

## Financing of Non-Communicable Diseases Prevention in Low- and Middle-Income Countries: Mongolia Case Study

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### Abstract

**Objective:** Prevention programmes are increasingly seen as critical for tackling the rising burden of non-communicable diseases (NCDs), but tend to be under-prioritised and under-funded, particularly in low- and middle-income countries. The objective of this study is to estimate spending on NCD prevention in Mongolia and identify the enablers, challenges and dynamics underpinning population-level NCD prevention spending, with particular focus on tobacco use, harmful use of alcohol, unhealthy diets and physical inactivity.

**Methods:** Primary and secondary data collection was used to examine processes and organisational contexts that shape the formulation of policy and financial frameworks for NCD prevention. The methodology was categorised into three tiers; an academic literature review, scrutiny and analysis of official policy documents and budgetary data on health and NCDs, and in-depth stakeholder interviews with key government officials leading NCD programmes. Government and government-routed donor spending on population level prevention was gauged to estimate NCD prevention spending. Where possible, impact of prevention programmes on disease incidence and risk factors was gauged through available outcome indicators.

**Results:** Mongolia allocated an estimated MNT 10.5 billion on NCD prevention and health promotion in 2017, out of which population-level NCD spending accounted for MNT 5.1 billion (just over 1% of overall government health spending). Enablers include tobacco taxation and regulation, earmarking unhealthy consumption through the Health Promotion Fund and strengthened salt intake policies. Challenges include excess allocations towards inpatient and specialist care, inadequate multi-sectoral action and stewardship for NCDs, food and beverage industry interference in policy and limited alcohol regulation and tax.

**Conclusion:** Mongolia has made considerable progress in formulating policies for NCD prevention, but spending on NCD prevention still remains barely more than 1% of government health spending. Increased allocation of resources towards population-level NCD prevention can both help address the growing NCD burden and bring substantial economic benefits.

**Keywords:** Noncommunicable Diseases, Tobacco, Sodium Chloride, Dietary, Employees, Incidence, Inpatients, Behaviour, Risk Factors, Diet, Resource, Tobacco, Beverages, Taxes, Financial Management  
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### Introduction

Mongolia is a democratic country of 3 million people with considerable natural and agricultural resources. The country has achieved impressive economic growth and health progress in recent years, with the average life expectancy increased to 69.57 years, with women living almost 10 years longer than men. Mongolia has made strides in reducing infant, child and maternal mortality and improving nutrition among children. The country has also seen rapid progress against communicable/infectious diseases, maintaining polio-free status, eliminating tetanus, and achieving the regional targets for hepatitis B control.<sup>1</sup>

At the same time, Mongolia has experienced an

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epidemiological transition in recent decades, driven in part by rapid urbanisation with over two thirds of the population living in cities. This has been accompanied by behavioural trends like high smoking prevalence, high intake of fats, sugars and calories, excessive alcohol consumption, and low physical activity. Mongolia now has the seventh-highest burden of NCDs in the Western Pacific Region and the toll is increasing. NCDs are now responsible for 64.3% of the disease burden and over 85% of all deaths in the country.<sup>2</sup> Most worryingly, there is a 30% probability of dying prematurely (i.e., between the ages of 30 and 70) from NCDs in Mongolia.

Cardiovascular disease (CVD) is the primary cause of NCD mortality, alone accounting for 40% of all deaths in the country.<sup>3</sup> People are also living longer with NCDs such as cardiovascular disease, diabetes and hypertension, adding to the morbidity burden. The share of elderly (those of age 65 and older) in Mongolia's population is

projected to rise from 7% in around 2030 to 14% over a subsequent period of 25 years, rendering the need for action even more urgent.<sup>2</sup> If left unaddressed, Mongolia's NCD crisis would lead to increased stress on the healthcare system and make the burden of caregiving economically unsustainable.

NCDs also incur high economic costs, given that poor health affects both labour productivity and the accumulation of capital within an economy. High spending on health due to NCDs has opportunity costs for both individuals and governments – it means decreased prioritization of other areas, from education to transport to longer-term investments in physical and human capital.<sup>3</sup> NCD-related morbidity also reduces productivity by (temporarily or permanently) removing individuals from the workforce and from the loss of output from premature mortality. Further, those suffering from NCDs also suffer a reduced capacity to work while still in the workplace.<sup>3</sup>

Guided by the Mongolia Sustainable Development Vision 2030 (MSDV), the country is striving 'to be among the leading middle-income countries based on per capita income, with a diverse economy, ecological balance and democratic governance by 2030'.<sup>1</sup> As per the Vision, the Mongolian government is 'committed to improving the living environment and increasing life expectancy at birth to 78 years by 2030'.<sup>1</sup> The country has also set out clear NCD prevention and control objectives in its State Health Policy and Programme for the Prevention and Control of NCDs. These national goals are in line with and contribute to Mongolia's progress towards the United Nations Sustainable Development Goals (SDGs).

Limited availability and allocation of funds for financing NCD control and prevention are an important part of the reason for the continued persistence of chronic NCDs around the world. There is an established tendency for governments to provide more funding for treatment than prevention, almost in inverse proportion to potential impact – that is, while prevention is clearly the best use of limited resources it is often easier to secure resources for treatment instead. This is also the case in Mongolia and will require evidence, will and innovation to address.

This study will investigate the dynamics of NCD prevention financing in Mongolia to identify the key lessons, challenges and barriers from Mongolia's experience with financing and implementing NCD prevention. It will do so by first examining the socio-economic and institutional context of NCDs in Mongolia and the region, outlining the key policy responses and interventions of the Mongolian government to the NCD

crisis, and understanding how financing for NCD prevention is raised and spent, and what kind of economic, social, political and institutional barriers stand in its way. The key lessons and challenges emerging from Mongolia's experience will then be discussed and summarised, and a set of actionable outcomes and recommendations will be presented.

## Methodology

The methodology for this assessment consisted of two parts: a review of academic and grey literature and budgetary data and data collection in the form of interviews with key informants. The study adopts the critical theory approach, which acknowledges reality as contextualized and shaped by various social, cultural, economic and political factors and sees the research process as a means to bring about change and transformation. In this study, the critical theory approach was employed to question existing frameworks, organisational hierarchies and red-tape, identify impediments arising from political, economic, systemic and bureaucratic, and largely regional and global contexts, before proceeding to present a set of actionable outcomes and recommendations.

Public financing was defined as resources allocated/mobilized indigenously (revenues) at the country level. This also includes the use of catalytic official development assistance as grants/loans and/or monies from philanthropic sources predicated on the understanding that these are meant to build country capacity and are a stop gap arrangement. This implies that funds from ODA loans and grants, as well as from philanthropic sources, need to go first into the government's resources. The World Bank definition of prevention was employed, as that preventative and "public health services ... designed to enhance the health status of the population as distinct from the curative services which repair health dysfunction."<sup>4</sup>

The investigators used a search strategy involving Medline, Google Scholar, Embase, JStor and Web of Knowledge, databases to identify peer-reviewed articles that examined NCD prevention and financing. In addition, the first 20 pages of Google searches were examined to identify articles from the grey literature. The main search terms were 'NCD', 'prevention', 'financing' and 'Mongolia'. Additional search terms related to the topic were: 'health promotion', 'non-communicable disease', and 'budget'. Additional search terms related to policy were: tax, legislation, ban, intervention, labelling, law, and standards. An additional search was also carried out for policies related to risk factors using the terms 'alcohol',

'tobacco', 'diet', 'nutrition', and 'physical activity'. Based on the information in the abstracts, those studies were selected for review that: a) were of an empirical nature; b) examined NCD prevention and its financing; and c) dated from late 20th century onward, when concerted policy efforts to counter NCDs began in the region.

The selected studies were reviewed and organized into categories of analysis that were refined based on the evidence emerging from the literature. Bibliographies of selected studies were also reviewed for relevant literature to NCD or risk factor prevention policies. Later, a specific search was undertaken for broader literature, including policy frameworks on NCDs in Mongolia and the region.

The investigators then reached out to the governments and relevant departments/bodies to procure reports, budget plans, policy guidelines and similar material. This data was analysed thematically, to further refine research questions and thoroughly revise interview guides. At the end of the second tier, the investigators shortlisted potential participants to be recruited for in-depth interviews. These included key stakeholders such as officials from the Ministry of Health, Ministry of Finance, planning ministry or staff from the office of the head of state.

### NCD burden in Mongolia

Ischaemic heart disease, cerebrovascular diseases, liver cancer, cirrhosis and stomach cancer are among the top causes of death and premature death in Mongolia.<sup>1</sup> Their contribution to mortality and premature mortality has also risen considerably since 2017; there is a one in three chance that a Mongolian will die before the age of 70 from one of the four major NCDs.<sup>3</sup> The four major NCDs (cardiovascular disease, cancer, diabetes, and chronic obstructive pulmonary disease) now account for 61.5% of all deaths and 34.9% of disability-adjusted life-years (DALYs) lost in Mongolia.<sup>5</sup>

Over 40% of Mongolia's 21,739 deaths in 2015 were caused by heart disease, stroke, myocardial infarction, and other cardiovascular and circulatory diseases.<sup>3</sup> This was followed by cancer with 19%, cirrhosis with 5.67% and diabetes with around 4%.<sup>5</sup>

### NCD risk factors in Mongolia

The NCD epidemic in Mongolia is driven by a series of behavioural, metabolic and environmental risk factors. Surveillance of NCD risk factors through the WHO STEP wise approach to Surveillance (STEPS) surveys in Mongolia (conducted in 2005, 2009, 2013) has demonstrated that unhealthy behavioural patterns are increasing, despite several health promoting initiatives by the government.<sup>6</sup>

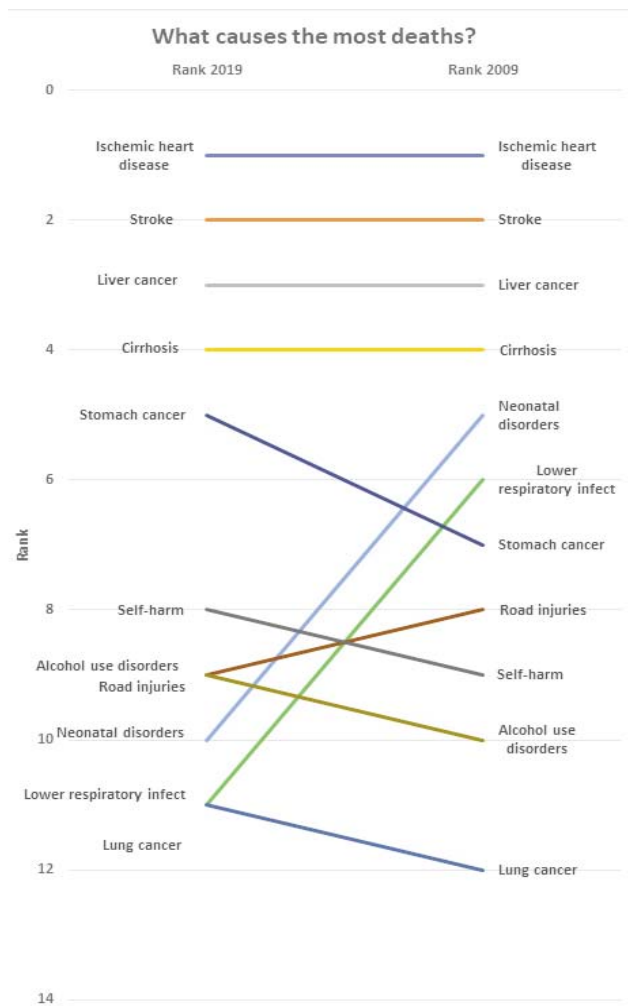
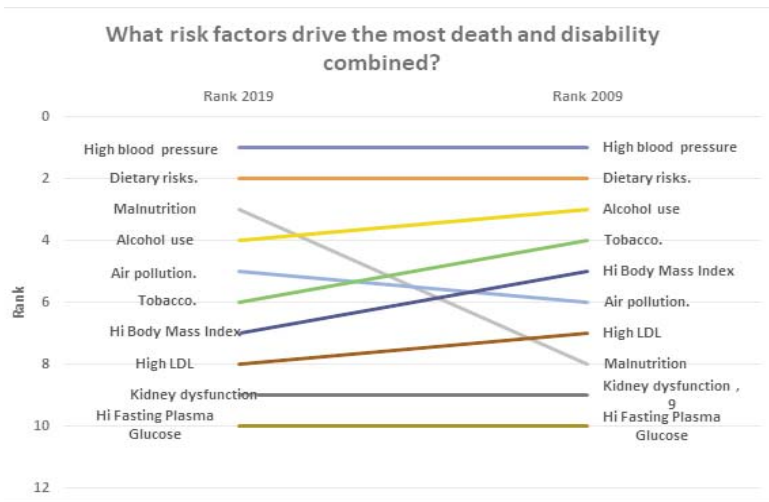


Figure-1: Top 10 causes of death in 2019 and percent change since 2009, Mongolia<sup>5</sup>

Chief among these are unhealthy diets (particularly high salt consumption), hypertension, alcohol use, tobacco use, overweight/obesity driven in part by physical inactivity. While alcohol and tobacco use has not increased in the past decade between 2007-2017, their contribution to death and disability has increased by 29% and 17.9% respectively (Figure 2). It is unclear how much these risk factors have changed in significance after NCD prevention and health promotion efforts in recent years since Mongolia has not carried out a comprehensive STEPS survey on risk factors since 2013.

### Alcohol

Tobacco use is very common in Mongolia. The last STEPS survey results (2019) showed that in Mongolia, 24.2% of the population smoke tobacco (a slight improvement from 27.1% in 2013), with a significant gender disparity in use: 43.7% of men and 5.0% of women were current smokers.<sup>7</sup> 21.6% of the population smoke daily. The



**Figure-2:** Top 10 risks contributing to DALYs in 2019 and percent change since 2009, Mongolia<sup>5</sup>

average age at which people start smoking in the country is 18 and the mean number of cigarettes smoke (among smokers of manufactured cigarettes) is 10.7.<sup>8</sup>

### Alcohol use

Alcohol use is widely prevalent in Mongolia. The density of alcohol vendors—one shop for every 270 people—is reported to be the highest in the world.<sup>8</sup> Heavy alcohol use is common to celebrations and social interactions in the country. According to the most recent STEPS survey (2019), current drinking or consumption of alcohol in the past 30 days was reported by 34.8% of all respondents (compared to 38.3% of all respondents in 2013) with 45% of men and 24.8% of women reporting current use.<sup>8</sup> Three out of four Mongolian men and just over half of Mongolian women are considered alcohol users.<sup>3</sup> The highest rate of consumption is for hard liquors (4.83 litres), followed by beer (1.86 litres) and wine (.207 litres). Among alcohol users, 37.5% of men consumed greater than or equal to 6 drinks in one sitting during the last month, compared to 9.7 percent of women.<sup>3</sup> Around 30% of the Mongolian population are lifetime abstainers.<sup>8</sup>

### Unhealthy diet and salt consumption

Unhealthy diets remain a critical public health risk in the country. 83.4% of the population consume less than the recommended 5 servings of fruit and vegetables on average per day (which is nonetheless an improvement from 96.4% of the population in 2013).<sup>8</sup> The average daily number of serving of fruit in Mongolia is 0.9, and the average daily number of servings of vegetables was 2.3. Fruit and vegetable consumption in rural areas was half that of urban areas.<sup>8</sup>

Salt is the principal dietary risk in Mongolia, and is an

important primary risk factor for CVD, the country's highest cause of mortality. Mongolians consume around 11.1 grams of salt per day on average, and 83.2% of the population consumes more than the WHO recommendation of five grams of salt per day.<sup>3,9</sup> A 2013 salt intake survey in the population which examined hundreds of food products and meals common in the Mongolian diet found that 75.4% of processed food products and 83.4% of meals are high in salt content.<sup>7</sup> The main sources of salt identified through the dietary survey were 'salted tea, sausage, smoked meat products, pickled vegetables, chips, traditional fast food (Buuz steamed dumpling, Khuushuur-fried dumpling), and Western fast food (burgers, hot dog and pizza), mayonnaise, spices, sauces, and canned meat

products'.<sup>7</sup>

Consumption of salty tea alone is a major factor which makes up 46.2% of the total daily salt intake for Mongolians.<sup>3</sup> Those who consume salty tea daily have 2 additional grams of salt intake compared to those who do not drink the tea.<sup>10</sup> Studies in Mongolia have confirmed that salt is a significant risk factor for Isolated Systolic Hypertension in the country.<sup>7</sup> However, knowledge of its health-effects is limited; about one in five Mongolians do not know of any specific problems caused by salt, while 44.9% are aware it can cause a kidney stone and 17.6% are aware of its link to arterial hypertension.<sup>3</sup>

### Physical inactivity

STEPS survey data indicate that 21.9% of the population was not meeting the minimum recommendation for physical activity (being engaged in moderate physical activity for less than 150 minutes per week) and the median time spent on physical activity was 120 minutes per day.<sup>8</sup> Further, 61% of the population were not engaged in vigorous physical activity (including 71.8% of women as compared to 50.1% of men). Urban men (24.2%) were more likely to be inactive as compared to rural men (16%).<sup>8</sup>

### Obesity and metabolic risks

The mean Body Mass Index (BMI) of the Mongolian population was 25.5 kg/m<sup>2</sup>, with similar levels for men and women. 49.4% of the population was overweight or obese, and 18.5% was obese.<sup>8</sup> The prevalence of overweight and obesity tends to increase with age and the proportion of overweight or obese women was higher compared to their male counterparts across all age groups.<sup>8</sup> The high levels of obesity put Mongolians at heightened risk of a CVD event; the 2013 STEPs survey

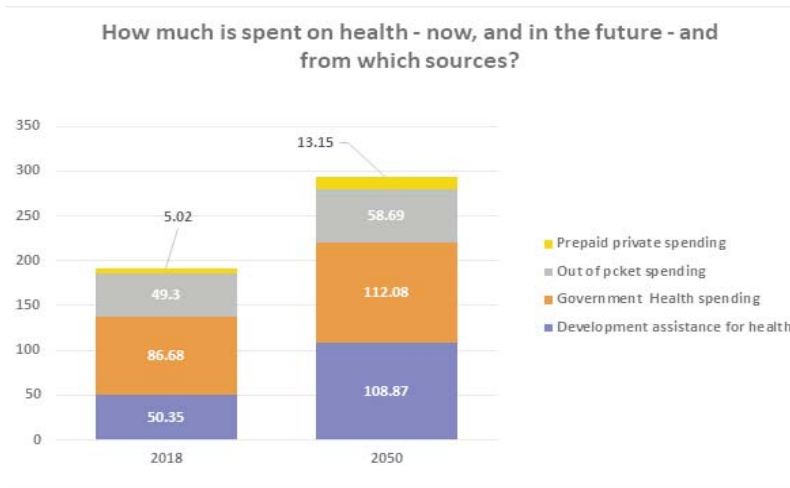


Figure-3: Current and future (projected) sources of health expenditure in Vietnam.<sup>5</sup>

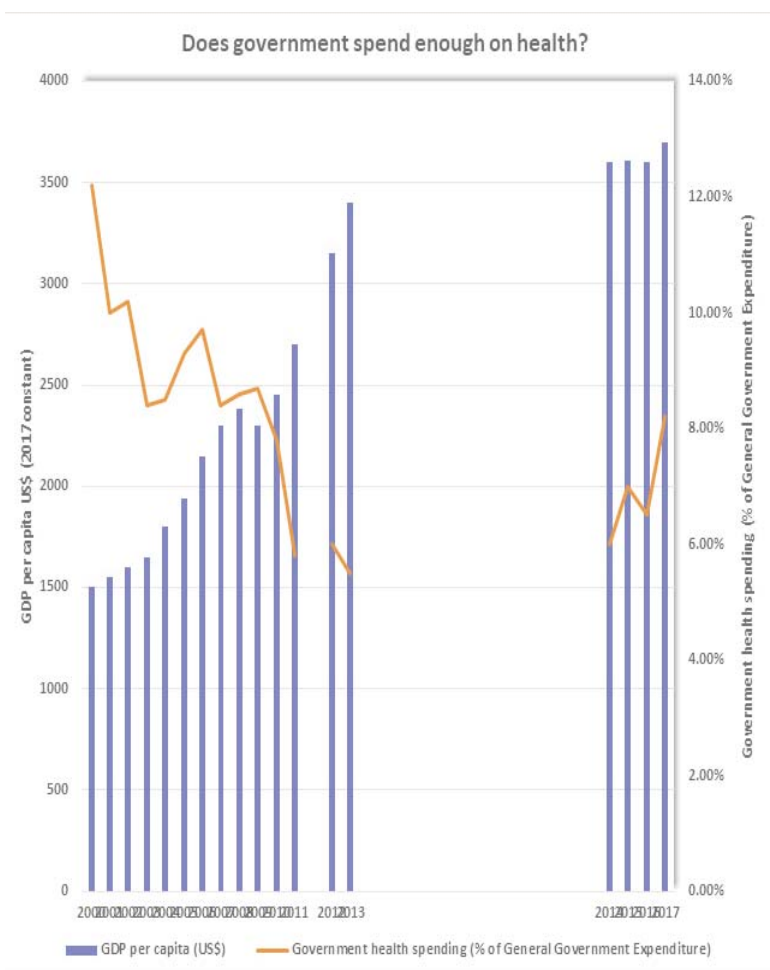


Figure-3: Health spending as % of government expenditure, Mongolia<sup>11</sup>

estimated that 17.8% of Mongolians between ages 40-64 have a 10-year risk of a CVD event greater than 30%.<sup>3</sup>

**Hypertension**

The 2019 STEPS survey reported that 23.6% of the population suffers from hypertension (SBP ≥140 and/or DBP ≥ 90 mm Hg or currently on medication for raised BP), significantly lower compared to 2013, with 25.2% of men and 22.1% of women suffering from hypertension.<sup>8</sup> When hypertension is measured as SBP ≥ 130 and/or DBP ≥ 80 mmHg or currently on medication for raised BP, 44% of the Mongolian population has hypertension, including 50% of men and 37% of women. Low awareness of hypertension is also a concern; another survey in Mongolia reported that 17.4% of participants from across Mongolia had never heard the term “blood pressure,” and that this lack of knowledge was more common among younger participants and among men.<sup>10</sup>

**Mongolian health system and financing context**

Mongolia has a mixed health system where healthcare is provided at three service levels: primary, secondary, and tertiary. As of 2016, the health-care system consisted of ‘3500 state-owned, private, and mixed organizations, encompassing facilities manufacturing medicines and those delivering public health, medical, pharmaceutical, medical education, research and training services, in addition to 224 private hospitals and 1006 private clinics’.<sup>1</sup> The health sector employs over 48,000 people – with ‘32.4 physicians, 37.2 nurses, and 24.5 other medical professionals and technical education staff per 10 000 people’.<sup>1</sup> With the country’s low population density, geography presents a major barrier for rural populations to access quality healthcare services with often long distances to reach health facilities resulting in higher costs and delays in access.

62.1% of health sector financing is contributed by the government, followed by health insurance (over 24.9%), user fees (3.2%) and other sources (9.8%).<sup>11</sup> Social health insurance has gradually increased to cover 90% of the population; however out-of-pocket (OOP) payments are still high, representing 42% of total health expenditure. The share of inpatient care covered by health insurance reduced from 66.3% in 2011 to 47.1% in 2016, reflecting several changes including expansion of insurance to cover outpatient services, high-cost

treatments and diagnostics and rising medicine reimbursements.<sup>1</sup> Over 60% of the budget is allocated to secondary and tertiary health facilities including hospitals, indicating a higher prioritization of non-primary healthcare.<sup>1</sup>

While OOP payments are still high, the share of OOP health payments in total household expenditure declined from 3.2% in 2009 to 2.8% in 2012.<sup>2</sup> The share of households incurring catastrophic health payments (spending 25% or more of their household budget on the use of health services) in Mongolia on average stood at 0.45% in 2014, with richer households were likelier to incur catastrophic expenditures than poorer ones.<sup>12</sup>

Recurrent expenditures represent 85% of total health expenditure by the Mongolian government, averaging about 85% in 2015-2016.<sup>2</sup> Wages, salaries, and bonuses constitute the largest share of recurrent public health expenditure, at 38% in 2016. Since 2012, current transfers increased significantly and in 2015 constituted the second highest share in recurrent spending (24%), followed by medicines and drugs (16%).<sup>2</sup>

While public spending on health has increased in recent years, it 'increased at a slower pace than overall government spending'.<sup>2</sup> Government health expenditure grew steadily between 2005 and 2016, by 7% per year in nominal terms and 9% per year in real terms. However, this growth is low when compared to total government expenditure, which increased at an average rate of 14% per year in the same period.<sup>2</sup> Government health spending as a proportion of total expenditure decreased from around 12% in 2000 to 8% in 2017 (Figure 4), suggesting public health spending has not kept pace with economic growth and fiscal expansion.

The number of state health facilities has not changed much in the last decade, although there has been a small increase at the secondary facilities and a small decline in tertiary facilities. Among state-owned health institutions in 2015, Mongolia had '13 tertiary-level hospitals and centres, 33 aimag/Regional Diagnostic and Treatment Centres (RDTCs) and district general hospitals/health centres, 6 rural general hospitals, 39 inter-soum hospitals and 291 soum and village health centers'.<sup>2</sup> In the meantime, the private sector has seen considerable expansion in its capacity to offer both inpatient and outpatient services; in the private sector, between 2005 and 2015, the 'number of hospitals grew from 160 to 224, and clinics from 523 to 1,006, while family health centres (FHCs) declined from 228 to 218'. The number of beds in private sector hospital beds 'grew from 1,982 to 5,262 during this period', constituting about 24% of hospital

beds available in the country in 2016.<sup>2</sup>

### **NCD Prevention in government policies and programmes**

Since the late 1990s, the Mongolian Government has been working on reorienting health policies and programmes for NCD prevention and control. It has developed several national policies to address NCDs, including the Programme on Prevention and Control of NCDs (2017 – 2021); the National Strategy for Reducing Tobacco Harm (2014 – 2020); the National Strategy on Health, Diet and Physical Activity (2010 – 2021); and the National Programme for Reducing Salt Intake (2015 – 2024).<sup>3</sup>

The evidence suggests that a comprehensive multisectoral national policy framework for the prevention and control of NCDs is in place. The State Public Health Policy 2001–2015 resulted in the formation of the National Public Health Council which was tasked with overseeing planning, guidance, monitoring and evaluation of the national policy implementation with engagement with multiple sectors outside health including education, food, agriculture, foreign affairs, justice, trade, industry, labour, social welfare, urban development and defence, among others.<sup>13</sup> However, according to officials interviewed, unstable coalition government, lack of political continuity and private sector influence led to NCDs falling off the policy radar for some time, before being re-prioritized in recent years.

The findings also suggest an integrated approach to addressing NCD risk factors at the national level, linked to population-level preventive measures that target high-risk individuals. Addressing alcohol and tobacco use have been among the key priorities. According to a report on the compliance of Asia-Pacific countries with the obligations of the WHO Framework Convention on Tobacco Control, Mongolia was considered to have made considerable progress towards achieving a healthy tobacco free region.<sup>14</sup>

### **Western Pacific Regional Action Plan on NCDs**

While Mongolia was among the first lower middle-income country to launch NCD-specific programmes in the 1990s, in more recent years, regional efforts in the Western Pacific Region have been a key driving force. In 2014, the WHO Western Pacific Region adopted its Regional Action Plan for NCDs 2014-2020 to 'raise priority of NCDs prevention and control, strengthen national capacity, leadership, governance and multi-sectorial action, reduce modifiable risk factors for NCDs through health promoting environments, strengthen and orient health systems to address prevention and control of NCDs,

promote and support national capacity for research and monitor the trends and determinants of NCDs and evaluate progress in prevention and control'. Mongolia's subsequent programmes and objectives have been tied to regional WPRO objectives and targets.

### **National Programme on Prevention and Control of NCDs 2017-2021**

Mongolia's previous NCD programme, the National Programme on Integrated Prevention and Control of NCDs 2006–2013, expired in 2013. For some years, political issues related to a coalition government, elections and private industry influence led to NCDs falling off the policy radar. The subsequent NCD programme, the National Programme on Prevention and Control of NCDs 2017-2021 was adopted by the new Mongolian government on 27 September 2017. The Programme is run by the Ministry of Health (MoHS) and its goal is 'to reduce the prevalence of predominant NCDs and their common risk factors with engagement of multilateral cooperation among organizations, communities, families and individuals and to strengthen the prevention, control, early detection and surveillance of diseases'.<sup>15</sup>

The objectives of the Programme include: '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; 2) To create the environment for reducing the morbidity and mortality by strengthening preventive measures for NCDs and comprehensive care services of early detection, diagnosis and treatment based on the participation of healthcare organizations and the provision of early and regular check-ups for NCD patients; 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; 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 NCDs'.<sup>16</sup>

Prevention of NCDs by addressing risk factors is central to the Programme's approach. In its outcome indicators, the Programme expects to reduce the smoking rate among the population to 26%, overweight and obesity to 45.3%, reduce average salt intake among population aged 25-64 year old to 8.9 grams/day, reduce population with physical inactivity to 20.8%, and people who excessively

consume alcohol to 9.6% by 2021.<sup>16</sup>

### **State Policy on Health 2017-2026**

The State Policy in Health (2017-2026), approved on 18 January 2017, identifies public health as one of eight key areas. The policy aims at 'the incorporation of Health-in-all policies (HiAIP); food safety and promotion of healthy diet; public health education; screening for predominant diseases including NCDs; and limiting use of alcohol and tobacco'.

The policy aims to 'incorporate and coordinate health issues in the policies of other sectors and create an implementation mechanism with integrated supervision to improve living and working conditions for the population in terms of health and safety'.<sup>17</sup> It aims to improve monitoring of domestic and imported food products for both food safety and healthy and proper eating. It emphasizes strengthening primary care and aims to increase the share of primary healthcare expenditures or the expenditures of the soum and family health centres in the total health expenditures. In terms of financing, the policy aims to increase total health financing to spend 12 percent of the general government total budget on health and at least 5 percent of GDP on health and keep out of pocket (OOP) payments to under 25% of health expenditure.<sup>17</sup>

### **Mongolia Health Promotion Foundation**

The Mongolian Health Promotion Foundation is among the key components of Mongolia's fight against NCDs. It was formed through the Tobacco Control Law 2005 and was launched in 2007. The purpose of the Foundation was to promote health and reduce exposure to health risks, including tobacco and alcohol and risk behaviours. Foundation has three main sources of funding: 1% of the excise tax on alcoholic beverages; 2% of the excise tax on tobacco and 2% of import and excise taxes on drugs.<sup>17</sup> In 2013, the Foundation's budget was around 4.1 billion MNT (US\$ 3 million). The key strategies of the HPF include information, education and public relations exercises, advocacy and surveillance activities for the prevention of NCDs, harmful use of alcohol and tobacco.

The Foundation's funding was abolished in 2015 as a result of inadequate political support for its continued financing through tobacco and alcohol taxes. After a new government was elected in 2016, the Health Promotion Fund was re-established on 15 March 2017. The focus areas of the fund include information, education and communication; advocacy and surveillance activities relevant to prevention of noncommunicable diseases; and harmful use of alcohol, and tobacco. The Foundation also supports the civil society-led Forum on Citizen's

Participation and Ownership for Health that advocates for nationwide public awareness of blood pressure control, and health education on common health risk management.<sup>18</sup>

### **Tobacco control policies**

A party to the WHO Framework Convention on Tobacco Control, Mongolia has a strong set of tobacco policies in place to reduce demand for tobacco products and protect the health of its population. In 2012, the parliament of Mongolia revised its existing law on tobacco control to incorporate tobacco policy in broader public health policy for the first time, including protection from the interests of the tobacco industry.<sup>3</sup>

After the new law was enacted, health warnings were required to cover 50% of cigarette packages, advertising on TV, radio and print media has been banned along with forms of indirect advertising, cigarette sales in vending machines and over the internet are banned, sale of tobacco to those under 21 is banned, and smoking in all public places is banned.<sup>3</sup> Further, the law also designated 2% of tobacco excise taxes for the Mongolians Health Promotion Foundation.<sup>19</sup>

Mongolia has also made progress on increasing excises taxes on tobacco. Up until 2017, excise tax on tobacco was set at 33.26% of retail price (about 2700 MNT) of the most popular cigarette brand. In March 2017, the newly elected government approved a '20% increase in tobacco excise taxes over three years, which would move the tax to about 1,077 MNT on the most sold brand, or about 40% of the retail price'.<sup>3</sup>

### **Alcohol control policies**

Alcohol policy in Mongolia is less rigorous than tobacco policy. According to officials interviewed, this is because *"the influence of the domestic alcohol industry, which has a big manufacturing base in the country and produces its own raw materials as compared to the tobacco industry, which imports most of its tobacco."* As much as 90% of the alcohol market is controlled by domestic producers and several reports suggest that 'industry interests, and connections between decision-makers (including Parliamentarians) and industry are preventing additional regulation around alcohol consumption'.<sup>3,20,21</sup>

Elbegdorj's Alcohol Free initiative in 2011, which worked with governmental and nongovernmental partners to increase public awareness and change the legal environment surrounding alcohol consumption, was among the first national efforts for alcohol harm reduction at the highest level of government. Since then, there has been widespread promotion of nondrinking parties, weddings and other social events that have

traditionally included the consumption of alcohol.<sup>22</sup> In December 2015, the Alcohol Control Law received its first amendments in 12 years, prohibiting alcohol sponsorship in culture, arts, sports, or other public events.<sup>3</sup>

An earlier National Programme on Prevention and Control of Alcohol ended in 2012; however, after a gap of five years, a new national programme was promulgated in 2017, with an allocation of 100 million MNT over three years. Finally, in March 2017, the government approved a '20% increase in alcoholic beverages over three years similar to the increase for tobacco products'.<sup>22</sup>

### **Salt reduction strategies**

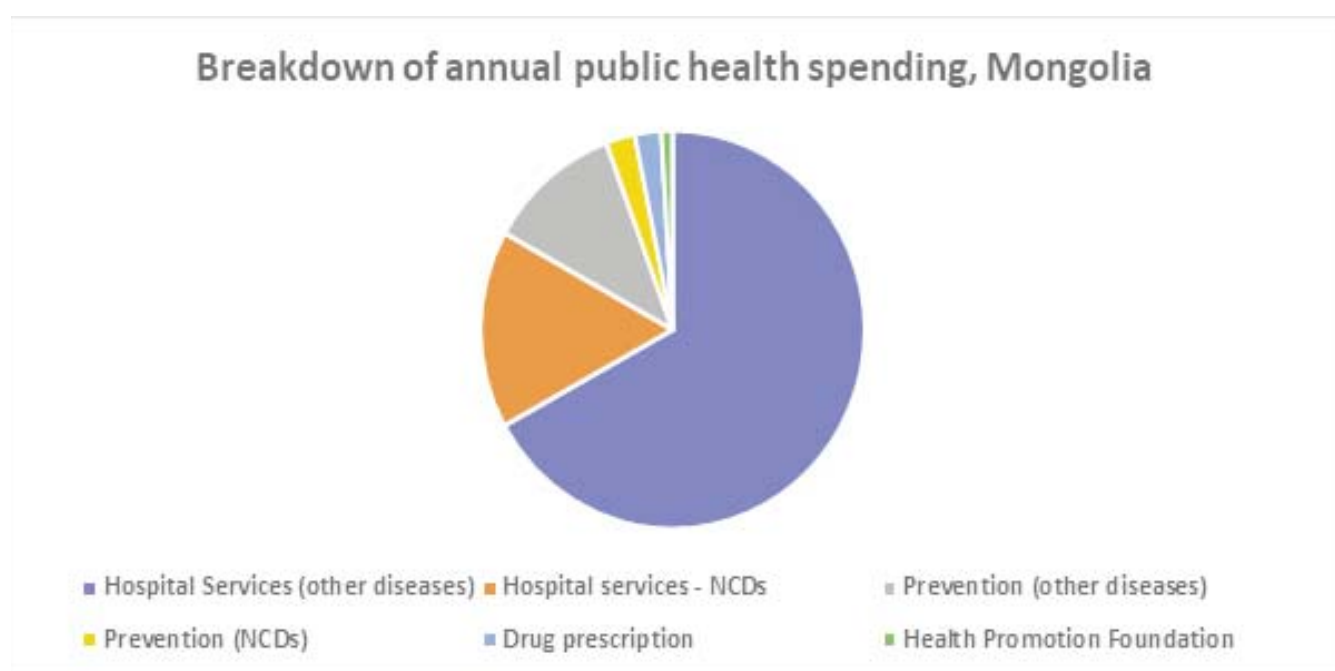
In light of Mongolia's historically high levels of salt consumption, the government has been actively pursuing salt reduction strategies. Following an initial salt reduction consultation in 2011, the government began a pilot salt reduction initiative known as 'Pinch Salt Mongolia' in three food production factories to reduce salt intake among employees through 'training of staff on the negative health impact of salt and how to consume a healthy diet, and the provision of reduced salt food and meals through company canteens and workers' kitchens'.<sup>7</sup> The pilot led to both reduced salt intake (by 37% per meal) as well as higher knowledge about foods high in salt.

The Ministry of Health also partnered with the food industry to reduce salt content in bread and sausage products in 2011. That year, bread companies began reducing salt content of bread in 10 bread factories and bakeries declining by 1.6% on average.<sup>7</sup> Similarly, in 2014, the sausage industry agreed to reduce the salt content in three canned products by 10%. In addition, the media was used to increase public and professional awareness about the need to reduce salt in foods.<sup>7</sup> The Ministry of Health also conducts week-long mass-media information campaigns to promote knowledge and awareness about salt intake during each annual World Salt Awareness Week (ibid.).<sup>3</sup>

In 2014, Mongolia adopted a national salt reduction strategy to lay the groundwork for future salt-related policies, aiming to decrease salt intake by 30% (from 2011-12 levels) by 2025.<sup>3</sup> Building on the progress of intervention initiatives to date, the three strategic priorities of the strategy are 'to advance the social, economic and legal environment for salt reduction; to improve partnerships between government and relevant stakeholders, and to create an enabling environment to support consumers to make the right choices'.<sup>7</sup> In addition to reducing salt intake through improved consumer attitudes and behaviours relating to salt and

**Table-1:** Public spending on health, NCDs and prevention in Mongolia (billion MNT)<sup>24,25</sup>

Type of health service	Health spending	NCD spending	NCD spending Financed from general revenue	NCD spending Financed from social insurance
<b>Hospital services</b>	<b>360.6</b>	<b>69.8</b>	<b>47.7</b>	<b>22.1</b>
Inpatient hospital curative care	259.8	56.1	37.5	18.6
Specialist outpatient care	100.8	13.7	10.2	3.5
<b>Public health &amp; prevention</b>	<b>59.7</b>	<b>10.5</b>	<b>10.5</b>	-
General outpatient care	39.1	9.2	9.2	-
Immunization & health promotion	9.4	1.0	1.0	-
Surveillance & disease control	11.2	0.3	0.3	-
<b>Drug prescription</b>	<b>9.7</b>	<b>4.8</b>	-	<b>4.8</b>
<b>Health Promotion Foundation</b>	-	<b>4.1</b>	-	-
<b>Total spending</b>	<b>430</b>	<b>89.3</b>	<b>58.3</b>	<b>26.9</b>

**Figure-5:** Breakdown of annual public health spending in Mongolia<sup>25</sup>

lower salt levels in foods and meals, the strategy aims to improved partnerships and inter-sector collaboration to re-enforce and monitor food supply.<sup>7</sup> A mid-term evaluation of the national salt reduction strategy was scheduled for 2020.

### Healthy Cities

The Mongolian government initiated a National Programme on Healthy Cities, Districts, Workplaces and Schools in 2012. The Programme works closely with The Healthy City Network of Mongolia ("HCSC"), a non-profit organization focused on promoting a health-friendly

environment for city dwellers in Mongolia. The network is composed of 18 member cities, and organizes capacity building activities for local government officials, implements health promoting model projects in cooperation with local governments and international urban development organizations, and engages in research to better improve quality of life in Mongolian urban areas.<sup>23</sup> Examples of collaborative activities between local government officials and the Healthy City Network include public exercises, annual contests of health promoting organizations, healthy restaurant

contests, and weight loss competitions. In recent years, HCSC has engaged in knowledge sharing between foreign, national and local governments via international study tours and conferences and with domestic national and local partners via workshops and forums.<sup>24</sup>

### Spending on prevention

For the last publicly available budgetary data on health spending on Mongolia (2017), the country spent 430 billion MNT on health, out of which 89.3 billion MNT (roughly 20%) were spent on NCDs. Overall health prevention spending by the Ministry of Health accounted for 59.7 billion MNT (13% of public health spending) and NCD prevention spending amounted to 10.5 billion MNT (2.5% of health spending and 12.3% of NCD spending). However, out of this, population-level NCD prevention spending by the Ministry of Health accounts for only 1 billion MNT (less than 0.25% of total health spending and 1.2% of NCD spending). When combined with the budget of the Health Promotion Foundation (4.1 million MNT) for the same year, this amounts to total NCD population-level prevention spending of 5.1 billion MNT, which amounts to just over 1% of total health spending and 5.7% of total NCD spending. Cardiovascular diseases account for the bulk of spending on NCDs (57.4 billion MNT), followed by cancer (16.1 billion MNT), COPD and asthma.

### Discussion

The Government of Mongolia was one of the pioneers of concerted NCD-focused policy efforts among LMICs and led a timely and coordinated response to its emerging burden of NCDs since the 1990s. This has led to considerable successes in raising population awareness, addressing behavioural risks and re-orienting the health system accordingly. The response has been prioritized at the highest levels and based on a population-level approach to health that addresses risk factors in tandem with some efforts to strengthen health systems at the primary healthcare level. However, according to Mongolian health officials interviewed, *“impetus for reform stalled in the middle of the last decade owing to a combination of political and economic reasons.”* Industry pressure has also complicated efforts to control consumption of tobacco, alcohol and salt. Both financing priorities and constellation of health services still do not appear to adequately reflect the high contribution of NCDs to the disease burden.

### Ensuring NCD spending reflects the high disease burden

Mongolia spends more on NCDs per capita than many other LMICs. In terms of proportion of GDP, its spending on NCDs compares to that of higher-income countries.<sup>26</sup> However, as Otgontuya et al (2017) demonstrate, ‘NCD shares in aggregate public-sector health spending in Mongolia are considerably smaller than the contribution of NCDs to the national disease burden as NCDs account

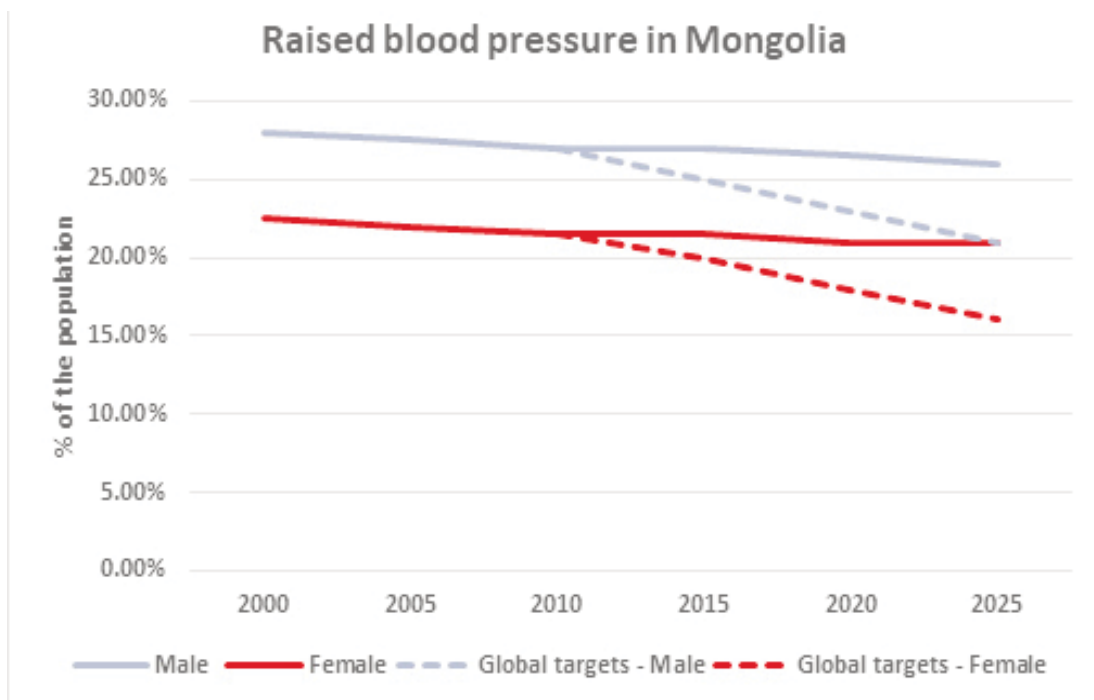


Figure-6: Prevalence of raised blood pressure in Sri Lanka<sup>26</sup>

for over 85% share of total deaths and 34.9% share of DALYs, but only account for only 20% of health spending'.<sup>26</sup> The data further shows that public-sector NCD spending in the country is overwhelmingly concentrated in inpatient and specialist outpatient care, with public health, preventive and health promotion activities accounting for a small share (less than 6% of total NCD spending). This suggests that most NCDs are being diagnosed late, leading to expensive specialized treatments (particularly for cardiovascular disease and cancers) instead of more cost-effective primary care services.<sup>26</sup> There is considerable evidence pointing for a need to allocate a greater proportion of resources towards preventive care anchored at the primary level.

### Strengthening primary care

The quality of health services remains a concern in Mongolia, with significant variations across regions. Differences in service quality cause patients to bypass primary care services in favour of higher-quality secondary or tertiary care and, those who can afford to, opt for overseas treatment over health care within the country.<sup>2</sup> There is now increasing evidence from around the world that suggests that a higher share of admissions in tertiary hospitals is unnecessary and suggests allocative inefficiencies in the health system. Yet as evidenced by the high ratio of hospital beds to population, the distribution and planning of health inputs in the country continues to be hospital centric.<sup>2</sup>

A fragmented constellation of care, combined with low capacity at the primary healthcare level, has led to under-diagnosis, delays in treatment, and a higher need for more expensive, acute care, especially in rural areas.<sup>2</sup> Providers at various levels have no incentive to manage population health in a coordinated way. According to health officials, *"there is a lack of information linkages that connect primary and tertiary healthcare providers, including hospitals. This implies the need for better coordinated referral systems and mechanisms for patient discharge and handover, as well as outreach."* Further, there is a need for preventive, curative, and palliative care to be better horizontally integrated with each other.

To address the growing NCD problem, Mongolia needs to reorganize its health services, focusing on both improving quality of primary healthcare, and increased preventive health spending to support the reorientation of health services toward a primary care model. In line with the growing global consensus, a new service delivery model is needed that integrates preventive and curative services, upgrades the role of secondary and tertiary hospitals as providers of complex care, and deploys standardized local and national systems to measure and

improve the quality of primary chronic disease prevention and management.<sup>2</sup>

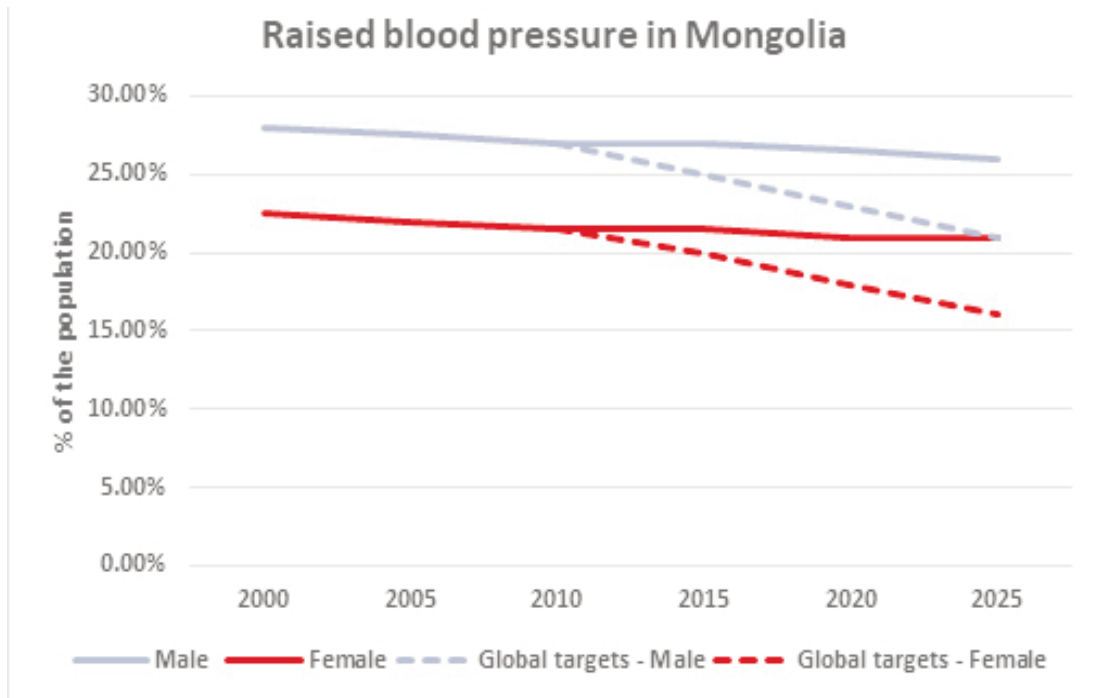
### Strengthening and sustaining multi-sectoral action

While there has been political commitment to and periodic evidence of collaborative action against NCDs across sectors in Mongolia (particularly at the subnational and city level), oversight and stewardship of policies at the national level has been hampered by changes in government. Officials interviewed say that high rates of turnover in key ministries has affected long term planning at the central level. Going forward, strengthening national multi-sectoral collaboration will be essential to ensure consensus on resource allocation for NCDs as well as mitigation of continued industry resistance to reform. Mongolian health officials interviewed point out that *"multi-sectoral action has been identified as a key priority in the National Programme on Prevention and Control of NCDs and the Public Health Council is in charge of leading this collaboration."* However, there is still lack of clarity over roles and responsibilities and the action being taken across government is primarily a MoH-led initiative, rather than being a whole-of-government-led development priority.<sup>18</sup> There is a need for more robust multi-sectoral coordination and oversight mechanisms across government. A civil society forum attended by NGOs and UN agencies exists, but its function is largely information-sharing, which needs to be expanded to citizen oversight, coordination and joint action.

### Reducing salt as a priority

High salt intake remains one of Mongolia's most pressing risk factors with respect to its NCD burden. The government has recognized this and achieved impressive results in some of its targeted pilot initiatives, including a '37% reduction in salt intake as a result of the Pinch Salt intervention project and the 12% reduction in salt in the most popular bread sold in Mongolia', which are significant achievements in a relatively brief period of time.<sup>7</sup> Nonetheless, prevalence of raised blood pressure has remained consistently high in Mongolia over the years (Figure 6).

Salt interventions have been identified by the UN Interagency Task Force on NCDs for Mongolia as having the highest return on investment: 'for every Tugrik invested in the package of salt interventions, one can expect to see 16<sup>·9</sup> Tugriks in return over a 15-year period'.<sup>3</sup> To achieve substantive salt reduction, the government needs to continue to expand its pilot initiatives with salt reduction throughout the country. According to the UN Interagency Taskforce for NCDs (2017), this needs to involve: 'a wider engagement with industry in the reformulation of food products, especially producers of processed food (such as sausages, pickled vegetables,



**Figure-7:** Obesity trends in Mongolia over time<sup>27</sup>

canned meats, sauces); adopting standards for front of pack nutrition labels; investing in education and communication to raise awareness about the health risks of salt in a society accustomed to high levels of everyday usage; and implementing salt reduction strategies in community settings including but not limited to schools, workplaces and hospitals.<sup>3</sup>

### Addressing obesity and diabetes

As Mongolia undergoes an epidemiological transition, obesity and diabetes are both rising in prevalence and are likely to present significant health challenges in the coming years. Diabetes prevalence has crossed 10% for both men and women, while obesity prevalence is in excess of 20% of the population (Figure 7). However, there is still no operational action plan to reduce overweight/obesity. According to the Global Nutrition Report, Mongolia has 'shown limited progress towards achieving diet-related NCD targets and no progress towards achieving the target for obesity'.<sup>27</sup> Existing policies are child-focused, aimed at 'reducing the impact of marketing of foods and beverages high in saturated fats, trans fatty acids, free sugars, or salt on children'.<sup>28</sup> The government has not yet imposed a sugar-sweetened beverage (SSB) tax. There is also no dedicated national awareness campaign to improve physical activity.

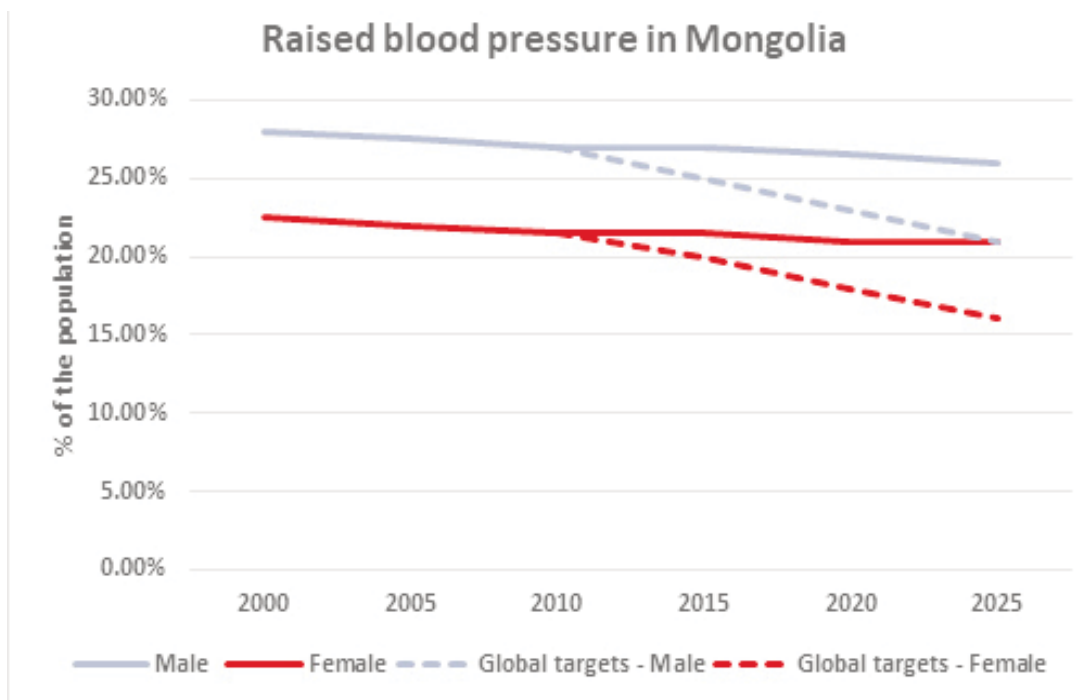
### Strengthening the Health Promotion Fund

Mongolia's Health Promotion Foundation is an excellent

example of the use of taxation of unhealthy consumption to finance health promotion activities and it has been a bedrock of the country's NCD response thus far, particularly in the all-important area of information, education and communication programmes. According to health officials, "while political support for the Foundation lapsed in the middle of the last decade, it has now been reinstated with its earlier financing pool." Research from around the world has demonstrated how taxes levied on smoking, alcohol and other forms of unhealthy consumption can improve long-term public health, while at the same time, create an important source of income and financing to prevent NCDs. Studies like Javadinasab et al (2019) have also shown that, in the long run, investing in health promotion services 'has a significant role in reducing the costs of social insurance. And increasing financial capacity in health promotion services, either through public funds or through social funds depending on the country financing system, can lead to more effective prevention'.<sup>28</sup> A strengthened, autonomous and well-financed Mongolian Health Promotion Foundation will continue to be central to future NCD prevention efforts.

### Consolidating gains in tobacco control

Mongolia has made progress on limiting smoking in public places, advertising bans, restrictions on underage sale and increasing excise taxes on tobacco, which has led to a gradual decrease in tobacco smoking in recent years (Figure 8). One of the major reasons for this progress has



**Figure-8:** Current Tobacco Smoking in Mongolia<sup>27</sup>

been the role played by the Women's Caucus in the Mongolian Parliament. The 2012 election resulted in a record number of women parliamentarians and led to the formation of a cross-party Women's Caucus. The first issue the Caucus worked on was the landmark amendment to the tobacco law, which had long been pushed for by the MoH but had been held up for years because of tobacco industry pressure.<sup>22</sup> This highlights the importance of both political stewardship for progress in NCD prevention as well as the effectiveness of women politicians, who have been shown to be relatively more resistant to industry interference.

Concerns linger about the possibility of progress being stalled or reversed by the interference of industry in the political process, particularly so when economic troubles abound. Several steps have been identified by WHO and MoH officials interviewed for continued progress on tobacco which could result in sustained decrease in use. These include legislation mandating plain packaging for all tobacco products; imposing and enforcing bans on indirect advertising; and building on the recent tobacco excise price increase through gradual tobacco tax increases of 3 percent per year to reach 70% of the retail price as envisioned by WHO-FCTC.

#### **Strengthening and enforcing alcohol regulation and tax**

Alcohol control has been identified by the UNIATF as

having the second-highest return on investment out of all NCD-related interventions- 13.6, meaning for every Tugrik invested in alcohol control, 13.6 will be generated over a 15 year period. In recent years, Mongolia has moved to address its problem with harmful use of alcohol through advertising restrictions on sponsorships, increased taxes and a new alcoholism prevention programme. There are some indicators to suggest at least extreme alcoholism is going down - according to an official study from 2018 alcohol consumption in Mongolia, the number of people treated for alcohol-related issues in Umnugovi province decreased by five times between 2013 and 2018.<sup>29</sup> However, alcohol consumption per annum overall rose from 7 litres per capita in 2010 to 7.4 litres in 2016 (slightly higher than the WHO Western Pacific Region average of 7.3).<sup>30</sup>

There is still limited progress in comprehensive alcohol related regulations; there are still no direct marketing bans, or content or volume restrictions. There are also no regulations limiting the number or location of alcohol outlets and 'regulations to limit sales during certain days or hours is left to regional governments'.<sup>3</sup> Industry interference and high levels of social acceptance of alcohol use are cited by health officials as the main reasons for lack of progress.

Among the key priorities identified by WHO and UNIATF (2017) to address alcohol consumption include:

'increased restrictions on the availability of alcohol through national policies that limit the number and location of alcohol outlets, and prohibit sales during certain days or hours; regulation of direct and indirect advertising of alcohol, and the volume and content of alcohol advertisements; enforcement of advertising law through the development of effective surveillance and deterrence systems; graduated alcohol tax increases that are reflective of the average excise tax (as a percent of retail price) of beer and wine in upper-middle-income-countries (UMIC): 25.86% and 30.3% respectively'.<sup>3</sup>

### **Improving surveillance and information systems**

Information and surveillance constraints continue to hamper efforts to prevent NCDs and achieve integrated care. Surveillance data on NCD risk factors through the STEPS survey has not been carried out since 2013. Like in many other LMICs, NCD surveillance in Mongolia is hampered by weak surveillance structures, lack of standardized electronic patient records, inadequate sources of data and a lack of integration (through unique identifiers) of different datasets.

According to the World Bank (2018), 'there is no functional and effective electronic health (eHealth) system in the country, which could greatly enhance the functionality and effectiveness of primary care systems by connecting providers to achieve horizontal and vertical integration, coordination, and continuity of information over time.'<sup>2</sup> Effective eHealth systems 'enable successful communication between facilities and provide health professionals and patients with the tools to better engage with the care process while improving care management and decision making'.<sup>2</sup> Hence, there is an urgent need to accelerate implementation of existing eHealth pilots in facilities across the country. Furthermore, there is a need for integrating private facilities in NCD surveillance systems and undertake a new population-based STEPS surveys to assess progress on risk factors.

### **Conclusion**

Mongolia made substantive progress in improving the health, life expectancy and living standards of its citizens in recent decades. Beyond its success against infectious diseases and maternal and child health, it was among the first LMICs to undertake national level policymaking and planning for NCDs. Its policies thus far have been evidence-based, responsive and flexible and there has been an adaption of its health system to meet its contemporary disease burden. However, many challenges remain – NCDs continue to rise in contribution to mortality and morbidity, most risk factors continue to remain at similar levels despite mitigation strategies

(though most also do not appear to be increasing), curative care continues to take up the bulk of health expenditure, secondary and tertiary care remains a principal healthcare access point for patients, industry interference continues to limit stricter taxation and regulation and political support for prioritization of health promotion has not been consistent.

Mongolia has undergone an epidemiological transition to NCDs, which account for over 85% of mortality in the country; however, its spending priorities still do not adequately reflect this changed disease burden. NCDs still account for just around 20% of health spending and most NCD spending is still concentrated in inpatient care. NCD prevention occupies a small proportion (2.5%) and population-level NCD prevention an even smaller proportion (1%) of overall health spending. Given the significant role of the behavioural, metabolic and environmental risk factors in contributing to the NCD burden, it is essential that investment on population-level prevention is made that is commensurate with the returns and cost-savings that will result.

Secondary and tertiary facilities continue to be heavily prioritized in spending patterns in Mongolia, while primary care continues to be both under-prioritized and bypassed in terms of access to care. Mongolia has taken creditable steps to strengthen primary care in recent years which need to be continued to promote continuum of care and information linkages across primary, district and aiming facilities with a focus on prevention.

Multi-sectoral action features prominently in both previous and current NCD policies and strategies of the Mongolian government. The prior State Health Policy 2000-2014 established the Public Health Council as a coordinating body for public health action, including on NCDs. The National Programme on Prevention and Control of NCDs envisions multilateral cooperation among organizations, communities, families and individuals. The establishment of the Health Promotion Foundation also enabled collaboration with civil society for health promotion, including through the Citizen's Forum for Participation on Health. However, multi-sectoral action has not taken any institutional form and political change and discontinuity and industrial lobbying has at times limited the effectiveness of such action. There is a need for greater clarity over roles and responsibilities for coordination and action, constitutional and financial protection for health protection institutions like HPF and enabling of joint civil society action for NCD prevention.

High levels of salt consumption remains the principal dietary risk in the Mongolian diet, and is one of the main

contributors to the high levels of CVD in the country. The UNIATF has identified salt reduction as the most cost-effective policy measure with the highest level of return on investment in prevention measures compared to other NCD interventions. The Mongolian government has achieved some success with pilot measures to reduce salt consumption in targeted areas. This needs to involve investment in surveillance and information/knowledge interventions (including through mass media), while engaging industry in salt reduction in processed foods. Other nutrition-related challenges include rising levels of diabetes and obesity, pointing to the need for focusing fiscal attention on sugar and policy action for reducing obesity.

Despite industry interference, Mongolia has made progress in tobacco regulation and taxation in recent years, with comprehensive advertising and marketing limits, bans on public smoking, restrictions on sales, large health warnings on packs, and increase in tobacco excise taxes to up to 40% of retail price. However, implementation gaps still remain for smoking policies and graduated excise taxes need to be increased and continued in line with inflation to function as effective price deterrents. While progress in alcohol has been slower, owing to stronger industry influence on policymaking, there have nonetheless been measures to restrict alcohol sponsorships, and an increase in taxation by 20%. However, excise tax on alcohol is still below recommended levels and marketing restrictions and sales timings have yet to be imposed at a national level for alcohol.

Both tobacco and alcohol represent important areas for both prevention of NCD risk factors as well as generation of financing for health promotion. In order to substantively reduce their consumption, higher excise taxes to WHO-recommended levels remain the key method for mitigating consumption. Further, the share of the Mongolian Health Promotion Foundation in excise taxes on tobacco and alcohol needs to be sustained and increased as an avenue for strengthened prevention financing, while also exploring the earmarking of other taxes on unhealthy consumption for this purposes – such as on sugar-sweetened beverages (SSBs).

Finally, strengthening surveillance and improving information systems for NCDs remains a key priority for future investment. While population-level surveillance was carried out much more regularly up till 2013, Mongolia has not carried out a STEPS survey for risk factors for 7 years now, which is sorely needed in order to be able to assess the efficacy of policies and plan for the future. This needs to be combined with e-health sentinel

systems that integrate various levels of healthcare from the primary to the tertiary as well as the private sector, in order to improve communication, planning and decision-making for strengthened NCD prevention and care.

### Recommendations

1. Establish and operationalise dedicated institutions for multi-sectoral action on NCD prevention and control.
2. Prioritise primary level prevention, care and chronic disease management in terms of resource allocation within the health system.
3. Expand pilot salt-reduction initiatives and engage food industry for reformulating processed products (particularly for sausages, pickled vegetables, canned meats, sauces) and adopting front of pack labelling (FOPL).
4. Establish an evidence-based sugar-sweetened beverage tax to both reduce consumption of sugary drinks and earmark part of its revenue for health promotion.
5. Increase alcohol taxes in line with inflation and income increases, for up 26% of beer and 30% of wine.
6. Increase tobacco taxes to FCTC-recommended 70% of retail price through graduated tax increases of 3% per year.
7. Mandate plain packaging for all tobacco products and impose and enforce bans on indirect tobacco advertising.
8. Increase restrictions on alcohol availability, prohibit sales during certain hours, regulate and monitor alcohol advertising and enforce advertising law.
9. Initiate and allocate resources for national campaign for community-based physical activity and healthy lifestyle promotion and ensure infrastructure for its implementation.
10. Support and increase fiscal resource pool for the Health Promotion Fund.
11. Connect providers across tiers and region through strengthening e-Health infrastructure to achieve horizontal and vertical integration, coordination, and continuity of information for NCDs.
12. Undertake comprehensive risk factor survey for NCDs to enable surveillance and evaluate policy approach.

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