (9 centers in UB districts, and 21 centers in Provinces).

	<p>improvement.</p> <ul style="list-style-type: none"> • Development of the next national NCDs programme (shift the focus from extension of life expectancy to healthy life expectancy etc.) <p>4) Strengthening of the NCDs prevention capacity of health professionals at primary health facilities.</p> <ul style="list-style-type: none"> • Conduct of a situational analysis of NCDs prevention activities (health education etc.) and identification of measures for improvement. • Capacity building of health professionals in the areas of screening, diagnosis and risk assessment. • Conduct of a situational analysis of medical doctors who are working immediately after the graduation from medical school to identify and implement possible measures for supporting these doctors.
Inputs from Japanese Side	<ul style="list-style-type: none"> - Experts (health policy, health promotion etc.) - Trainings in Japan (NCDs prevention and control, health promotion etc.) - Equipment (necessary equipment for Provincial and District Public Health Centers) - Operational cost (surveys, workshops, and meetings etc.)
Japan's Advantage	Experience in implementing Healthy Japan 21, health examination programme, and regional health activities.
Points to Consider	<ul style="list-style-type: none"> - Activities should be planned in coordination with WHO's support to the primary health facilities in the area of cardiovascular disease prevention and management to avoid duplication. - Activities will depend on the progress of the establishment of public health centers in Districts of UB city.

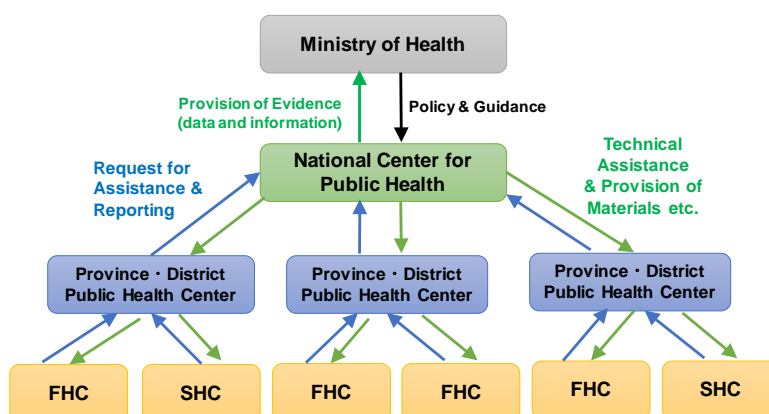


Figure 8 Public Health Related Organizations, Roles and Relationship

B) Improvement of Health Information and Disease Registration System (e.g. cancer registry)

Priority	Middle (*High for cancer registry)
Objectives	Development and implantation of evidence-based NCDs prevention programme (corresponds to area B of Table 17)
Implementing Agencies	<ul style="list-style-type: none"> - National Cancer Center, and relevant Central Hospitals and Specilized Centers - Center for Health Development - National Center for Public Health - Ministry of Health
Main Activities	<ol style="list-style-type: none"> 1) Conduct of a situational analysis of health information, disease registration and screening data system, and identification and implementation of measures for improvement. 2) Improvement and strengthening of national cancer registry and screening data system (including update of programmes and upgrade of server). 3) Evaluation and review of screening programme 4) Capacity building of cancer register staff.
Inputs from Japanese Side	<ul style="list-style-type: none"> - Experts (health information, cancer registry etc.) - Trainings in Japan (cancer registry etc.) - Equipment (computer server etc.) - Operational cost (update of programme, training etc.)
Japan's Advantage	Experience in implementing nation-wide/population-based cancer registry, and screening programmes.
Points to Consider	<ul style="list-style-type: none"> - Activities should be planned in coordination with WHO's support to the primary health facilities in the area of cardiovascular disease prevention and management (e.g. introduction of HeartCare) to avoid duplication.

C) Establishment and Strengthening of the Rehabilitation Service Provision System.

Priority	Low - Middle
Objectives	Strengthening of the tertiary prevention of NCDs (corresponds to area C of Table 17)
Implementing Agencies	<ul style="list-style-type: none"> - The Third State Hospital, and relevant Central Hospitals and Specilized Centers - RDTC and secondary health facilities (Province and District General Hospitals) - Professional Association (e.g. physiotherapist)
Main Activities	<ol style="list-style-type: none"> 1) Facilitation of understanding, right knowledge and skills on rehabilitation (e.g. introduction of acute rehabilitation) 2) Strengthening of capacity of human resources for rehabilitation (RDTC and the secondary health facilities) 3) Identification of measures for ensuring continuity of rehabilitation services and implementation of a pilot based on identified measures.
Inputs from Japanese Side	<ul style="list-style-type: none"> - Experts (rehabilitation, continuity of care etc.) - Trainings in Japan (rehabilitation etc.) - Operational cost (workshops, meetings etc.)
Japan's Advantage	The Mongolian rehabilitation system has been developed based on the Japanese system.
Points to Consider	<ul style="list-style-type: none"> - Coordination with Japanese Overseas Cooperation Volunteers (physiotherapist etc.) - WHO plans to conduct situational analysis on rehabilitation in Mongolia in May 2019.

D) Strengthening of Medical Equipment Management and Maintenance at Secondary Health Facilities

Priority	Middle
Objectives	Strengthening of the secondary prevention of NCDs (corresponds to area D of Table 17)
Implementing Agencies	<ul style="list-style-type: none"> - Ministry of Health - Province and District General Hospitals
Main Activities	<ol style="list-style-type: none"> 1) Situational analysis of medical equipment management and maintenance (mainly diagnostic medical equipment) 2) Capacity building in developing a medical equipment management and maintenance plan. 3) Capacity building in the area of medical equipment maintenance
Inputs from Japanese Side	<ul style="list-style-type: none"> - Experts (medical equipment management etc.) - Equipment (necessary medical equipment) - Operational cost (workshops, meetings etc.)
Japan's Advantage	JICA's cooperation experience in the area of medical equipment management and maintenance in various countries.
Points to Consider	<ul style="list-style-type: none"> - A detailed plan needs to be developed after surveying other donors' activities including ADB's assistance. - Collaboration with ADB needs to be considered in terms of provision of medical equipment.

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Annex 1 In-Country Survey Schedule

In-Country Survey Schedule

Day	Date		Time	Activity
1	14 February	Thu		Depart from Tokyo, Arrival in Ulaanbaatar
2	15 February	Fri	09:30 - 10:30	Meeting with JICA Mongolia Office
			12:00 - 13:30	The Third State Hospital
			15:00 - 16:00	Intermed Hospital
3	16 February	Sat	13:00 - 13:45	Dr Erdembileg, Department of Radiology, School of Medicine, Mongolia National University of Medical Sciences (MNUMS)
4	17 February	Sun		Information collection and analysis, drafting report etc.
5	18 February	Mon	09:00 - 09:45	Meeting with JICA Mongolia Office
			11:00 - 12:30	Sukhbaatar District Health Center, Ulaanbaatar City
			14:30 - 15:30	JICA Project for Strengthening Post-Graduate Training for Health Professionals in Primary and Secondary Level Health Facilities
			16:20 - 18:00	Suncall Family Health Center, Sukhbaatar District, Ulaanbaatar City
6	19 February	Tue	10:30 - 12:00	Sukhbaatar General Hospital
			15:00 - 15:45	Center for Health Development
			16:00 - 17:00	Ulaanbaatar City Health Department
7	20 February	Wed	09:30 - 10:30	Ministry of Health
			11:00 - 12:00	Asia Development Bank (ADB)
			13:30 - 15:00	National Cancer Center of Mongolia
			15:30 - 17:00	National Center for Public Health
8	21 February	Thu	AM	Travel to Darkhan-Uul Province
			11:00 - 12:30	Darkhan-Uul Province Health Department
			PM	(Darkhan-Uul General Hospital)
			PM	Travel to Orkhon Province
9	22 February	Fri	08:00 - 08:45	Orkhon Province Health Department
			09:00 - 11:00	Regional Diagnostic and Treatment Center (RDTC), Orkhon Province
			11:30 - 12:00	Ankhnii och Family Health Center, Orkhon Province
			14:30 - 15:30	Medipas Hospital
10	23 February	Sat	AM	Travel to Ulaanbaatar
			PM	Information collection and analysis, drafting report etc.
11	24 February	Sun		Information collection and analysis, drafting report etc.
12	25 February	Mon	AM	Information collection and analysis, drafting report etc.
			16:40 - 17:10	World Health Organization (WHO)
13	26 February	Tue	11:30 - 12:30	Report to JICA Mongolia Office
			PM	Information collection and analysis, drafting report etc.
14	27 February	Wed		Depart from Ulaanbaatar, Arrival in Tokyo

Annex 2 List of Interviewees

List of Interviewees

保健省 Ministry of Health

Dr. Ts. Khandamaa Officer in charge of NCDs and Trauma, Public Health Department

保健開発センター Center for Health Development (CHD)

Kh. Gantsetseg Director, Department of Health Information

D. Battulga Director, Department of Development Planning and Cooperation

国立公衆衛生センター National Center for Public Health

Dr. Davaakhuu Narantuya General Director

P. Enkhtuya Director, Department of Environmental Health

S. Gerelmaa Director, Department of Health Promotion and Disease Prevention

B. Maitsetseg Officer in charge of Tobacco and Drug, Department of Health Promotion and Disease Prevention

G. Nomin Officer in charge of Traditional Medicine, Department of Health Promotion and Disease Prevention

G. Selenge Officer in charge of Accident and Trauma, Department of Health Promotion and Disease Prevention

B. Ulziimunkh Officer in charge of Alcohol and Mental Health, Department of Health Promotion and Disease Prevention

G. Batjargal Officer in charge of NCDs, Department of Health Promotion and Disease Prevention

U. Erkhembayar Officer in charge of Cancer, Department of Health Promotion and Disease Prevention

Kh. Byambasuren Officer in charge of Physical Exercise, Department of Health Promotion and Disease Prevention

B. Ekhtungalag Officer in charge of Salt Intake Reduction, Department of Food and Nutrition Research

モンゴル国立医科大学 Mongolia National University of Medical Sciences

Dr Tsevegmid Erdembileg Head, Department of Radiology, School of Medicine

国立第3病院 The Third State Hospital

Dr. O. Batgerel Deputy Director of Academic Affairs

国立がんセンター National Cancer Center of Mongolia

Dr. Luvsandorj Bayarsaikhan Deputy Director, Policy Planning and Development

Dr. Gunchin-ish Sergelenchimeg Head, Cancer Early Detection and Prevention Support Division

ウランバートル市保健局 Ulaanbaatar City Health Department

Lamjav Zendmaa Deputy Director

Osorgarav Enkhzaya Head, Public Health Division

N. Mendsaikhan Officer in charge of NCDs

スフバートル区保健センター Sukhbaatar District Health Center, Ulaanbaatar City

Dr. Legtseg Bayarkhuu Director

Dr. Baatar Bayarmaa Deputy Director in charge of Public Health

スフバートル区総合病院 Sukhbaatar General Hospital

Dr. Mishigdorj Chimgee, Director

Suncall 家庭保健センター Suncall Family Health Center, Sukhbaatar District, Ulaanbaatar City

Dr. Baatar Altansuvd Director

ダルハンオール県保健局 Darkhan-Uul Province Health Department

Dr. Sodnomdorj Enkhjargal Director, Public Health Center

Dr. Tseden-ochir Gerel-Erdene Officer in charge of NCDs

米山 郁 Iku Yoneyama Registered Dietitian, JICA Volunteer

ダルハンオール県総合病院 Darkhan-Uul General Hospital

石崎 菜実子 Namiko Ishizaki Nurse, JICA Volunteer

オルホン県保健局 Orkhon Province Health Department

Mels Bolormaa Director, Public Health Center

Radnaa Enkhbat Officer in charge of NCDs

Dr. Bat-Erdene Khulan Officer in charge of Adolescent Health

地域診断治療センター Regional Diagnostic and Treatment Center (RDTC), Orkhon Province

Dr. Badgar Odontungalag Deputy Director

中村 秋子 Akiko Nakamura Nurse, JICA Volunteer

落合 理 Satoshi Ochiai Physical Therapist, JICA Volunteer

Ankhnii och 家庭保健センター Ankhnii och Family Health Center, Orkhon Province

Dr. Enkhchimeg Erdenechuluun Doctor

Intermed 病院 Intermed Hospital

Dr J. Khaliunaa Clinic Manager

Medipas 病院 Medipas Hospital

Dr. Zorigbaatar Sonor Surgeon

Dr. Tarvaa Myagmarsuren Director, Health Check-Up Center

アジア開発銀行 Asia Development Bank (ADB)

Jigjidsuren Altantuya Senior Social Sector Officer, Mongolia Resident Mission

世界保健機関 World Health Organization (WHO)

Dr. S. Bolormaa Technical Officer on NCD

一次及び二次レベル医療施設従事者のための卒後研修強化プロジェクト**JICA Project for Strengthening Post-Graduate Training for Health Professionals in Primary and Secondary Level Health Facilities**

井上 信明 Dr. Nobuaki Inoue Chief Advisor

Dr. N. Enkhjargal Project Assistant

JICA モンゴル事務所 JICA Mongolia Office

田村 えり子 Eriko Tamura Senior Representative

坂元 芳匡 Yoshimsa Sakamoto Representative

E. Zolboo Program Officer

Annex 3 Indicators of National Programme on the Prevention and Control of NCDs

NATIONAL PROGRAMME ON THE PREVENTION AND CONTROL OF NON-COMMUNICABLE DISEASES

Indicator	Details
Date and number of the Government Resolution which approved the program	Resolution # 289 of 2017
Duration	2017-2030
Main objective	The goal of the Programme is to contain the prevalence of commonly occurring NCDs and their risk factors based on the multilateral cooperation among organizations, communities, families and individual citizens, to strengthen the prevention, control, early detection and surveillance of diseases.

№	Indicators	2016	2017	Expected	
				2019	2021
A. Outcome indicators:					
I. Indicators on primary risk factors for NCDs					
1	Smoking population rate, by percentage	27.1	27.1	27	26
2	Adolescents aged 13-15 years who smoke cigarettes 1.2 times in the past 30 days, by percentage	5.9	5.9	5.4	4.9
3	Adolescents aged 16-17 years who smoke cigarettes 1.2 times in the past 30 days, percentage	17.5	17.5	16.0	14.5
4	People who were exposed to secondhand smoke at workplace in the past 30 days, by percentage	25.5	25.5	23.4	21.3
5	Amount of recorded alcohol consumption per person aged 15 years or older, by litres (in pure alcohol)	7.2	9.8	7.0	6.9
6	People who excessively consume alcohol, by percentage	10.3	23.5	10	9.6
7	School children aged 15-17 years who have excessively consumed alcohol 1-2 times, by percentage	23.1	23.1	22.3	21.6
8	Average daily salt intake of the population aged 25-64 years old (grammes/ day)	11.1	11.1	10	8.9
9	Population with physical inactivity, by percentage	22.3	22.3	21.6	20.3
II. Indicators on intermediate risk factors for NCDs					
1	Percentage of the population with overweight and obesity, (BMI>25kg/m)	54.4	54.4	49.9	45.3
2	Prevalence of hypertension (systolic blood pressure >140, diastolic blood pressure >90 and use of antihypertensive medication), by percentage	27.5	27.5	25.2	22.9
3	Percentage of the population who have total blood cholesterol level of 5 mmol/l or above, by percentage	61.9	61.9	56.7	51.9
4	Percentage of the population who have blood glucose level of 5.6-6.0 mmol/l or above, by percentage	8.3	8.3	7.6	6.9
5	Population who have increased blood glucose level of 6.1 mmol/l or higher and on glucose-lowering medication, by percentage	6.9	6.9	6.3	5.8
III. Indicators on early detection of NCD and morbidity					
1	Population early screened for cervical cancer, by percentage (30-60 years old)	44.9	37.4	46.3	51.9
2	Population early screened for breast cancer, by actual number (30-60 years old)	286921	354572	291121	307921
3	Population early screened for liver cancer, by percentage (40-65 years old)	30.0	37.8	30.0	70.0
4	Percentage of the population diagnosed with early stage liver cancer (percentage of 1,2 stages)	18.9	20.3	20.7	28.0
5	Percentage of the population diagnosed with early stage cervical cancer (percentage of 1 stages)	37.5	37.4	42.5	62.5
6	Population early screened for high blood pressure, by percentage (40-64 years old)	65.1	66.7	69	79.5
7	Population early screened for diabetes, by percentage (40-64 years old)	60.3	63.2	65.0	77.5
B. Indicators on the Programme efficiency					
1	Mortality from cancer (10 000 population)	13.8	13.0	11.6	10.5
2	Mortality from cardiovascular diseases (10 000 population)	17.8	17.4	17.6	17.4
3	Patients hospitalized due to nephritis, by percentage	63.9	63.1	63.5	62

