

Financing of NCD Prevention in LMICs: Belarus Case Study

Ammar Rashid, Kassim Nishtar, Saba Amjad

Objective:

Prevention programs are increasingly seen as critical for tackling the rising burden of non-communicable diseases (NCDs), but tend to be under-prioritized and under-funded, particularly in low and middle income countries. The objective of this study is to estimate spending on NCD prevention in Jamaica 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 organizational contexts that shape the formulation of policy and financial frameworks for NCD prevention. The methodology was categorized 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 programs. Government and government-routed donor spending on population level prevention was gauged to estimate NCD prevention spending. Where possible, impact of prevention programs on disease incidence and risk factors was gauged through available outcome indicators.

Results:

From 2016 to 2020, Belarus allocated an estimated BYN 15,762,041 to population level NCD prevention, which amounts to about 6.6% of the NCD-related budget and 0.02% of the total state health budget. Despite being among highest spenders in the world on health and shifting policy towards NCDs in recent years, allocations for NCD prevention remain low. Recent enablers include progress on taxing and reducing use of tobacco and alcohol and high levels of political commitment to health. Challenges include excess allocations towards curative infrastructure and services, focus on specialist instead of preventive primary care, inadequate focus on rising obesity and salt consumption, limited health communication and low population participation in health care.

Conclusion:

Belarus has increased focus on NCDs and risk factors in recent years, but this is not reflected yet in spending priorities. Re-routing its considerable health spending toward NCD prevention programs could both mitigate its growing NCD disease burden and bring significant economic benefits.

1. Introduction

Belarus faces a large non-communicable disease (NCD) burden, which accounts for the vast majority of mortality in the country. Like many other countries of the former Soviet Union, Belarus experienced a deterioration in health outcomes in the initial years of economic, political and social instability after its independence in 1991. Mortality rates from NCDs like cardiovascular disease (CVD) rose dramatically in the 1990s until they peaked and began falling after 2005.¹

Life expectancy at birth plummeted from 71 years in 1989 to 67.44 in 1988 before improving again in the 21st century (currently at 74.77).² Average life expectancy for men has also improved (64.8 years in 2009), but still has yet to recover pre-independence levels and is below the European average of 72 years.³ There still remains a significant gap in life expectancy and health outcomes between Belarus and the EU-15 countries, which has primarily to do with NCDs, particularly cardiovascular outcomes.

NCDs are responsible for 89% of all deaths in Belarus – around 105,000 a year - out of which CVDs account for the largest share (63%), followed by cancer (14%). Most worryingly, the probability of dying prematurely (before the age of 70) from NCDs in Belarus remains huge at 29%, with chances of premature death for men (38%) twice as high as they are for women (15%).⁴ Given the country's rapidly ageing population, the high prevalence of NCDs is likely to cause continued premature mortality and result in increasing economic and social costs if not proactively tackled.

The NCD burden is driven by a series of behavioral, metabolic and environmental risk factors that are closely associated with CVD, cancer and other major NCDs. Nearly half of Belarusian men smoke tobacco daily, alcohol consumption is among the highest in the world, 60% of the population is overweight (and over 25% obese), and salt consumption is at least two times higher than the WHO recommended daily intake.⁵ Hypertension affects almost half of the population, yet less than half of those affected are on medication.

NCDs also result in high economic costs. In the case of Belarus, they result in a huge amount of public health spending on expensive treatment for the diseases. But much more than that, they have a huge impact in terms of lost productivity. NCDs reduce productivity at a macro-economic level by interrupting full participation of the labor force and the subsequent impacts on individuals, their carers and the state. In addition, individuals who suffer from a disease are more likely to miss days of work (absenteeism) or to work at a reduced capacity while at work (presenteeism).

The government of Belarus has taken a number of steps to counter its NCD burden in recent decades, with considerable success in turning the tide, as demonstrated by falling NCD mortality. The country has initiated a national multi-sectoral program for the prevention and control of NCDs, implemented CVD-specific programs, carried out surveillance of risk factors and taken steps to regulate and tax tobacco and alcohol in the country. However, much progress remains to be made, as implementation of policies remains incomplete and the prevalence of both NCDs and risk factors remains at a high and costly level.

The potential to scale up population-based interventions is one of the biggest opportunities for stronger prevention and control of CVD and diabetes in Belarus. Studies have determined that relatively low-cost population-based interventions to prevent NCD risk factors can have enormous economic impact far

outweighing the level of investment required, the benefits of which would accrue across the whole of government and society.⁴

Availability and allocation of funds for financing NCD control and prevention in particular are an important part of the equation when it comes to the continued persistence of chronic NCDs. 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 study will investigate the dynamics of NCD prevention financing in Belarus to identify the key lessons, challenges, and barriers from Sri Lanka's own experience with financing and implementing NCD prevention. It will do so by first examining the socio-economic and institutional context of NCDs in Belarus, outlining the key policy responses and interventions of the Belarusian 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 the Belarusian experience will then be discussed and summarized, and a set of actionable outcomes and recommendations will be presented.

2. 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, organizational 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 those preventative and "public health services ... designed to enhance the health status of the population as distinct from the curative services which repair health dysfunction."

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 'Belarus'. 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 Belarus 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 analyzed 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.

3. The NCD burden in Belarus

Belarus has one of the highest NCD burdens in the WHO European Region, and almost two thirds (62%) of deaths can be attributed to CVD. 16% of mortality is caused by cancer, 2% by respiratory diseases and 10% from other NCDs (see Figure 1; WHO 2018). While diabetes prevalence is relatively low (at around 9.5%), there are around 9700 annual deaths from high blood glucose (of which 5,550 are of women).⁶Nearly half the population suffers from hypertension.⁵There is a significant gender difference in key indicators for NCDs. The premature mortality rate from CVDs is about six times higher in men than in women (245.3 and 43.6 per 100 000, respectively). The probability of dying before 70 years is more than twice as high for men as for women, and the age-standardized mortality rate for NCDs was twice as high in men (991.8 per 100 000) as in women (479.5 per 100 000) in 2015.⁷ Women outlive men by almost 10 years on average (with life expectancy over 79 for women compared to 68 for men). To a significant degree, the differences in male–female mortality are attributable to the male population’s greater exposure to behavioral NCD risk factors, especially tobacco use and harmful use of alcohol.⁴

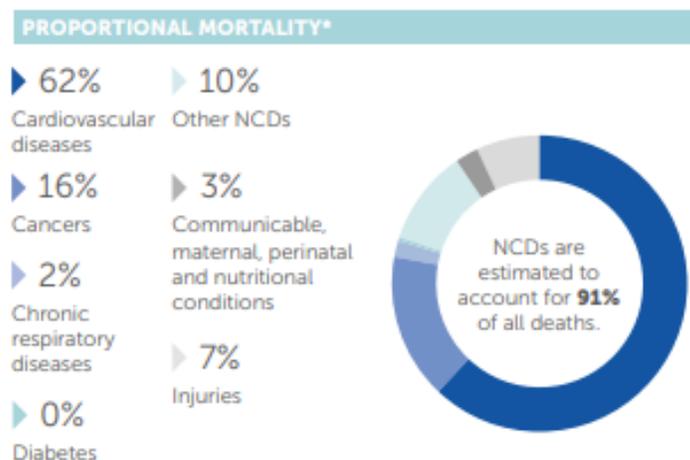


Figure 1 Main causes of mortality in Belarus⁷

What causes the most premature death?

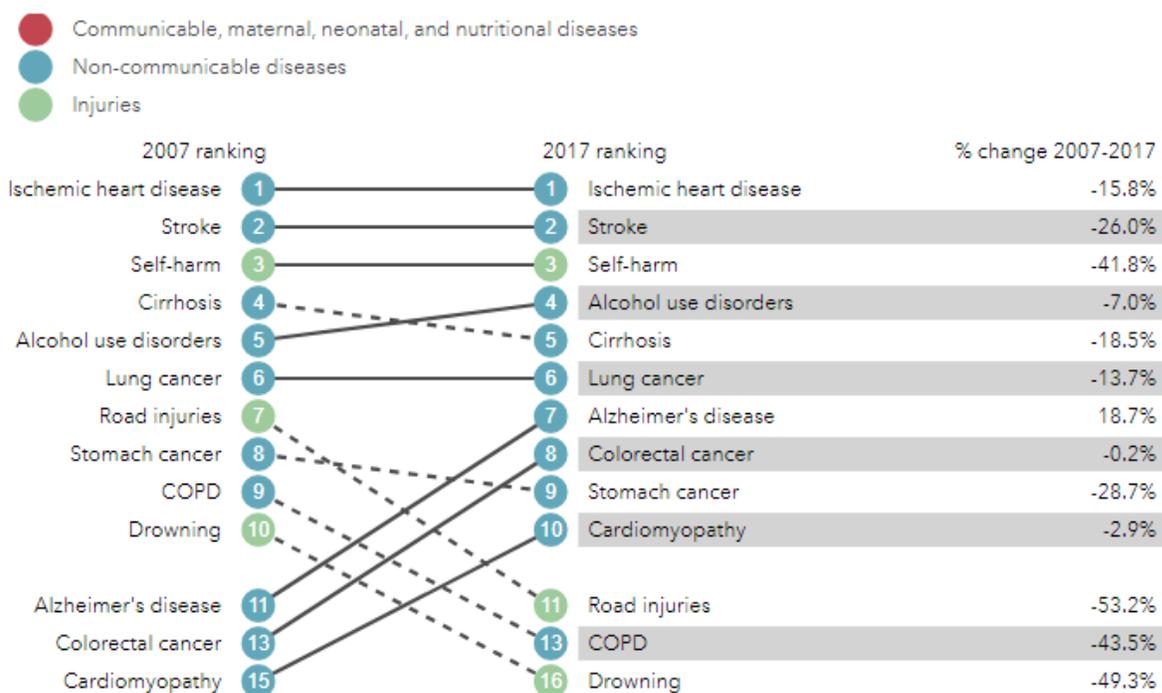


Figure 2 Top 10 causes of years of life lost (YLLs) in 2017 and % change in Belarus, 2007-2017⁸

The economic burden of NCDs in Belarus is striking. The UN Interagency Taskforce on NCDs found that Belarus economy loses 5.4% of its national Gross Domestic Product (GDP) each year due to premature deaths, morbidity and disability caused by NCDs and the associated reduced workforce productivity.⁴ This costs every man, woman and child in the country the equivalent of US\$ 270 per year. It has ramifications far beyond the health sector, threatening demographic security and achievement of the 2030 Agenda for Sustainable Development,”⁹

4. NCD risk factors in Belarus

The nationwide STEPS survey on the prevalence of the main risk factors for NCDs among the population of conducted in 2016-2017 revealed that more than 40% of the population had three or more of the five main risk factors for health - daily smoking, low consumption of vegetables and fruits, physical inactivity, overweight/obesity and high blood pressure.⁵ According to the same survey on the presence of risk factors, 13.5% of Belarusian adults aged 40–69 years have a probability of 30% or higher of having a fatal or non-fatal cardiovascular event within 10 years, indicating the presence of high cardiovascular risk.⁴

What risk factors drive the most death and disability combined?

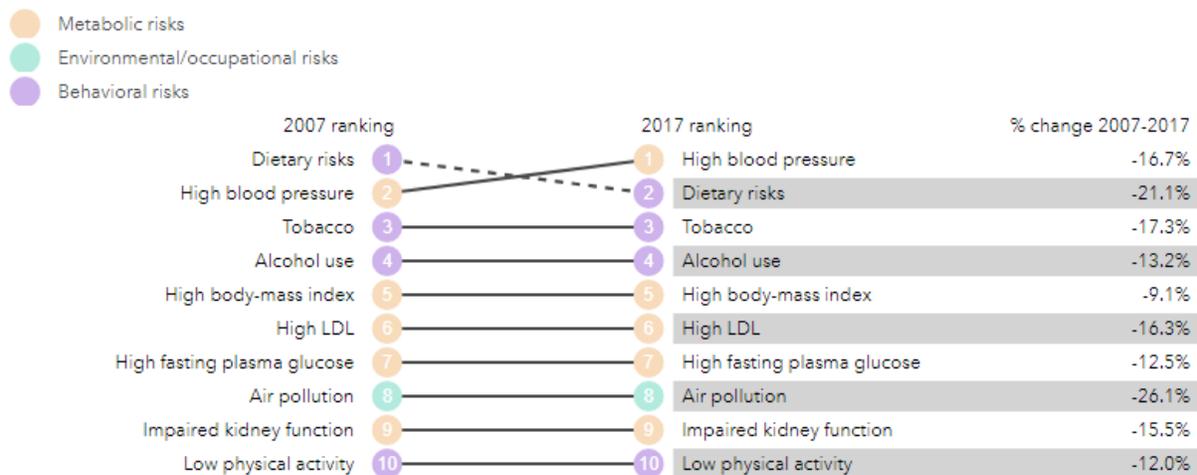


Figure 2 Top 10 risks contributing to DALYs in 2017 and % change in Belarus, 2007-2017⁸

4.1. Tobacco use

Findings from the 2016–2017 national STEPS survey indicate that 29.6% of Belarusian adults (18–69 years) currently smoke and almost all are daily smokers. There is a marked gender gap: only 12.6% of women smoke compared to 48.4% of men. An alarming trend, however, shows a more than threefold increase in smoking among women from 3.6% in 1995 to 12.6% in 2017. 45.7% of men and 10.2% of women smoke daily.⁵

Youth smoking is also a major problem. An estimated 9.4% of youths (8.9% of boys; 9.9% of girls) aged 13–15 years smoke cigarettes.¹⁰ The mean age at which people start smoking has dropped: among those aged 18–29 years the mean age of taking up smoking was 16.4 years (men: 16.1; women: 17.3); among those aged 60–69 years it was 19.3 years (men: 17.9; women: 27.1).⁵

4.2. Harmful alcohol use:

Alcohol consumption in Belarus is among the highest in the world. The 2016–2017 STEPS survey findings show that in 2017 around two thirds (64.9%) of males and two fifths (41.8%) of females are considered current alcohol users, indicating that they have had a drink in the past month.⁵ A high 34.9% of men binge (consumed six or more drinks in one sitting) during the month before the survey, compared to 6.9% of women.⁵ Spirits constitute 50% of alcohol consumption, followed by beer (23%).¹¹ There is evidence that alcohol use per capita has reduced in recent years though it remains among the highest in the region and the world.

Alcohol exacts a high mortality cost. WHO estimates that around 20,000 deaths in 2014 in Belarus were attributable to alcohol, including about 11 415 deaths from CVD, 5996 deaths from injuries, 1128 deaths from liver cirrhosis and 1019 deaths from alcohol-attributed cancers.¹² According to the National Statistical Committee of the Republic of Belarus, 1153 men and 308 women also died because of acute alcohol poisoning in 2016.¹³

4.3. Physical inactivity:

According to the 2016–2017 STEPS survey, around one in seven (13.2%) Belarusian adults aged 18–69 years is insufficiently active, engaging in less than 150 minutes per week of moderate-intensity physical activity.⁵ Around a third (35.4%) of physical activity is work-related; half (54.4%) is transport-related and a tenth (10.2%) is recreational. Around four fifths (80.5%) of adults, particularly women (91.1%), do not engage in vigorous activity.

4.4. Metabolic risk factors:

Within Belarus, three fifths (60.6%) of adults are overweight (BMI ≥ 25 kg/m²) and a quarter (25.4%) are obese (BMI ≥ 30 kg/m²). 45% of the population had raised blood pressure and 53.4% of them were not taking any medication for this purpose.⁵ High levels of metabolic factors – such as high blood pressure or body mass index (BMI) – significantly increase the risk of a cardiovascular event.

4.5. Unhealthy diet:

Salt or sodium consumption in Belarus is relatively high. Mean intake for salt per day (in grams) for adults (estimated through spot urine samples) in the 2016-17 STEPS survey amounted to 10.6g – more than twice the WHO recommended level of 5g per day. Intake was significantly higher for men - 12.4 g per day – than for women (9.0 g per day).⁵

5. Health system and financing context

The health sector is one of the priority areas for the government of Belarus and the majority of health expenditures in Belarus are covered by the state. The current health system is inherited from the Soviet *Semashko* system, based on the commitment to the principle of universal access to health care provided free at the point of use. This was done through predominantly state-owned facilities organized hierarchically on a territorial basis.

Belarus' health system still retains these features and has seen only incremental change since independence. The administration of the health system is organized according to the 6 regions with a special region-status for the city of Minsk. Within each region, different levels are defined including primary care (district polyclinics, ambulatories), secondary levels of care (specialist in- and outpatient care) and highly specialized hospitals.¹⁴ The Ministry of Health has overall responsibility for the health system, although the funding of primary and secondary care is now devolved to the regional level. Highly specialized hospitals are funded directly from the Ministry of Health budget.³

Public health is predominantly financed from taxation, more than 61% of total health expenditures are from the state budget, financed through taxation (Figure 4). The government spends over 10% of its budget and nearly 6% of GDP on health, and the increase in government health spending has generally kept pace with economic growth and has been maintained even in times of slowdown (Figure 3).

About 36% of health expenditure is out-of-pocket (OOP), mostly consisting of co-payments for outpatient pharmaceuticals (Figure 4). Relative to other countries of Europe, OOP household spending on health in Belarus remains low and service utilization is high, indicating relatively equitable access. The main barriers to service are waiting times and staff shortages. **Error! Bookmark not defined.**

While Belarus' Soviet-inherited *Semashko* health system proved very effective in terms of ensuring universal access to healthcare and control of communicable diseases, with the epidemiological shift

towards an NCD burden, it was insufficiently flexible and its primary health care and health promotion not tailored to enable the control of NCDs dominating towards the end of the Soviet era.¹⁵

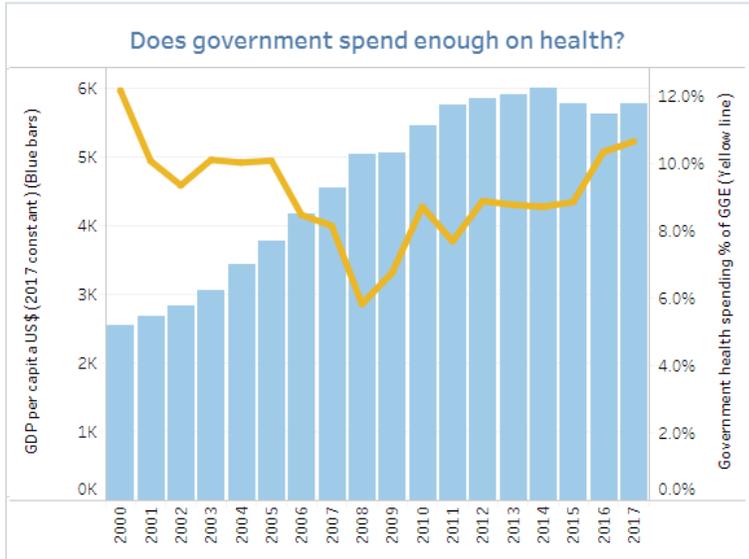


Figure 3 GDP per capita and government health spending as % of budget¹⁶

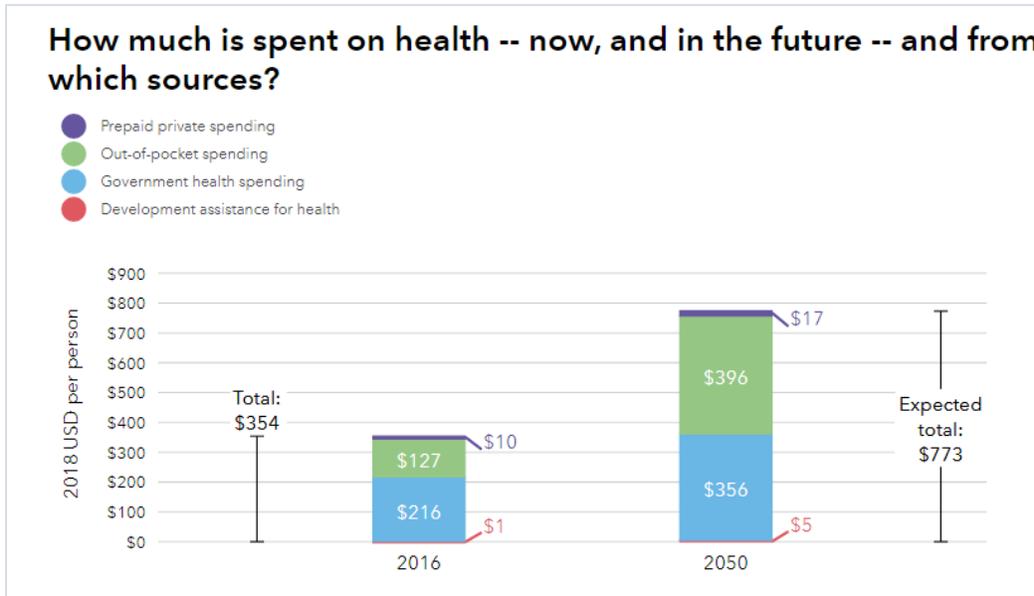


Figure 4 Current and future projected sources of health financing in Belarus⁸

The key organizational reforms since 1991 have focused on addressing the core weaknesses of the *Semashko* system. There have been policy efforts to strengthen primary care and to address the urban–rural divide, including the introduction of general practice in rural areas. There has also been significant decentralization of health-care financing and administration and capitation-based budgeting has been introduced in order to encourage greater efficiency in resource allocation at the district level. However,

in practice, the hospital sector is still dominant and requires streamlining so that resources can be released for primary care and public health.**Error! Bookmark not defined.**

The key lesson to be learned from the Belarusian experience is that, with unwavering political support, an incremental approach to economic and healthcare reform can sustain access to health care for the population and protect public health from the harsher aspects of socioeconomic transition. However, it is not enough on its own to substantially improve population health or ensure efficient use of funds.**Error! Bookmark not defined.** As Belarus develops its society and economy, its health system requires adaptation in line with its new economic, demographic and epidemiological reality.

6. NCD prevention in government policies and plans

Belarus has increasingly turned its attention to NCDs in recent years. NCDs are a core subprogram of its State Program for People's Health and Demographic Security 2016-2020. It has developed a National Multi-sectoral Action Plan for Prevention and Control of NCDs 2016-2020. In keeping with the Global Monitoring Framework, Belarus has set national targets that focus on risk factors - including tobacco use, high blood pressure, high salt intake, obesity, and physical inactivity. The government has also initiated a sub-program dedicated to reducing alcohol consumption for the same period. NCD programs are overseen by an Intersectoral Coordination Council on NCDs, chaired by the Deputy Prime Minister, indicating its importance to the government. Other key policy initiatives for NCD prevention and control include the Healthy Cities project, tobacco control policies and the Cardiology Program.

6.1. State Program for People's Health and Demographic security in Belarus 2016-2020:

In 2016, the Government of Belarus introduced a comprehensive multi-sectoral health program titled 'People's Health and Demographic Security in Belarus 2016–2020', which was adopted in 2016. The stated purpose of the program is “the creation of conditions for improving the health of the population, covering all stages of life, broad awareness of the population about risk factors that threaten health, promoting a healthy lifestyle, developing self-preserving behavior among the population, developing and strengthening family values, increasing the prestige of parenting, improving population reproduction, reducing the mortality rate, primarily in working age, increasing life expectancy, improving the quality and availability of health care services, as well as optimizing internal migration processes.

The plan includes seven sub-programs, including: i) family and childhood, ii) prevention and control of NCDs, iii) prevention and overcoming of drunkenness and alcoholism, iv) tuberculosis, v) prevention of HIV infection, vi) external migration, and vii) ensuring the functioning of the healthcare system of Belarus.¹⁷

6.2. National Program on the Prevention and Control of NCDs of the Republic of Belarus 2015–2020:

Belarus' first comprehensive multi-sectoral program on the prevention and control of NCDs envisions a broad-based response to NCDs through a whole-of-government approach. The 4 objectives of the program include i) reducing the influence of risk factors for NCDs by creating a unified preventive environment; ii) ensuring the prevention of NCDs throughout the life cycle through universal and affordable service coverage; iii) reduction of premature mortality and stabilization of the population's

disability caused by NCDs; and iv) ensuring the monitoring of the health status of the population through creation of a unified information space for healthcare of the Republic.¹⁷

The targets for the program include: reduction of the mortality rate of the working-age population to 3.8 per 1000 persons; reducing the prevalence of tobacco use among people aged 16+ to 24.5%; increasing the physically active proportion of the adult population (those who engage in average physical activity of at least 30 minutes a day) up to 40%; reducing the consumption of table salt per capita per day to 5 grams; reducing the content of trans fatty acids in vegetable products oils to 2% or less; reducing the level of negative social and economic consequences of drunkenness and alcoholism; and reducing consumption of alcohol in the population among others.

The identified stakeholders for the NCD program other than the Ministry of Health include the Ministry of Internal Affairs, Ministry of Housing and Utilities, Ministry Information, Ministry of Culture, Ministry of Education, Ministry of Taxes and Duties, Ministry of Emergency situations, Ministry of Agriculture and Food, Ministry of Sports and Tourism, Ministry of Commerce, Ministry of Labor and Social Protection, Ministry of Economy, State Committee for Standardization, State Customs Committee, Belarusian State Concern of the Food Industry, National State TV and Radio Company, National Academy of Sciences of Belarus, regional executive committees, and Minsk city executive committee.¹⁴

6.3. Inter-agency cooperation:

Since 2011, Belarus has tried to involve an all-of-government approach to health and NCDs. The Interagency Council was formed in 2011 initially as an instrument for intersectoral communication focusing on alcohol and drug misuse. The objectives of the Council included coordinating the activities of the republican (national) executive bodies and agencies and local authorities for a unified governmental policy on the prevention and control of alcohol dependence; defining the priority areas of governmental policies in these fields; developing actions for the implementation of practical and regulatory measures in the prevention and control of alcohol, drugs and tobacco use; evaluating plans and project proposals of target programs.

The executive body of the Council was formed by a subdivision of the Ministry of Health, responsible for intersectoral communications and for implementing the recommendations of the Council. Decisions of the Council are binding on all relevant governmental agencies and organizations. The Interagency Council has a self-regulatory role for the implementation of its recommendations. Some of examples of interagency initiatives through the council include media products for health promotion through 'healthy wave' radio and scientific and educational TV programs on healthy living.¹⁸ The Healthy Cities project is another example of coordination between various agencies and tiers of government for health promotion.

In 2016, this Council was expanded into an Intersectoral Coordination Council on NCDs, under the chairmanship of the Deputy Prime Minister to oversee implementation of the NCD program.

6.4. Healthy Cities project:

Since 2016, the Ministry of Health has been implementing the WHO's Healthy Cities project across the country for the development of a favorable urban environment for healthy lifestyles. It is envisioned as a part of efforts to achieve indicators of SDG No. The Healthy Cities project is also supported by the EU and other UN agencies, and involves active cooperation of city authorities, regional and local committees, hygiene and epidemiology centers, the Belarusian Red Cross Society, civil society organizations, and the local population to create multi-sectoral partnerships for continual improvement in the physical and social

environment of these cities.¹⁸ Sixty-nine cities and towns in regions across Belarus have already joined the project and regional and a National Association of Healthy Cities has been formed by the Ministry of Health to share knowledge and collaborate in improving public health in urban environments.¹⁹

6.5. The EU-BELMED Project:

The recently-concluded European Union BELMED “Preventing noncommunicable diseases, promoting a healthy lifestyle and support to modernization of the health system in Belarus 2016-2020” project focuses on addressing the four key risk factors for NCDs. The project was closely aligned with the government’s State Program for People’s Health and Demographic Security and its National Program on the Prevention and Control of NCDs. The BELMED project’s main objectives were facilitating the prevention of non-communicable diseases and reinforcement of the public healthcare system, as well as promoting a healthy lifestyle. The project also aimed to foster efficiency in the national programs and actions of the government and local authorities in the area of NCD reduction on both the national and regional levels, as well as fostering public involvement in the promotion of health-improving local initiatives.²⁰

Two of the 6 objectives of the project relate to population-level NCD prevention (one, promoting healthy lifestyles and reducing risk factors, and two, developing health promotion initiatives through CSOs at the local level). The project also included working with the Ministry of Health to improve screening for breast cancer, promoting injury prevention among children, supporting mother and child medical care, and strengthening the health system, specifically improving primary health care for better health outcomes.²⁰

BELMED was funded primarily by the European Union (contributing € 3.8 million out of € 4.1 million over 5 years) with smaller contributions from UN agencies and the Republic of Poland, and implemented jointly by the World Health Organization, the United Nations Development Programme, the United Nations Children's Fund and the United Nations Population Fund in collaboration with the Ministry of Health of Belarus.²¹

6.6. Tobacco control efforts:

Belarus ratified the WHO Framework Convention on Tobacco Control (FCTC) in 2005 and has committed to implementing a comprehensive tobacco control policy. However, a comprehensive tobacco control law, while drafted, has not yet been adopted. The main statute that governs tobacco control in Belarus remains the Presidential Decree on State Regulations for Production, Circulation and Usage of Tobacco and Tobacco Products 2002, which is periodically updated.²²

Large health warnings on tobacco packages with graphics were introduced in November 2017, which cover 50% of cigarette packs. The 2007 Law on Advertising introduced bans on a number of activities related to tobacco advertising and promotion. It prohibited placement of tobacco advertising, free distribution and gift packages, games and others. A point-of-sale ban on advertising was introduced on 1 July 2015, completing the country’s ban on all tobacco marketing opportunities.²³ However, there is still no ban on sponsorships by tobacco companies.

Taxation of tobacco products has increased over time. Currently taxes on the most sold brand of cigarettes stand at 51%, out of which excise tax is 34.2% and value added tax (VAT) is 16.7%.²³ As a result, cigarettes have becoming progressively less affordable since 2008, according to WHO. However, a large proportion of the population is still able to afford daily tobacco use. According to WHO recommendations, the amount of total tax per pack should comprise at least 75% of the retail price.

Recently proposed changes to regulations on tobacco would include a ban on smoking in public places, including bars and restaurants, with the exception of separately vented areas for smoking.⁴ However, as things stand, no indoor public places in Belarus are completely smoke-free. Under current laws, special places for smoking (equipped to Ministry of Health requirements) are allowed in all indoor public places. Smoking violations incur fines for the patron, but not the establishment. A system for citizen complaints and further investigations is in place, but no funds are dedicated to its enforcement.²⁴

Belarus earns an average of BYN 863 300 000 per year of revenue from tobacco excise taxes.²³

6.7. Alcohol harm reduction policies:

In the past decade, Belarus has taken steps to address its serious alcohol consumption problem, particularly among men. A number of regulations have been introduced to reduce consumption with some success. An inter-sectoral program for alcohol harm reduction was introduced for the prevention and control of heavy drinking from 2011-2015, which was successful in reducing alcohol use.

The current state program for People's Health and Demographic Security includes a subprogram on prevention and overcoming of drunkenness and alcoholism, which guides implementation of alcohol harm reduction policies. The subprogram aims to achieve an annual reduction of: 2–3% in the prevalence of chronic alcohol dependence; 3–5% in the number of under-age drinkers and related harm; 5–7% in the number of direct alcohol-related deaths; 7–8% in the incidence of alcohol-related psychoses; 1–5% in the number of offences and crimes committed in a state of alcohol intoxication; 4–5% in the number of traffic accidents caused under the influence of alcohol; and 5–6% in the number of accidents at work caused under the influence of alcohol.¹⁸

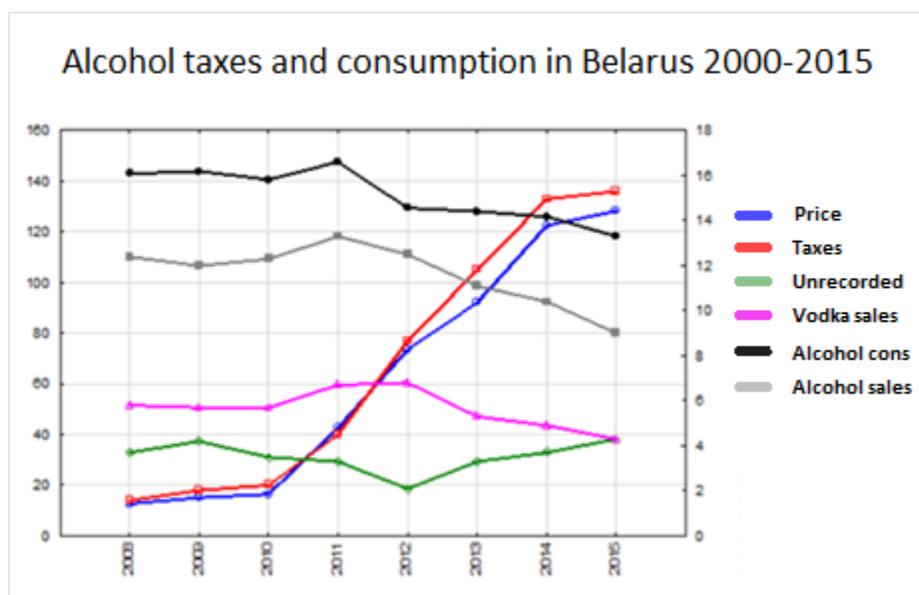
Belarus law on advertising bans direct advertising of alcohol on television and radio and the outdoor advertising of alcohol on the territory of educational, health care, cultural and sports buildings, airports, stations, public transportation stops and metro stations. There is an exception for beer advertising on television, which may be advertised between 22h00 and 07h00. There is also a ban on advertising on the first and last pages of newspapers, magazines and other media targeted at people under 18 years of age. Where advertisements are allowed, they require health warnings and labels.¹¹ However, enforcement of advertising restrictions remains a problem.

Beyond a ban on selling alcohol to children aged under 18, there are very few restrictions on alcohol sales. In 2008, restrictions were introduced on the retail sale of alcohol products in public institutions, such as schools, hospitals, children's theatres, dormitories, canteens, and children's cafes and shops but enforcement is uneven.**Error! Bookmark not defined.**

Belarus has made significant progress in addressing the problem of drinking and driving by lowering the maximum allowed blood alcohol concentration (BAC) when driving a vehicle to 0.03%. However, there is no zero-tolerance policy for novice or professional drivers.

There has been progress on taxation from 2010 onward when alcohol consumption peaked. Between 2008 and 2015, excise tax rates on vodka in Belarus increased 9.7 times (from 14 to 136 rubles per liter of pure alcohol) and the real price of vodka increased 10.1 times (from 12.7 to 128.3 rubles per liter) between 2008 and 2015 (Figure 4).²⁵ The excise tax applied to beer, wine and spirits is indexed to the consumer price index but is not related to alcohol content.

Figure 5 Trends in the excise tax rates on vodka (left scale), real price of vodka (left scale), per capita vodka sales (right scale), total alcohol sales (right scale), total level of alcohol consumption (right scale) in Belarus, 2008-2015²⁵



6.8. CVD-specific interventions:

As the predominant cause of NCD related mortality in the country, CVD has also been a subject of disease-specific programs and interventions in Belarus. There was a State Program for Cardiovascular Diseases from 2011–2015, which was named “Cardiology” and adopted by the government in March 2011. Other than infrastructural and clinical interventions for CVD, the program also had the goal of ensuring prevention and early detection of CVDs. A national evaluation of the Program in 2015 found reductions in mortality due to CVD by 9.9% in 2014 (701 per 100 000), relative to the baseline of 2010 (778 per 100 000), with specific reductions for IHD of 6.3%, and for AMI of 22.8%. Mortality due to CVD reduced by 19.0% in the working-age population. There was no reduction in morbidity due to general CVD, which rose by 7.4%, with specific increases for arterial hypertension of 12.4%, and IHD of 4.7%.²⁶

In terms of the success of preventive success, the program resulted in an increase in the awareness of children and adolescents on the principles of a healthy lifestyle to 45-50%, and the awareness of young people and adults about the risks of CVD development to 90%.¹⁴

Current CVD prevention efforts also include nationwide events by the Republican Scientific and Practical Center on Cardiology with the participation of thousands of Belarusian inhabitants. These events are usually held at public places including supermarkets, shops, pharmacies and buildings of the district administrations. Activities include lectures, consultations, and distribution of publications and flyers in factories, organizations and educational institutions.²⁶

7. Spending on NCD prevention:

From 2016-2020, Belarus earmarked and allocated BYN 27,392,668,342 (US \$14.5 billion at 2015 rates) for its state program on People’s Health and Demographic Security (averaging roughly BYN 5.47 billion per annum).²⁷ Out of this, 94% (around BYN 25 billion) was allocated from public funds, with 21.79% (BYN

5.96 billion) allocated through the central (republican) budget and 72.48% allocated through local budgets of Belarus' various regions.¹ Only 0.23% (BYN 63 million) came from external financing, (allocated largely through WHO and UN Agencies), and 5.5% was through the funds of private and social organizations. (See Table 1)

Out of the total budget for the five year State Program, about 94%, BYN 25,475,128,528 was allocated for ensuring the functioning of the health care system, 5% (BYN 1,446,279,671) for Family and Childhood, 0.04% (BYN 12,702,531) for Prevention and overcoming of drunkenness and alcoholism, 0.4% (BYN 115,874,348) for Tuberculosis, 0.38% (BYN 104 260 769) for prevention of HIV, and 0.01% (2,427,760) for external migration.

The sub-program on Prevention and control of NCDs accounted for 0.8% (BYN 235,994,733) of the total budget for the five-year State Health program while the sub-program on Prevention and overcoming of drunkenness and alcoholism (also a preventive program for an NCD risk factor) constitutes 0.04% (12,702,531) of the total budget.

Out of the total NCD-related allocations (Program on Prevention and Control of NCDs + Program on the Prevention and overcoming of drunkenness and alcoholism), 21% or BYN 52.79 million is allocated to Objective 2 of the NCD program “Achieve life-cycle prevention of non-communicable diseases through universal and affordable coverage of primary health care services” and 72.3% or BYN 180 million is allocated to Objective 3 of the NCD program “Reduction of premature mortality and stabilization of population disability caused by non-communicable diseases”.

Population-level NCD prevention (as distinct from treatment and screening budgets) accounts for just BYN 15,762,041. (See Table 2). This is the sum of budgets for Objective 1 “Reducing the impact of risk factors for NCDs” and Objective 4 “Ensuring the monitoring of the health status of the population through the creation of a unified information space for healthcare” of the Prevention and control of NCDs Program and the “Prevention and overcoming of drunkenness and alcoholism” Program. Population-level NCD spending amounts to about **6.6% of the NCD-related budget** and **0.02% of the total state health program budget**.

Table 1 Budget for the State Program for People's Health and Demographic Security in Belarus (2016-2020)¹

| Sub-Program | Total Budget 2016-2020 (BYN) | Central (republican) budget | Local budgets | Own funds of organizations | External financing |
|---------------------------|------------------------------|-----------------------------|---------------|----------------------------|--------------------|
| Family and Childhood | 1,446,279,671 | 1,393,970,419 | 50,916,372 | - | 1,392,880 |
| Prevention and control of | 235,994,733 | 105,415,408 | 124,475,025 | - | 6,104,300 |

¹ Compiled from Decision of the Council of Ministers of the Republic of Belarus. 2016. On approval of the State Program "People's Health and Demographic Security of the Republic of Belarus" for 2016-2020. National Legal Internet Portal of the Republic of Belarus. <<https://www.pravo.by/document/?guid=3871&p0=C21600200>>

| | | | | | |
|---|-----------------------|----------------------|-----------------------|----------------------|-------------------|
| noncommunicable diseases | | | | | |
| Prevention and overcoming of drunkenness and alcoholism | 12,702,531 | 4,661,260 | 8,041,271 | - | - |
| Tuberculosis | 115,874,348 | 63,198,521 | 29,544,107 | - | 23,131,720 |
| Prevention of HIV | 104 260 769 | 64 129 248 | 6 848 671 | - | 33,282,850 |
| External migration | 2,427,760 | 2,427,760 | - | - | - |
| Ensuring the functioning of the health care system of the Republic of Belarus | 25,475,128,528 | 4,335,927,813 | 19,637,152,163 | 1,502,048,550 | - |
| Total health spending | 27,392,668,342 | 5,969,730,430 | 19,856,977,611 | 1,502,048,550 | 63,911,750 |

Table 2 Allocation for population-level NCD Prevention in Belarus 2016-2020¹

| | Area | Implementation agencies | Sources of financing | Budget 2016-2020 (rubles) |
|----------|--|--|---|---------------------------|
| A | Objective 1 of NCD program: Reducing the impact of risk factors for NCDs | | | |
| 1 | Promotion of a healthy lifestyle and prevention of non-communicable diseases caused by the main risk factors (smoking, alcohol abuse, unhealthy diet and lack of physical activity), development and implementation of an information strategy for a healthy lifestyle | Ministry of Health, Ministry of Information, Ministry of Education, Ministry of Emergency Situations, regional executive committees, Minsk City Executive Committee | Other sources * (funds from WHO, UNICEF, UNDP, UNFPA) | 418,510 |
| 2 | Development of mechanisms for promoting a healthy lifestyle at the local level | Ministry of Health, regional executive committees, Minsk City Executive Committee, Ministry of Education, Ministry of Information, closed joint stock companies "Second National TV Channel" (ONT) and | Other sources * (funds from WHO, UNICEF, UNDP, UNFPA) | 2,200,000 |

| | | | | |
|---|---|--|--------------------------------|-----------|
| | | "Capital Television" (STV) | | |
| 3 | Organization of information and educational work with the population on the formation of a healthy lifestyle and self-preserving behavior, the problems of non-communicable diseases through large-scale actions, cultural events, information campaigns, common health days, widespread use of Internet resources, physical training and recreation activities and their coverage in the media | Ministry of Health, Ministry of Education, Ministry of Sports, Ministry of Information, Ministry of Culture, Belteleradio company, regional executive committees, Minsk City Executive Committee | Vitebsk region local budget | 210,000 |
| 4 | Conducting a comprehensive study to establish the prevalence of suicidal behavior among children and adolescents, causes and risk factors | Ministry of Health | other sources * (UNICEF funds) | 37,000 |
| 5 | Conducting awareness-raising campaigns among the population in order to raise awareness of issues related to mental health, and take measures aimed at supervised treatment of patients with mental disorders at the outpatient stage | Ministry of Health, Minsk City Executive Committee | local budgets, other sources * | 169,000 |
| A | Total Budget Objective 1 of NCD program (Reducing the impact of risk factors for NCDs) | | | 3,034,510 |
| B | Objective 4 of NCD program: Ensuring the monitoring of the health status of the population through the creation of a unified information space for health care | | | |
| 1 | Development and implementation of a program for monitoring risk factors for non-communicable diseases in the working population of the republic | Ministry of Health | Republican budget | 25,000 |
| B | Total Budget Objective 4 of NCD program | | | 25,000 |
| | Program on Prevention and control of drunkenness and alcoholism (prevention budget) | | | |
| 1 | Ensuring the effectiveness of information support in the mass media of issues of preventing and overcoming drunkenness and alcoholism, as well as the | Ministry of Health, Ministry of Internal Affairs, Ministry of Information, Belteleradio company, | Mogilev region – local budget | 2,962 |

| | | | | |
|-----------|--|---|-------------------|-----------|
| | formation of healthy lifestyle skills | regional executive committees, Minsk City Executive Committee | | |
| 2 | Conducting sociological research on alcohol consumption by young people and people of working age by the Republican Center for Drug Abuse Monitoring and Preventology | Ministry of Health | Republican budget | 59,800 |
| 3 | Development and implementation of a comprehensive method of medical rehabilitation of patients with alcohol dependence | Ministry of Health | Republican budget | 176,000 |
| 4 | Development and implementation of a method of complex medical rehabilitation of persons with alcohol dependence syndrome using occupational therapy | Ministry of Health | Republican budget | 187 260 |
| 5 | Development and implementation of a method for the treatment of alcohol withdrawal syndrome using hyperbaric oxygenation | Ministry of Health | Republican budget | 266,000 |
| 6 | Development and implementation of a method of medical prevention of alcohol consumption in adolescents with the use of systemic family psychotherapy | Ministry of Health | Republican budget | 140,000 |
| 7 | Development and implementation of a method of medical prevention of alcohol abuse by workers of an industrial enterprise | Ministry of Health | Republican budget | 60,000 |
| 8 | Development and implementation of methods of medical prevention among minors who consume alcohol and are in special educational and educational and special medical and educational institutions | Ministry of Health | Republican budget | 58,500 |
| 9 | Construction of alcohol and drug clinical center in Minsk | Minsk City Executive Committee | Local budgets | 5,000,000 |
| 10 | Strengthening the material and technical base of health care organizations for alcohol/drugs | Regional executive committees, Minsk city executive committee | Local budgets | 3,038,309 |

| | | | | |
|----------|--|--------------------|-------------------|------------|
| 11 | Overhaul of the Republican Scientific and Practical Center for Mental Health | Ministry of Health | Republican budget | 3 625 200 |
| 12 | Scientific, methodological and organizational support of the activities of this subprogram | Ministry of Health | Republican budget | 10,000 |
| 13 | Development and implementation of a method of psychotherapy for persons with alcohol dependence syndrome, prone to aggressive behavior | Ministry of Health | Republican budget | 78,500 |
| C | Total Budget Subprogram 3: Prevention and control of drunkenness and alcoholism | | | 12,702,531 |
| | Total NCD prevention budget (A+B+C) | | | 15,762,041 |

8. Discussion:

Belarus has made substantive progress in addressing its NCD crisis in the past decade, with a series of inter-sectoral policies and costed long-term programs that have met with concrete success at reducing mortality from NCDs, particularly CVD. This has been done on the back of a well-funded public health system which provides universal access to the majority of the population and implementation of targeted efforts to prevent major NCDs and their risk factors. According to health officials interviewed, in recent years, *“the focus in the country has also shifted toward population-level prevention”*, through *“inter-sectoral action that involve a variety of national and local stakeholders”*. However, as seen in Section 7, this has yet to fully translate into spending priorities. Some key lessons and challenges from Belarus’ experience are identified in this section.

8.1. Adapting financing priorities:

Belarus is among the highest spenders in the world in terms of health, averaging around 10% of government spending allocated towards healthcare. It allocated about BYN 27 billion to its Five-Year State Program on People’s Health and Demographic Security 2016-2020. However, despite NCDs accounting for the bulk of the disease burden and over 90% of mortality, spending on the NCD prevention and control program only accounted for around BYN 235 million, less than 1% of the total health budget. Of this, population-level NCD prevention accounts for only BYN 15 million, or less than 0.02% of total health spending.

Over 90% of the health budget on the other hand is spent on curative inpatient and outpatient expenditures. Belarus’s overall high levels of public health expenditure per capita has meant that the Belarusian health system has huge excess infrastructure, with more beds per capita than any other country in the CIS or the EU.³ This indicates that there is a considerable level of surplus capacity in the system, particularly for inpatient care. When looked at in tandem with the low spending on the high prevalence of preventable risk factors, this suggests serious allocative inefficiencies, in which expensive treatment is being prioritized at the expense of more cost-effective prevention interventions that could prevent the need for such treatment and result in a much healthier population.

According to WHO estimates, the four main NCDs - cardiovascular, diabetes, chronic lung diseases and cancer - cost the Belarusian economy about BYN 4.7 billion a year, or 5.4% of GDP. The bulk of this loss is in terms of losses in economic productivity.⁴ There is hence a clear economic case to be made for enhanced investment in NCD prevention that could save the country billions in health and productivity costs.

8.2. Reducing tobacco use:

Belarus has made progress in tobacco control over the past decade. Tobacco smoking has decreased from the stratospheric highs of the early 2000s to population to around 26% (and around 48% for men). However, tobacco use in Belarus is still among the highest in the world and is one of the major risks for the high levels of NCD, in particular CVD. Reducing tobacco use will require persistent and comprehensive efforts to regulate and price out consumption and enforce restrictions on sales, smoking and advertising.

A key reason for continued high levels of tobacco use is affordability. According to the WHO Belarus country director Valentin Rusovich, tobacco in Belarus “costs 40 times less than the average cost of cigarettes in the UK and other countries where there is an active fight against smoking.”²⁸ The main priority for tobacco control should be to continue to be a

raising of taxes to the WHO recommended level of 75% of retail price to reduce the affordability of cigarettes.

Multiple lacunae remain in tobacco regulations that enable high levels of use to persist. An absence of enforcement of existing sales restrictions continues to be a problem. The age limit of 18 years to buy tobacco products is not sufficiently enforced, resulting in 40% of adolescents aged 14–17 years to buy cigarettes in shops without being asked for their identity card.²⁹ Warning labels on cigarette at 50% of the surface of the pack are also smaller than in other countries in the region. Public smoking remains a serious concern, with special places for smoking allowed in most public places. There have been few targeted mass media campaigns about the dangers of tobacco and smoking cessation. There is also an absence of a dedicated tobacco cessation quit line. A lack of enforcement of existing regulations remains endemic.

WHO has estimated that carrying out these interventions for tobacco cessation would result in averted mortality of over 62,000 over 15 years and would result in the return on investment of \$31 for every \$1 invested for tobacco control.⁴

8.3. Building on progress on alcohol:

Alcohol consumption in Belarus rose rapidly after the dissolution of the Soviet Union, and was a major contributor to the rise in NCDs and spike in mortality that followed. However, according to a health official interviewed, “reducing harmful use of alcohol has been one of the most significant successes of the

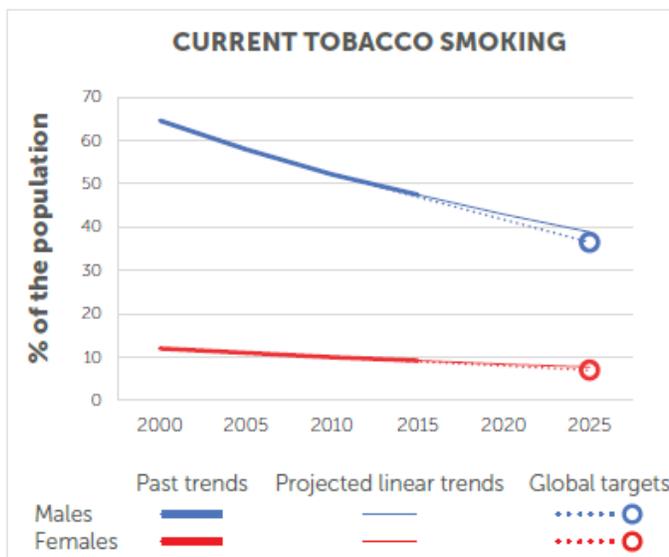


Figure 6 Past and projected tobacco smoking trends in Belarus

government in recent years”. There are tangible signs of improvement in reducing alcohol consumption in Belarus, with recent data suggesting that total alcohol consumption dropped to 11.2 liters per capita in 2015-2017 from the previous peak of 17.5 liters in 2008–2010, when it was the highest in the world.**Error! Bookmark not defined.**

The dramatic reduction is evidence that Belarus’ inter-sectoral alcohol harm reduction program 2011-2015 was a success, as affirmed by WHO.¹¹ Studies like Razvodovsky (2018) have demonstrated that excise taxes appear to have driven this reduction, finding that ‘significant increasing in the real price of vodka from increased excise taxes appears to have been a major driver of the substantial decrease in alcohol sales between 2011 and 2015’. Other than this, research has found that the implementation of measures limiting the production and sale of fruit wines (a cheap alternative to vodka with high alcohol content) has led to significant reductions in total alcohol consumption.³⁰

Despite progress, alcohol consumption in Belarus still remains among the highest levels in the world and health experts have called for a further increase in tax measures, for both vodka and fruit wines, whose prices remain at the most affordable levels in Europe. Experts, including WHO Country representative in Belarus Valentin Rusovich, have proposed that *“the excise taxes on spirits need to be increased in line with the alcohol content in the bottle, rather than the current flat rates on ‘alcoholic’ and ‘low-alcoholic’ drinks”*.²⁸

| Alcohol per capita (15+) consumption (in litres of pure alcohol) | | | | |
|--|-------------|-----|-------------|-----|
| | 2010* | | 2016* | |
| Recorded | 14.3 | | 9.6 | |
| Unrecorded | 3.0 | | 1.5 | |
| Total** | 17.5 | | 11.2 | |
| Total males / females | 28.9 | 7.9 | 18.0 | 5.5 |
| WHO European Region | 11.2 | | 9.8 | |

* Three-year averages of recorded and unrecorded for 2009–2011 and 2015–2017; **adjusted for tourist consumption.

Figure 7 Changes in alcohol consumption in Belarus between 2000 & 2016¹¹

Enforcement of advertising restrictions also remains a problem and alcohol companies often use indirect marketing to promote their products. A lack of well-enforced sales restrictions remains among the most pressing concerns. There are effectively no restrictions (hours, days) on sales and, in many regions, locations for alcohol. Alcohol is available at petrol stations and legally traded in late-hour shops. Sale to children aged under 18 years is also not well-enforced.

The WHO investment case for Belarus estimated that investing in a core set of ‘best-buy’ interventions for alcohol use reduction (including enforcing restrictions on availability of alcohol, enforcing restrictions on alcohol advertising, enforcing drink driving laws and raising tax on alcohol beverages) would result in a return on investment of \$12 over \$15 years for every \$1 invested.⁴

8.4. Addressing salt, nutrition and physical activity:

Unhealthy diets and physical inactivity are among the main causes of NCDs in Belarus and a growing health risk. Salt intake is more than twice WHO-recommended levels and 45% of the population suffers from high blood pressure. Obesity is on the rise - adulthood obesity prevalence forecasts predict that in 2020, 17% of men and 30% of women in Belarus will be obese and by 2030, 22% of men and 40% of women will be obese.³¹

Despite these alarming indicators, nutrition and physical activity interventions remain one of the most under-prioritized areas of the current NCD response in Belarus.

8.4.1. Filling surveillance gaps:

Lack of data and surveillance is one of the most critical challenges in this area. Before the STEPS survey, no information was available on trends in salt consumption in the population, a major risk factor for hypertension and CVDs. Similarly, data on nutrition and physical activity in Belarus are limited, as is data on food composition. There is no monitoring framework for sugar intake from sugar-sweetened beverages. Generating data on the prevalence, sources and causes of these nutritional risk factors is essential to the task of reducing them. The 2017 STEPS survey on NCD risk factors is a good first step in this regard and needs to be conducted regularly, and accompanied by national nutritional surveys and food composition studies.

8.4.2. Reducing salt as a priority:

According to the NCD investment case study by WHO, out of all interventions for NCDs, intervening in the area of salt reduction would provide the highest rate of return on investment for Belarus out of all NCD interventions studied - 94 dollars for each dollar invested during the 15 years' time.⁴ Despite this, no specific policies or population-level strategies to reduce salt intake have thus far been implemented. Following the generation of data on salt intake and its sources, it is critical to engage the food industry to promote the reformulation of foods high in salt (as well as trans-fat and other unhealthy components of processed food) and introduce front-of-pack warning labels with color codes (the Traffic Light System or TLS) in order to help consumers make better food choices. This needs to be accompanied by population-level educational measures to address high salt use. Implementing salt reduction strategies in schools, workplaces and communities and through mass media advocacy could be incorporated into the Healthy Cities initiative at very little cost. Mass messaging needs to address both the multi-faceted dangers of high salt use and reading nutrition labels.

8.4.3. Other nutrition interventions:

While the reduction of trans fats is included in the targets for the National NCD program, little progress has been reported thus far. While preliminary research is in process, there is as yet no comprehensive regulatory framework in Belarus supporting the elimination of trans-fats and no evidence of their

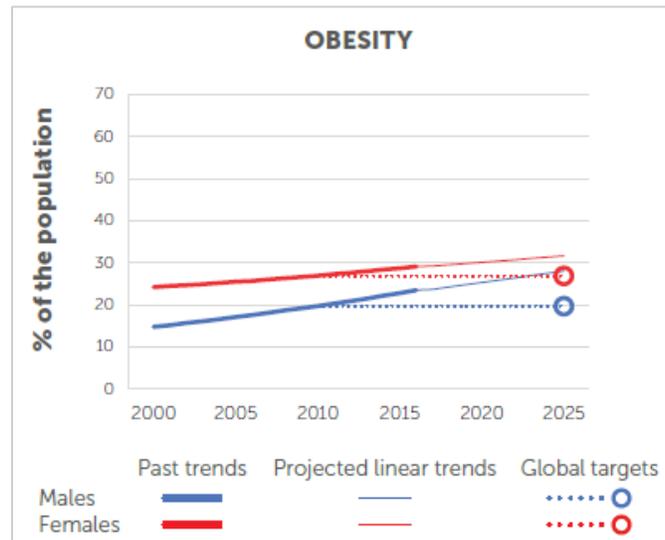


Figure 8 Past and projected obesity trends in Belarus (WHO 2018)

reduction in the diet. WHO recommends to limit trans-fat to less than 1% of daily diet, which is ensured in many countries by establishing an upper limit for trans-fats of 2g per 100g of fats in all food products.

Similarly, there has been no action on regulation to limit marketing of unhealthy processed foods to children (other than a ban on advertising milk formulas and breast milk substitutes). According to an official from the Belarusian health ministry, “Nutrition and physical activity counseling are gradually being considered as important elements of primary care” with a policy document developed on nutrition counselling, which needs to be implemented across the healthcare system.¹⁸

8.4.4. Improving Physical activity:

Although facilities for physical activity and sports are reportedly available in all regions of Belarus, only 10.8% of the population regularly takes part in physical activity. An inter-sectoral plan for healthy lifestyle promotion including physical activity was initiated in 2011-2015, but not continued beyond that.³ Currently, physical activities are promoted under the Healthy Cities initiative in different parts of the country. There is a need for an evaluation of the impact of this approach on activity levels and, based on the results, a potential participatory national and local campaign on physical activities and sports that mobilizes the population, along the lines of those adapted in LMICs like Jamaica (the Jamaica Moves Campaign).

8.5. Moving from secondary to primary prevention:

The strength of preventive medicine was a key feature and strength of the Soviet-era *Semashko* system, but it was largely geared towards preventing communicable disease. The emphasis in that system was on secondary prevention activities, including immunization, early detection and screening, and treatment.³ Neither NCD control nor primary prevention (via reducing risk factors and inducing behavioral change) were built into the health system.

There continues to be a persistence of historical patterns of service delivery from the *Semashko* era. This includes annual population health check-ups (known as *dispanserizatsiya*), in which large sections of the population are required to see specialists (including neurologists, ENT specialists, surgeons, ophthalmologists, endocrinologists and gynecologists). These resource-intensive exercises, which result in a considerable workload for doctors, are not evaluated for effectiveness or impact on health outcomes.

Officials interviewed see such “*institutionalized practices of specialist care as a barrier to efficient use of general practice in prevention and control of NCDs.*” There are indications that this model resulting in low levels of primary prevention - results from Belarus’ first STEPS survey found that less than half of the adult population had been advised on a healthy lifestyle by a doctor or health worker in the previous 3 years.⁵

Health officials suggest that “*there is a need to both evaluate existing specialized mass screening programs and gradually adapt the system towards community-oriented primary care*” with an emphasis on primary prevention.” The Belarus government has begun to move in this direction, as demonstrated by the allocation of BYN 52 million to objective 2 of the NCD program which relates to “*life-cycle prevention of non-communicable diseases through universal and affordable coverage of primary health care services*”.

8.6. Adapting delivery of health communication:

There is a growing understanding of the need to expand health promotion and health education in Belarus. However, according to officials familiar with the health system, “*the traditional priority given to communicable disease prevention overshadows any health promotion activities relating to NCDs.*” Further,

the mode of health communication delivery within the system is geared to the requirements of a different era. Primary care doctors are still required to spend several hours per year of working time on health education lectures, a holdover from the *Semashko* era whose contemporary efficacy has not been evaluated and may need to be reassessed.³

Much of the focus of health education has been awareness-raising events around specific “days” dedicated to different diseases around the country, as described in section 6.8. The success of these events is usually evaluated on the quantity of lectures, events and attendance but their impact on health or behavior is not evaluated. Officials interviewed suggest that *“the country needs to move from pre-set institutionalized patterns of health communication towards programmatic evidence-based approaches that are tailored to local disease patterns and risks”*, and utilize what research demonstrates to be the most effective modes of delivery (ranging from digital and electronic media to community media).

8.7. Enhancing population participation:

Low population involvement is another historical feature of the *Semashko* system, which tended to have a paternalistic approach to care. The Belarusian health care system to some extent still demonstrates a hierarchical and paternalistic approach to health, with a widespread belief that health care professionals are the only responsible actors for health and health care. **Error! Bookmark not defined.** Paternalistic health service delivery tends to imply limited involvement of patients in decision-making and the development of care plans, with the result that compliance with prescribed care plans tends to be low. A study found that at least 20% of people with hypertension do not comply with their long-term treatment plan. **Error! Bookmark not defined.**

Low levels of health literacy are reflected in the high rates of tobacco, alcohol and salt consumption and low public knowledge on what constitutes appropriate levels of salt consumption,²⁴ though knowledge of dangers of tobacco and alcohol may be improving in recent years. This problem is compounded by low levels of participation of the population and civil society in health policymaking and priority-setting, whether at national or local level. Low population participation is reflected in the fact that health promotion and education messages are not tailored to specific sub-groups.

There is practical evidence to demonstrate that participatory approaches to prevention can be effective in the Belarusian context. In 2014-2017, the Swiss Red Cross implemented a ‘Community Action for Health’ project aimed at improving knowledge and changing behaviors on determinants of NCDs. The project was implemented through ‘Initiative Groups’ (IGs) in communities engaged through interactive training sessions on NCD prevention, mini-initiatives promoting physical activity and healthy eating in communities, individual peer-support for behavior change. The results of the project showed a solid ‘spill-over’ effect whereby changed behaviors were observed not only among the people directly involved in the IGs but among the broader population in the coverage areas; 31.9% of the coverage population in the coverage area became physically active (compared to 19% of the general population), and 41.5% of the coverage population reported healthy diets (compared to less than 28% of the general population).³²

The evidence suggests that more community-focused participatory approaches to NCD prevention need to be a priority in the coming years, along with training health workers in behavioral change communication skills and techniques. Other than supporting community-level behavioral change, a participatory approach will also help the health system tailor its services and communication to the broader population over time.

8.8. Political commitment for NCD prevention:

All of the above listed reforms, from financial re-prioritization to alcohol control to community-centered prevention are structural issues that will require the mobilization of sustained political commitment to the NCD prevention agenda. Evidence from around the world has demonstrated the importance of political commitment for effective NCD prevention and control.

As Belarusian health officials assert themselves, Belarus is a distinct *“example of a country with historically-high levels of commitment to health, as demonstrated in high levels of public spending on health, and extensive and universal health coverage”*, which has managed to adapt its services and technology to the needs of the population. However, addressing the NCD burden with its high levels of health and economic costs will require mobilization of a different kind of political commitment, one that re-allocates resources toward primary population-level prevention, reduces the reliance on specialist care, and engages communities for improving public health.

There is increasing willingness on the part of policymakers to adapt the system as demonstrated in the implementation of recent multi-sectoral plans for NCD prevention. However, prolonged deliberations at the central level on proposed reforms can take a long time to translate into action, during which momentum is lost. **Error! Bookmark not defined.** Officials interviewed suggest this is due to *“fears about the lack of popularity of such reforms, and perceptions of popular support for the existing constellation of health services”*. The coming years will be critical to determine whether authorities can mobilize will for the shift towards a more cost-effective prevention-based model that can sustain the population’s health needs are not undermined by economic and social instability.

9. Conclusion

After a period of grave setbacks in health outcomes owing to the rising NCD burden in the late 1990s/early 2000s, Belarus has made strides in its NCD response, which has mobilized multiple sectors of government and focused on preventing key risk factors. The results and evidence from Belarus in recent years contain key lessons for other LMICs but also highlight potential areas for change which can address the high levels of risks that continue to threaten the health and well-being of Belarusians.

Belarus’ current NCD response is anchored in its State Program on People’s Health and Demographic Security 2016-2020, a multi-sectoral program with earmarked government funding of BYN 25 billion (out of a total budget of BYN 27 billion) over five years. The high level of commitment to health can be gauged from the fact that annual public health spending under the program averages 10% of total government expenditures in recent years, one of the highest ratios in the world. An NCD prevention and control program is one of the seven main sub-programs of the State Program.

However, despite the high NCD burden, low levels of financial prioritization of NCDs persists in government planning, with only BYN 236 million allocated for NCDs over five years (less than 1% of total health spending). The spending on population level spending is even lower, at around BYN 15 million over five years. The vast majority of government health spending on health remains on inpatient and outpatient care, which over time has resulted in high levels of unused excess capacity in terms of facilities, infrastructure and human resources. As evidenced in a recent WHO study, the demonstrable cost-effectiveness of NCD prevention points to an urgent need for increasing the resources allocated to interventions in this all-important area.

Belarus' spike in NCD mortality near the turn of the millennium was driven in large part by increasing consumption of tobacco and alcohol. The government's policies have managed to turn the tide on this in recent years, with substantive reductions in both tobacco and alcohol use registered in the population. A key part of the reason for this is increased excise taxes, which have increased the prices of both over time, and with which the drop in consumption has been closely correlated according to studies. However, both tobacco and alcohol (particularly the latter) remain affordable for a large majority of the population and there remains a need to both increase taxes to WHO-recommended levels, and in the case of alcohol, index them to the level of alcoholic content to discourage higher levels of spirit consumption of vodka and fruit wine.

Lax enforcement of tobacco and alcohol regulations continue to be a problem. Few restrictions on sale exist, with both alcohol and tobacco widely available at retail outlets, with relatively easy access for minors. Exceptions to public smoking bans are also widely practiced and bans on tobacco and alcohol advertising are also regularly flouted. Acting on enforcing restrictions on sales, marketing and availability of tobacco and alcohol and increasing taxes on both have been estimated by WHO to hold enormous potential economic benefits for the country – including an ROI of \$12 for every \$1 invested in alcohol prevention for alcohol and \$31 for every \$1 invested in tobacco prevention, over 15 years.

Salt is another major risk factor for NCDs in Belarus, with per capita intake estimated to be more than twice the recommended level of 5g/day. Salt reduction (along with nutrition interventions in general) remains one of the most under-served aspects of Belarus' NCD response, with no national salt reduction strategy yet in place. This is despite the fact that salt reduction has been identified by the WHO investment case as the area with the high level of ROI for prevention interventions – \$94 for every \$1 invested. Key priorities for salt reduction in the coming years are its effective surveillance (along with other dietary risk factors), reformulation of products high in salt, implementation of warning labels for salt and sugar, and population level salt-awareness measures.

Other key priorities for action on nutrition need to include elimination of trans fats, a low-cost objective that could have a significant impact on CVD, as well as taxing and labeling of sugar-sweetened beverages, and implementation of nutrition counseling at all levels of the health system.

The Healthy Cities initiative, which focuses on creating a favorable urban environment for healthy lifestyles, has been key to Belarus' NCD prevention and health promotion policies. The network of healthy cities has expanded to over 67 cities and towns in recent years, and an association of healthy cities has been formed to explore regional collaboration and share best practices. There is a need to evaluate the results of this initiative and explore possibilities for incorporating a national-level healthy lifestyle promotion campaign that mobilizes the population for physical activity.

There continues to be persistence of institutionalized patterns of service delivery from the Soviet Semashko era in Belarus' health system, which focused on secondary preventive care for communicable diseases. This includes annual population check-ups by specialists, exercises that some officials see as a barrier to effective levels of primary prevention of NCDs through less resource-intensive general practice. There is a need to evaluate the effectiveness of such programs and their impact on health outcomes to learn whether they need to be adapted to contemporary health challenges.

Health communication methods also continue to be informed by historically institutionalized approaches, including preset lectures by clinicians and events on disease-specific day commemorations. Officials

interviewed agreed to the need to evaluate these mechanisms of health education and move toward a more programmatic and evidence-based mechanism of health education, adapted to local circumstances and contemporary modes of delivery.

Low levels of population involvement continue to be a barrier to compliance with health advice, responsive health policy and services, and improved health literacy regarding NCDs and their risk factors. Evidence from project-based interventions in Belarus has demonstrated the efficacy of community-focused participatory approaches to NCD preventions that engage communities for behavioral change. Such participatory interventions should be considered for scale-up particularly in regions where risk factors are high and community-based behavioral change communication should be a key focus for doctors and health worker training in the coming years.

Addressing all of the above challenges will require political will and commitment. Belarus is an example of a country with high levels of political commitment to health, which now needs to be mobilized for the NCD prevention agenda. There is clear evidence from recent years that policymakers have woken up to the problem and have begun to adapt policies accordingly with substantive results in the improvement of health outcomes. In the coming years, it remains to be seen whether these priorities also translate into resource allocations and systemic changes to ensure a more cost-effective and prevention-based system of healthcare.

10 Recommendations:

- 1) Government spending on healthcare, currently concentrated in inpatient and outpatient care, needs to be reallocated towards NCD prevention.
- 2) Move toward primary level prevention, including evaluating existing specialized mass screening programs and adapting the system towards community-oriented primary care.
- 3) Increase excise taxes on spirits in line with the alcohol content in the bottle, rather than the current flat rates on 'alcoholic' and 'low-alcoholic' drinks.
- 4) Enforce restrictions on availability of alcohol, enforcing restrictions on alcohol advertising, enforcing drink driving laws and raising tax on alcohol beverages.
- 5) Raise taxes on tobacco to WHO-recommended 74% of retail price.
- 6) Enforce underage sales restrictions, eliminate special spaces for public smoking, increase size of warning labels to 65% of the surface of both front and back of tobacco packs, initiate tobacco cessation quit line and initiate mass communication campaigns about tobacco dangers.
- 7) Generate and make publicly available data and monitoring frameworks on nutrition (including sugar from SSBs), food composition and physical activity (including prevalence, sources and causes).
- 8) Implement population-level salt reduction strategy in schools, workplaces and communities and through mass media advocacy and messaging.
- 9) Establish and implement an upper limit for trans fats of 2g per 100g of fats in all food products.
- 10) Adapt delivery of health communication through programmatic evidence-based approaches that are tailored to local disease patterns and risks.
- 11) Employ more community-focused participatory approaches to NCD prevention that focus on community-level behavioral change for NCD prevention along with training and capacitating health workers in behavioral change communication skills and techniques.

12) Generate political commitment at level of central government for allocation of resources toward primary care and population level prevention, reducing reliance on specialist care, accelerating progress on reducing tobacco and harmful alcohol use, and engaging communities for public health.

We are grateful to the advisory committee and the co-investigators of this study for reviewing the papers and for their comments: Sir George Alleyne, Beatriz Champagne, Douglas Bettcher, Robert Beaglehole, Rachel Nugent, Greg Hallen, Johanna Ralston, Yasser Bhatti, Ali Islam Ghauri and Ammar Rashid.

Funding and note: support from the International Development Research Centre (IDRC) Canada is gratefully acknowledged. This paper is part of a country case series. Details about the methodology adopted for the country selection and approach to case studies can be accessed here:
<http://www.heartfile.org/pdf/Methods-section-for-the-case-studies.pdf>

References:

- ¹ Smith O, Nguyen SN. Getting better: improving health system outcomes in Europe and Central Asia. Europe and Central Asia report. Washington, DC: World Bank. 2013.
- ² Belarus Life Expectancy 1950-2020. www.macrotrends.net. Retrieved from <[https://www.macrotrends.net/countries/BLR/belarus/life-expectancy'](https://www.macrotrends.net/countries/BLR/belarus/life-expectancy)>on 12 July 2020.
- ³ Richardson E, Malakhova I, Novik I, Famenka A. Belarus: health system review. *Health Systems in Transition*, 2013. 15(5):1–118.
- ⁴ World Health Organization. Prevention and control of noncommunicable diseases in Belarus: the case for investment. WHO Regional Office for Europe. 2018.
- ⁵ World Health Organization. Prevalence of noncommunicable disease risk factors in Belarus: STEPS 2016. WHO Regional Office for Europe. 2017.
- ⁶ World Health Organization. Diabetes country profiles 2016: Belarus. 2016.
- ⁷ World Health Organization Noncommunicable Diseases (NCD) Country Profiles: Belarus. 2018b.
- ⁸ Institute of Health Metrics and Evaluation. 2017. Retrieved From <www.healthdata.org/belarus>
- ⁹ World Health Organization. NCDs cost Belarus over 5% of Gross Domestic Product. 23 April 2018.
- ¹⁰ CDC. Global youth tobacco survey factsheet: Belarus. Atlanta, GA: Centers for Disease Control and Prevention. 2015.
- ¹¹ WHO. Global status report on alcohol and health. Geneva: World Health Organization; 2018. License: CC BY-NC-SA 3.0 IGO
- ¹² Shield K, Rylett M, Rehm J. Public health successes and missed opportunities: trends in alcohol consumption and attributable mortality in the WHO European Region, 1990–2014. Copenhagen: WHO Regional Office for Europe. 2016.
- ¹³ NSC. National Statistical Committee of the Republic of Belarus. Minsk: Government of Belarus. 2017.
- ¹⁴ Pavlova, Olga. Country report. European Society of Cardiology. EAPC “Country of the Month” initiative. 2017.
- ¹⁵ Figueras J, McKee M, Lessof S. Overview. In: Figueras J et al., eds. *Health systems in transition: learning from experience*. Copenhagen, WHO European Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies. 2004: 13–31
- ¹⁶ WHO. Global Health Expenditure Databas. 2018.
- ¹⁷ Decision of the Council of Ministers of the Republic of Belarus. On approval of the State Program "People's Health and Demographic Security of the Republic of Belarus" for 2016-2020. National Legal Internet Portal of the Republic of Belarus. 2016. <<https://www.pravo.by/document/?guid=3871&p0=C21600200>>
- ¹⁸ World Health Organization. Better non-communicable disease outcomes: challenges and opportunities for health systems: Belarus Country Assessment. WHO Regional Office for Europe. 2015.
- ¹⁹ Ministry of Health. What are the sustainable development goals? Republic of Belarus. 2017. Retrieved from <<http://minzdrav.gov.by/dlya-belorusskikh-grazhdan/Chto%20takoye%20TSUR.php>>
- ²⁰ Full list of BELMED objectives. WHO Regional Office for Europe. Retrieved from: <https://www.euro.who.int/en/countries/belarus/areas-of-work/the-belmed-project/full-list-of-belmed-objectives>
- ²¹ UNICEF, UNFPA, WHO, UNDG, UNDP. Preventing non-communicable diseases, promoting healthy lifestyle and support to modernization of the health system in Belarus (BELMED). MPTF Office Generic Annual Programme Narrative Progress Report. 2019.
- ²² Campaign for Tobacco Free Kids. Legislation by country: Belarus. 2019.
- ²³ WHO. Report on the global tobacco epidemic, 2019. Country profile: Belarus. 2019.
- ²⁴ WHO. Tobacco control fact-sheet Belarus. Health impact of tobacco control policies in line with the WHO Framework Convention on Tobacco Control (WHO FCTC). 2017

-
- ²⁵ Y.E.Razvodovsky, Kristin Onoratiet.al. "A Comparison of College Male and Female Alcohol Consumption and Recall: A Replication" *ARC Journal of Addiction*. 2018. No. 3(1) : 8-10.
- ²⁶ World Health Organization. Review of acute care and rehabilitation services for heart attack and stroke in Belarus. WHO Regional Office for Europe. 2017b.
- ²⁷ Belta. Belarus to earmark over \$14.5bn for health and demographic security program in 2016-2020. Belta: News from Belarus. 28 December 2015. Belarusian Telegraph Agency, 2010-2020.
- ²⁸ Belarus Partisan. Prevention is cheaper: noncommunicable diseases cost the Belarusian economy 5% of GDP. 2018.
- ²⁹ Gavrichenkova Z. Запретамвопреки: почему подростки тянутся к спиртному [In spite of prohibition: why teenagers are drawn to alcohol]. In: Медвестник [Medical Bulletin] [website]. Minsk: Ministry of Health of the Republic of Belarus. 2017.
- ³⁰ Grigoriev, P and Bobrova, A. Alcohol control policies and mortality trends in Belarus. *Drug and Alcohol Review*. 2020. DOI: 10.1111/dar.13032.
- ³¹ World Health Organization. Nutrition, Physical Activity and Obesity Belarus. WHO Regional Office for Europe. 2013.
- ³² Haplichnik, Von Tatanya. NCD Prevention: Does it really work? *MMS Bulletin*. 2018. No. 145. Medicus Mundi Schweiz.