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Health as an investment in Poland in the context of the Roadmap to implement the 2030 Agenda for Sustainable Development and Health 2020

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Abstract

The aim of this report is to assess the policy options for investments in health in Poland in the context of the Roadmap to implement the 2030 Agenda for Sustainable Development, building on Health 2020, the European Policy for Health and Well-being. As background, national strategic documents incorporating the concept of health and well-being for all were reviewed and methodological aspects of the health-as-investment approach presented. Methods included a literature review and desk analysis of key national regulations as well as quantitative analysis of indicators used to monitor the 2030 Agenda for Sustainable Development and Health 2020 policy implementation. The results indicate that the policy options for investment in health in Poland can be divided into two categories: general guidelines on building and promoting the investment approach and more specific examples of actions on health investments supporting the implementation of the 2030 Agenda for Sustainable Development and Health 2020 strategies.

KEYWORDS
SUSTAINABLE DEVELOPMENT
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Preface

Never before, has health and well-being for all at all ages been placed at the centre of a global agenda, which is intended to transform our world and is determined to ensure that all human beings can fulfil their potential in dignity and equality in a healthy environment. Health is a determinant, an enabler, a key component and an outcome of all the Sustainable Development Goals (SDGs).

There is a new sense of urgency. The 21st century poses complex, political, social, economic and environmental challenges. Multifaceted, multilevel policy solutions are required, involving both vertical and horizontal integration of health into national policies. People's health can no longer be separated from the health of the planet, and economic growth alone does not guarantee improvement in a population's health.

Agenda 2030 calls for transformation by taking health to the highest level of government; ensuring participation; making global health governance fairer; empowering existing hubs and settings; ensuring health and well-being as a contributor to the economy; providing technological, scientific and data transformation; ensuring food and health system change; creating a greener society overall; and investing into the next generation. Achieving the SDGs challenges all of us to move forward and work together to implement a set of coherent, evidenced-informed policies that address health, well-being and all their determinants throughout the life-course and across all sectors of government and society.

In 2017, the Member States of the WHO European Region endorsed the roadmap to support countries in implementing the SDGs. Improved health and well-being depend largely on political commitment. Investment in health is investment into human development, capacity, prosperity, social and financial protection, the environment, national security and the wider economy. It is, therefore, with great pleasure that I see this analysis and the Polish perspective on actions needed to further invest into health and well-being. I am also pleased to see this as a first WHO country analysis carried out within the nationalization process of the SDGs and the development of voluntary national reviews.

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Abbreviations

EU	European Union
GDP	gross domestic product
ROI	return on investment
SDG	Sustainable Development Goal
SDR	standardized death rate
SROI	social return on investment

Executive summary

Health has been recognized as a central concept for sustainable development for more than two decades. The three core documents that currently define the role of health in sustainable development are the 2030 Agenda for Sustainable Development; Health 2020, the European policy framework supporting action across government and society for health and well-being; and the Roadmap to implement the 2030 Agenda for Sustainable Development, building on Health 2020, the European policy for health and well-being (referred to here as the Roadmap). Investing in health was defined as one of the enabling measures for the implementation of the 2030 Agenda. Investing in health provides economic and social returns for the health sector and other sectors, for society and for the wider economy, with an estimated fourfold return on every dollar invested. Better health and well-being improve economic productivity, strengthen social capital and improve social protection while contributing to macroeconomic progress and inclusive and sustainable growth. Investing in upstream preventive policies and interventions brings economic, social and environmental benefits that contribute to sustainable development and equality.

In Poland, health care spending has been traditionally framed as costs to the Government. Yet, as health has been proved to constitute a major contributor to economic growth, and a healthier population means increasing labour supply and productivity, spending on health should be viewed as an investment in both population well-being and a country's economy. The aim of this report is to assess the policy options for investments in health in Poland in the context of the Roadmap. As background, national strategic documents incorporating the concept of health and well-being for all are reviewed and methodological aspects of the health-as-investment approach are presented. Methods include a literature review and desk analysis of key national regulations as well as quantitative analysis of indicators used to monitor 2030 Agenda and Health 2020 policy implementation.

The Polish perspective on actions regarding sustainable development and achievement of the Sustainable Development Goals (SDGs) has been formulated in the Strategy for Responsible Development, adopted in 2017. The main objective of all actions and projects covered by the Strategy is to create conditions that foster income growth for all residents of Poland while also increasing social, economic, environmental and territorial cohesion. The strategy is people centred, prioritizing the achievement of objectives related to the quality of life of citizens before economic activities. The expected effects (e.g. reducing social exclusion, poverty and social inequalities; improving health care and the state of the environment; and strengthening the role of social capital in development) go hand-in-hand with the provisions of the 2030 Agenda. There are also several sectoral strategies that focus on or include the elements of health and well-being for all priorities. Most importantly, the National Health Programme 2016–2020 was adopted in 2016 as the basic document defining national public health policy. Being in line with Health 2020, the programme puts emphasis on cooperation between government administration, units of territorial self-government and other entities, and it focuses on limiting health inequalities and strengthening cross-sectoral actions for health.

The Polish evidence base on return on investment (ROI) from public health policies is scarce. The existing studies either present standard health technology assessment of specific, most often clinical, interventions or focus on economic analysis of costs related to specific diseases or, rarely, risk factors. In general, in Poland there is a problem of lack

of good quality, comprehensive data allowing for conducting analyses on social return on investment (SROI) from public health policies.

Policy options for investment in health in Poland can be divided into two broad categories: general guidelines on building and promoting the investment approach and more specific examples of actions on health investments supporting the implementation of the 2030 Agenda and Health 2020 strategies. Among the first group of general guidelines, three policy options can be identified: promoting an investment approach that would take into consideration the long-term and broadly defined effects of current public spending on people's lives; enhancing public health policy coherence across sectors, levels of governance and specific thematic areas; and better coordination of public health policies. The more specific examples of health investments include, inter alia, implementing programmes aimed at reducing social inequalities in health; supporting population-based health promotion and disease prevention actions that combine measures involving fiscal policies, law regulations and improved access to health-relevant information; promoting coordinated care models; responding to medical staff shortages; investing in e-health programmes; investing in mental health protection; intensifying actions addressing environmental factors affecting health; and investing in road safety.

Introduction

Health has been recognized as a central concept for sustainable development for over two decades *(1,2)*. It has been incorporated into and adopted by the United Nations in the 2000 Millennium Development Goals as well as into their 2015 successors, the SDGs. The United Nations 2030 Agenda recognizes that people's health is inseparable from the health of societies and the planet and endorses a model in which economic development is measured by its contribution to human, social and planetary progress. It is the world's comprehensive blueprint for sustainable development that frames health and well-being as both outcomes and foundations of social inclusion, poverty reduction and environmental protection *(3)*.

In the European Region, Health 2020, the European policy framework supporting action across government and society for health and well-being, provides a stepping stone towards achieving the SDGs and leaving no one behind *(4)*. It focuses on whole-of-government and whole-of-society approaches and the consideration of health in all policies. In 2017, the Roadmap to implement the 2030 Agenda for Sustainable Development, building on Health 2020, was adopted by the WHO Regional Committee for Europe. It aims to strengthen countries' capacities to achieve better, more equitable, sustainable health and well-being for all at all ages *(5)*.

Investing in health was defined as one of the enabling measures for the implementation of the 2030 Agenda. Investing in health provides economic and social returns for the health sector and other sectors, for society and for the wider economy, with an estimated fourfold return on every dollar invested. Better health and well-being improve economic productivity, strengthen social capital and improve social protection while contributing to macroeconomic progress and inclusive and sustainable growth. Investing in upstream preventive policies and interventions brings economic, social and environmental benefits that contribute to sustainable development and equality *(5)*. Consequently, spending on health should be viewed and justified as an investment instead of in the traditional framing as costs.

Aims and methods

The aim of this report is to assess the policy options for investments in health in Poland in the context of the Roadmap. As background, national strategic documents incorporating the concept of health and well-being for all are reviewed and methodological aspects of the health-as-investment approach are presented.

Methods include a literature review and desk analysis of key national regulations as well as quantitative analysis of the indicators used to monitor the 2030 Agenda and Health 2020 policy implementation.

Background on health in sustainable development

The 2030 Agenda, Health 2020 and the Roadmap are the three core documents that define the role of health in sustainable development. The 2030 Agenda defines the SDGs, which constitute the world's to-do list for the next 15 years. There are 17 ambitious, interlinked goals and 169 targets for a healthier, safer and fairer world by 2030 that address all countries and focus on improving equity for all people, leaving no one behind *(3)*. Ensuring health and well-being for all at all ages is a goal in itself (Goal 3) but also affects and contributes to

all other goals. In addition, pursuing other goals can directly and indirectly benefit human health and well-being. Across all goals, there are over 20 health-related targets; Goal 3 has 13 targets (Annex 1). The implementation of the SDGs will contribute to the full achievement of human rights and fundamental freedoms for all, including the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.

In the European Region, Health 2020 incorporates approaches and priorities common to the 2030 Agenda *(4)*. It gives policy-makers a vision, a strategic path, a set of priorities and a range of suggestions about what works to improve health, address health inequalities and ensure the health of future generations. It defines two linked strategic objectives:

- improving health for all and reducing health inequalities; and
- improving leadership and participatory governance for health.

In order to achieve these objectives, Health 2020 proposes four priority areas for policy action:

- invest in health through a life-course approach and empower citizens;
- tackle Europe's major disease burdens of noncommunicable and communicable diseases;
- strengthen people-centred health systems and public health capacity, including preparedness and response capacity for dealing with emergencies; and
- create supportive environments and resilient communities.

The Roadmap provides further stepping stones for SDGs implementation. It proposes five interdependent strategic directions:

- advancing governance and leadership for health and well-being;
- leaving no one behind;
- preventing disease and addressing health determinants by promoting multi- and intersectoral policies throughout the life-course;
- establishing healthy places, settings and resilient communities; and
- and strengthening health systems for universal health coverage.

The Roadmap *(5)* also proposes four enabling measures to advance the implementation of both the 2030 Agenda and Health 2020:

- investment for health;
- multipartner cooperation;
- health literacy, research and innovation; and
- monitoring and evaluation.

In 2017, a meeting of an expert group developed a common set of indicators for the joint monitoring framework for SDGs, Health 2020 and the Global NCD Action Plan (Annex 2) *(6)*.

Results

Health as an investment

The concept of health as an investment

The fact that health influences economic growth, wealth and well-being is undeniable and widely accepted. A lower health status of a population reduces social and economic activities, which, in turn, bring losses to the economy and communities. The main impact of health on the economy is noticeable in the labour market: labour supply is reduced through premature deaths and inability to work caused by ill health but also by informal caregivers' decisions to limit labour force participation. In general, labour productivity is limited by both absenteeism at work (of ill person or caregiver) and also so-called presenteeism (lower productivity while being present at work). These channels of health contribution to the economy are most widely evaluated in research, but many others may be identified (e.g. changes in the consumption model, investment and savings reduction, lower tax and premium revenues, higher state burden of social benefits, decreasing of individuals' education opportunities). As a result, reduced gross domestic product (GDP) per capita negatively impacts economic growth and prosperity as well as enhances social inequalities and a higher likelihood of poverty. Health can, therefore, be seen as a good investment in both individual and societal meanings: each dollar invested in its improvement may bring measurable positive effects for the economy as a whole and for individual well-being *(7,8)*.

The most popular method used to assess the economic burden of ill health is cost-of-illness measurement. This presents the adverse effects of disease on society in monetary terms in order to estimate the potential savings if the disease were to be eradicated. The costs taken into account in these studies include both direct (health care and non-health care) and indirect (productivity losses) costs. The widely used method of assessing indirect costs in cost-of-illness studies is the human capital approach (less frequently used methods include friction cost and willingness to pay). The basic principle of the human capital approach is to perceive the human capital as one of the factors of production and a productivity determinant. The present value of expected future labour market earnings is used to estimate the potential loss to society because of premature mortality or morbidity. This value is adjusted for survival probabilities, future wage growths and discounted. A household production, particularly important for older people and women, as well as paid earnings should be included in this estimation *(9)*. The human capital can be seen also as an investment target with health as one of the most important elements.

In the face of limited resources, investment for health should bring the best possible results. The evaluation of interventions, programmes and various health activities must be conducted to enhance economic and social efficiency (efficient allocation of scarce resources). An effective assessment of value for money allows comparison of different health actions, programmes and decisions on a good investment for health. Table 1 presents an overview of the main methods used for such an assessment. Regardless of the method name and/or primary origins, the evaluation of a specific programme always focuses on calculating its costs and effects. The differences between various methods are mainly related to the analysis perspective on how broad is the range of costs and outcomes to be included (identified, measured and valued).

Table 1. Methods of programme evaluation

Method	Economic evaluations	ROI	SROI
Primary application	Assessment of clinical interventions	Financial analyses	Assessment of social interventions
Characteristic/ types	Evaluation of interventions, taking into account health outcomes mainly[a] cost–effectiveness analysis cost–utility analysis cost–benefit analysis cost–consequence analysis	Evaluation of financial flows (costs and revenues) connected with a given investment Evaluation of return for investors	Evaluation of return on investment capturing triple balance of values: economic, social and environmental The objective is to include not only financial but also social aspects, such as competence strengthening, social cohesion, participation in political life
Output of analysis	Cost per outcome unit or net benefit	ROI ratio	SROI ratio

[a] Except cost–benefit analyses from a social perspective.

Source: based on Nicholls et al. 2009 (*10*); Banke-Thomas et al., 2015 *(11)*; and Dyakova et al., 2017 *(12)*.

While assessing investment for health and well-being, the basic financial concept of ROI and/or cost-saving aspects needs to be extended to take in a wider concept of value, capturing aspects across the triple bottom line of economic, social and environmental value *(12)*. Consequently, using the SROI approach is recommended. SROI aims to capture not only the financial aspect (i.e. monetary or monetarized economic and socioeconomic benefits) but also the social aspects, such as empowerment, social cohesion and political participation, which are assessed in different quantitative and qualitative ways. The SROI method not only looks for returns generated for the investor but usually also focuses on what social value has been created for other stakeholder groups, including society as a whole *(11–13)*. In general, the SROI approach is similar to cost–benefit analysis in that both costs and effects are presented in monetary terms, but usually benefits in SROI are more widely captured, including social, economic and environmental effects. It means that even when social perspective in cost–benefit analysis is used, the approach of SROI is more holistic. One of the advantages of calculating the SROI is building different stakeholders relationships and promoting intersectoral approaches.

The SROI concept accounts for social value from diverse stakeholders' perspectives and builds on the theory of change. Carrying out an SROI analysis involves six stages *(10)*.

1. Establishing scope and identifying key stakeholders (who is involved in the process and how, and who will experience a change?).
2. Mapping outcomes (developing an impact map that shows the relationship between inputs, outputs and outcomes).

3. Evidencing outcomes and giving them a value (measuring and valuing outcomes).
4. Establishing impact (those aspects of change that would have happened anyway or are a result of other factors are eliminated from consideration).
5. Calculating the SROI (adding up all the benefits, subtracting any negatives and comparing the result to the investment).
6. Reporting, using and embedding (sharing findings with stakeholders, embedding good outcomes processes).

International experiences on the SROI from health policies

The evidence on ROI in health policies is growing. According to the review conducted by Masters et al. *(14)*, "public health interventions at a local level can generate ROI of 4, meaning that every unit invested yields a return of 4 units plus the original investment back. However, 'upstream' interventions delivered on a national scale generally achieve even greater returns on investment, particularly legislation (a 10-fold higher ROI, averaging 46)."

Numerous studies prove high cost–effectiveness for a range of health promotion and disease prevention measures (e.g. by reducing future health care costs). There is strong evidence on cost–effectiveness for interventions tackling specific behavioural risk factors (e.g. tobacco smoking, alcohol use, physical inactivity and unhealthy diets) as well as for selected risk factors related to the environment and mental health. In many of these areas, a combination of measures involving fiscal policies, regulation and improved access to health-relevant information are proven to be highly cost-effective *(15)*.

SROI from public health policies can be categorized in five thematic groups *(12)*:

- improving health for all and reducing health inequalities;
- supporting health through a life-course approach and empowering citizens;
- tackling major burdens of noncommunicable and communicable diseases;
- strengthening people-centred health systems and public health capacity, including preparedness and response capacity for dealing with emergencies; and
- creating supportive environments and resilient communities.

Annex 3 gives international examples of SROI in each of these groups.

It is important to be aware of the possible limitations when extrapolating such results (e.g. from one country and/or settings to another[1]), yet the value of disseminating such international experiences as well as the potential of shared learning should not be underemphasized.

[1] The results of a given programme can be highly dependent on the context in which it has been implemented (additional socioeconomic, political and environmental conditions, demographic characteristic of the population in question) *(16)*. The context of public health programmes includes also the existence of other complementary health actions or effects of programmes implemented in the past. Consequently, the possibility of extrapolating from results requires a careful context analysis and can be highly limited or even impossible *(17)*.

Integration of the health concept in Polish policies

Key strategic documents

There are a number of Polish strategy documents that are of significance in approaches for health and well-being in Poland (Table 2).

Table 2. Health and well-being for all in the Polish policy strategic documents

Documents	Responsible ministry	Health and well-being for all integration
The Strategy for Responsible Development *(18)*	Ministry of Investment and Economic Development	Health status is defined as one of the key determinants of economic growth Improving health status of the population as well as efficiency of the health care system are defined as the key determinants of Strategy realization Numerous health-related projects listed as strategic ones (i.a: Healthy Mother; Drugs 75+; Health System Reform)
National Health Programme 2016–2020 *(19)*	Ministry of Health	The strategic objectives include prolonging life, improving health-related quality of life and reducing social inequalities in health Six operational objectives focus on issues related to health and well-being: healthy diet and physical activity; problems related to use of psychoactive substances and behavioural addictions; mental health; physical, biological and chemical risk factors; healthy and active ageing; and reproductive health
National Strategic Framework – Policy Paper for Health Care 2014–2020 *(20)*	Cost per outcome unit or net benefit	Four operational objectives: • development of health prophylactics, diagnostics and curative medicine focused on the main epidemiological problems • counteracting negative demographic trends via developments in health care for mothers, children and older people • improving efficiency and organization of the health care system • support for medical workers' education
The Strategy for Human Capital Development *(21)*	Ministry of Family, Labour and Social Policy	The life-cycle approach is used Objective 4 focuses on improving population health status and efficiency of the health care system The exemplary interventions include investing in health promotion and disease prevention programmes allowing for healthy and active life for people of all ages; occupational health development; building support networks for people with mental disorders; increasing the availability of rehabilitation services
Effective State Strategy 2020 *(22)*	Ministry of the Interior and Administration	Objective 5 (Provision of effective public services) sets out the lines of action to improve the institutional efficiency of the health care system

Table 2. contd

Documents	Responsible ministry	Health and well-being for all integration
National Clean Air Programme *(23)*	Ministry of Environment	Air pollutions as health determinant Reference to the National Health Programme operational tasks
Strategy Energy Safety and Environment: perspective to 2020[a] *(24)*	Ministry of Energy	Environmental factors as key health status determinants (the objectives related to sustainable management of environmental resources and improvement of the natural environment are linked to the population health determinants issues)

[a] To be replaced by two separate strategies, the Polish Energy Policy and the Polish Ecology Policy, by the end of 2018.

The Polish perspective on actions regarding sustainable development and achievement of SDGs has been formulated in the Strategy for Responsible Development adopted in 2017 (an update of the Strategy for Country Development 2020, adopted in 2012) *(18)*. The main objective of all actions and projects provided for in the Strategy is to create conditions that foster income growth for all residents of Poland, while also increasing social, economic, environmental and territorial cohesion. The strategy is human-centred, prioritizing the achievement of objectives related to the quality of life of citizens before economic activities. The expected effects (e.g. reducing social exclusion, poverty and social inequalities; improving health care and the state of the environment; and strengthening the role of social capital in development) go hand-in-hand with the provisions of the 2030 Agenda *(18)*. The three main objectives of the Strategy incorporate and/or indicate as an enabling measure all SDGs (Table 3). Human and social capital was defined as the area having profound impact on Strategy realization. As a consequence, investments in education, health, culture and civic society were included in planned activities.

Table 3. Incorporation of the SDGs into the 2017 Polish Strategy for Responsible Development

Specific objectives	Sustainable economic growth increasingly driven by knowledge, data and organizational excellence	Socially sensitive and territorially sustainable development	Effective state and economic institutions contributing to growth as well as social and economic inclusion
Areas	Re-industrialization Innovative business development Small and medium-sized enterprises Capital for growth Foreign expansion	Social cohesion Territorially sustainable development	Law in the service of citizens and the economy Pro-development institutions and strategic development management E-state Public finance Efficient use of European Union funds

Table 3. contd.

Specific objectives	Sustainable economic growth increasingly driven by knowledge, data and organizational excellence	Socially sensitive and territorially sustainable development	Effective state and economic institutions contributing to growth as well as social and economic inclusion
Incorporated SDGs	2: zero hunger 4: quality education 7: affordable and clean energy 9: industry innovation and infrastructure 10: reduced inequalities 11: sustainable cities and communities 12: responsible consumption and production 13: climate action 16: peace, justice and strong institutions 17: partnership for the goals	1: no poverty 2: zero hunger 3: good health and well-being 4: quality education 5: gender equality 8: decent work and economic growth 9: industry innovation and infrastructure 10: reduced inequalities 11: sustainable cities and communities 16: peace, justice and strong institutions	3: good health and well-being 8: decent work and economic growth 9: industry innovation and infrastructure 11: sustainable cities and communities 16: peace, justice and strong institutions 17: partnership for the goals
SDGs indicated as an enabling measures	1: no poverty; 4: quality education; 6: clean water and sanitation; 7: affordable and clean energy; 8: decent work and economic growth; 9: industry innovation and infrastructure; 12: responsible consumption and production; 13: climate action; 14: life below water; 15: life on land; 16: peace, justice and strong institutions		
Areas having impact	Human and social capital; digitization; transport; energy; environment; and national security		

Source: Ministry of Investment and Economic Development, 2017 *(18)*.

There are also several sectoral strategies that focus on or include the elements of health and well-being for all priorities. First, there is the National Health Programme 2016–2020, which was adopted in 2016 *(19)*. The legal basis for its development was the Law on Public Health adopted in 2015 *(25)*. This regulation introduced significant changes in approaches to achieve public health goals in Poland – allowing for better coordination and indicating the sources of financing. The National Health Programme constitutes the basic document defining national public health policy. Being in line with Health 2020, the Programme puts emphasis on cooperation between government administration, units of territorial self-government and other entities, and it focuses on limiting health inequalities and strengthening cross-sectoral actions for health.

Another important health sector document is the National Strategic Framework – Policy Paper for Health Care 2014–2020, adopted in 2015 *(20)*. This defines the strategic objectives and priorities for the Polish health care system in the context of the European Union (EU) funds contribution, under the financial perspective for 2014–2020. Other sectoral strategies outlined in Table 2 include the Strategy for Human Capital Development *(21)*, the Effective State Strategy 2020 *(22)*, the National Air Protection Programme *(23)* and the Strategy Energy Safety and Environment: perspective to 2020 *(24)*.

In general, the review of national strategic documents indicates strong commitment to the objectives of Health 2020 and the 2030 Agenda.

Tasks being realized

Achievement of tasks consistent with the concept of health and well-being for all, and supervised by the Ministry of Health, can be considered in four groups (Table 4):

- health system reforms;
- health and prophylactics;
- projects financed with an EU contribution; and
- capital investments in infrastructure, including long-term programmes financed from the State budget.

Table 4. Tasks outlined by the Ministry of Health to achieve health and well-being for all

Category	Tasks
Health system reforms	Implementation of the system of basic hospital services provision (hospital network) Changing the organizational model of primary health care (introducing elements of coordinated care) Health care needs maps development: tool for monitoring and planning in health system Strengthening service quality and patient safety control Programme e-health Introduction of electronic medical records Introduction of information technology for blood banking and donation services Information technology solutions for the public payer Programme Drugs 75+ (free of charge drugs for the population aged 75+) Legislative changes allowing for implementation of piloting health programmes Legislative changes in emergency medicine
Health and prophylactics	National Health Programme 2016–2020 15 national health programmes related to following issues: • prophylactics and treatment of cardiovascular diseases • cancer prevention and treatment • infertility diagnostic and treatment • neonatology and paediatric care for children with severe birth defects • ambulatory treatment of diabetic foot syndrome • prevention of birth defects • depression prevention • decreasing mortality from chronic obstructive pulmonary disease • screening for newborns • antiretroviral treatment for HIV • transplantology development • antibiotics management • breastfeeding promotion • improving health services for rare diseases • improving access and quality of prophylactic for pupils

Table 4. contd.

Category	Tasks
Projects financed with an EU contribution	Improving emergency care system (9.1. POIiŚ) Improving health system efficiency in key areas (based on epidemiological trends) (9.2. POIiŚ) Developing the concept and content-related principles for health programmes planned to realization through competitive tender procedures (5.1 POWER) Organizational activities in the health system aimed at improving access to inexpensive, sustainable and high-quality services (5.2. POWER), including: • piloting coordinated care model in primary health care • day care centres • primary health care accreditation • hospitals accreditation • improving management skills of administrative staff • promoting social dialogue in health care High-quality medical education (5.3. POWER), including: • development projects for medical universities (e.g. funding medical simulation centres) • increasing the number of trained nurses • developing the nurses competencies Medical staff professional competencies (5.4. POWER) including: • nurse and midwife postgraduate training • specialty training for doctors (in key specialties based on epidemiological and demographic factors); • doctor postgraduate training • professional development of other medical workers
Capital investments in infrastructure	Six long-term investment projects (including those financed from the state budget) focused on building and/or modernizing highly specialized service providers (national institutes and/or panregional university clinics)

Source: unpublished data from the Ministry of Health, 2018.

For the involvement of other sectors, tasks realized and/or supervised by the following ministries should be noted: Ministry of Family, Labour and Social Policy (social policy programmes dedicated to pre-defined groups), the Ministry of National Education (e.g. School Promoting Health Programme), Ministry of Finance (fiscal regulations on trade in alcohol and tobacco products) and the Ministry of Environment (e.g. clean air project).

Status of the SDG health and Health 2020 targets in Poland

Indicators for the SDGs

The global indicators framework for 2030 Agenda was adopted by the General Assembly in July 2017 *(26)*. For full monitoring of progress in health issues, all indicators dedicated to the Goal 3 (ensure healthy lives and promote well-being for all at all ages) have to be used. However, as health also contributes to and benefits from other goals, health-related indicators incorporated into the other goals should be taken into account. The full list of indicators for Goal 3 as well as for other health-related goals is presented in Annex 1, while the available values for the main indicators from this list for Poland are presented in Annex 4. They are mainly based on the SDG Indicators Global Database for 2017 *(27)* but other sources are also used if there are issues with data availability (e.g. data from the Polish Central Statistical Office).

Indicators for Health 2020

In September 2013, a list of 20 core and 17 additional indicators was approved by the 53 Member States of the WHO European Region for monitoring the six Health 2020 policy targets. The list was completed and finalized in April 2014 *(28)*. Available values for these indicator targets and for some additional indicators for Poland are given in Annex 5.

Situation in Poland in the light of SDG and Health 2020 indicators

Mortality from noncommunicable diseases

Since 2010 the overall standardized death rate (SDR) linked to the four main noncommunicable diseases in Poland has been decreasing (except year 2012), with an even higher rate of decrease than assumed in the Health 2020 target (more than 1.5% annually). However, premature mortality rates in Poland (age 30–69 years) are still much higher than the average in the EU: 45% higher in total and 52% and 37% for men and women, respectively. In addition to the unsatisfactory situation compared with the EU, there are huge disparities between men and women. SDR for men is more than double that for women and although the rate of decrease for men is higher than for women, the gender difference is reducing very slowly.

Looking at mortality for cardiovascular diseases, trends in Poland are quite optimistic with a stable decrease in total for almost all age groups (apart from 2012, which was a year with increases in many mortality indicator values). For diabetes and respiratory diseases, the situation is more worrying. It is difficult to define trends clearly; increase or decrease depends on a period and age group. Additionally, because diabetes-related deaths are not always correctly identified, the indicators' values can be underestimated. Although the number of deaths caused by cancers is still higher in Poland, SDR has a decreasing tendency in all age groups (except in 2012). However, premature mortality in Poland (age group 25–64 years) is still over 120% of the mortality level in the EU.

Assuming similar changes of SDR, it seems that SDGs and Health 2020 targets can be achieved in the future for overall mortality for main noncommunicable diseases. However, the separate analysis of each disease shows that trends for diabetes and respiratory diseases are not good enough to achieve these goals. Additionally, the positive trend for SDR values for malignant neoplasms is connected with demographic changes – the trends in the number of deaths are quite the opposite.

The significant problem concerning mortality in Poland is big inequalities depending on region or education.

The overall suicide mortality rate in Poland is high and trends of change are not clear (periodically decreasing and increasing). The problem of suicides and intentional injuries is especially alarming in men as rates for them are seven times higher than for women. Achieving the SDG goals requires intensive actions in this area.

Mortality from communicable diseases

HIV infections are relatively not a major concern in Poland (new infections among adults aged 15–49 in 2015 was lower than 0.1 per 1000 uninfected, while the average in Europe was 0.56) *(27)*. The epidemiological situation for hepatitis B in Poland is good, but the incidence has increased since 2010 (Table 4). Taking into consideration the rise of the anti-vaccination movement in Poland, careful monitoring of trends is needed.

Vaccination coverage

In Poland, a set of the most important vaccinations is available free and is compulsory for all children and adolescents, but a growing number of people have decide not to vaccinate their children. The number of people evading compulsory vaccinations is growing dramatically: it was fewer than 4000 people in 2010 and more than 23 000 in 2016 *(29)*. The percentage of children vaccinated is still quite high, but decreasing. This tendency and a rise of the anti-vaccination movement can lead to a dangerous situation in the area of infectious diseases.

Mortality linked to road traffic injuries

The situation concerning road traffic fatalities is worse in Poland than the average in the EU, especially in motor vehicle traffic accidents (Polish SDR 6.8 and EU SDR 4.6 in 2014 *(30)*). There is a decreasing trend in the value for this indicator, but achieving the goal for 2020 (halve the number of global deaths and injuries) will require more effective reductions in the next few years.

Life style factors

Smoking. Tobacco smoking is becoming less popular in Poland, but the decrease is not very significant: 29% of adult men and 17% of adult women were daily smokers in 2014, while in 2009 these values were 31% and 18%, respectively. Smoking addiction is particularly common among those aged 50–59 years *(31)*. Smoking behaviour in those aged over 15 years is associated with labour market status and education. There were about 25% of daily smokers among the employed population and nearly 41% among the unemployed in 2014; 18.3% people with an education at secondary level or higher smoke every day, while this is much higher (27.9%) among people with an education lower than secondary *(31)*.

Obesity and overweight. Indicators concerning obesity and overweight show deterioration. The proportion of the population who are obese or overweight is growing, among both men and women. If these trends are maintained, they pose a serious threat for population health.

Alcohol consumption. Pure alcohol consumption has remained on a relatively stable level in Poland for the last 10 years, but the share of low-alcohol (as beer) drinks has been growing. Some of the consequences are deaths from alcohol poisoning (still high in Poland) or road traffic accidents involving alcohol. Taking into account hazardous drinking (more than 60 g of pure alcohol on one occasion), 0.2% of employed people did it every day or almost every day and nearly 2% of unemployed *(31)*.

Environmental factors

The situation in terms of air pollution in Poland is alarming. Annual mean levels of fine particulate matter (PM2.5) are about 60% higher in Poland than in the EU on average (24.1 and 15.0 µg in total, respectively *(27)*).

Health care system

Universal health care coverage. The share of public sector expenditure devoted to health in Poland is low: 10.7% in 2015. The average for the EU is above 15% and only five EU Member States have a share lower than Poland *(32)*. In 2015, private expenditure accounted for 30% of total health care expenditure in Poland and 23.2% of the total was out-of-pocket spending *(33)*. Private financing plays a greater role in Poland than in most

European countries. Despite the fact that nearly 90% of people are insured in the social health insurance scheme, they are still forced to finance health care services themselves because of long waiting times, unavailability of publicly financed new and effective medical technologies or low quality of services. While the service coverage index for universal health coverage is quite high (index of 75), the proportion of the population with household out-of-pocket health expenditure greater than 10% and 25% of total household expenditure is very high (Table 4). In a majority of European countries, out-of pocket spending represents a much lower share of households' budgets than in Poland (e.g. Czechia 2.2%, Germany 1.4% and Slovakia 3.8%, compared with over 13% for Poland *(32)*.

Health worker density and distribution. The number of health workers per 1000 population has been increasing in Poland over recent years, but only very slightly. It is still very low compared with other European countries. The number of physicians per 1000 population in Poland was 2.4 in 2016 compared with an average for the EU of about 3.5 in recent years *(30)*. A big problem in Poland is migration of health personnel to other countries. There are significant regional discrepancies in the density of health workers: for example, for physicians from 1.5 to 2.8 per 1000 population depending on voivodship and for nurses from 3.5 to 5.5 per 1000 population *(34)*. An additional problem is workforce ageing, which is affecting all sectors including health.

Access to sexual and reproductive health care services. Only about half of the Polish female population of reproductive age has the need for family planning satisfied with modern methods.

Social determinants of health

Unemployment. Unemployment in Poland is relatively low (6.2 in 2016), but it varies widely depending on education level. The unemployment rate is only 3.3 in those with advanced education, while the rates are 14.8 in those with basic education and 18.4 in those with less than basic education *(35)*.

Income inequality. Gini coefficient was in 2014 even lower than in the EU on average.

Key priorities to improve health and well-being for all at all ages in Poland

Priorities aimed at improving Polish health status have been defined in numerous national strategic documents, regulations and/or reports, most importantly in the Strategy for Responsible Development *(18)* and the National Health Programme 2014–2020 (Table 5) *(19)*. In general, priorities are defined in relation to either population health status or health system organization and are mostly in line with recommendations provided by international organizations *(37–39)*.

Regardless of the form used in definitions, or the level of details included, the key priorities to improve health and well-being for all at all ages in Poland should address the major health status-related problems. Table 6 lists such problems and key priority actions needed to address them. The priorities can be categorized into two major groups: those related to the determinants of health and those linked to health system organization and financing issues.

Table 5. The priorities of the Polish health care system as defined in key strategic documents, regulations and/or reports

Documents	Institution and date of adoption/publication	Priorities
The Strategy for Responsible Development *(18)*	Ministry of Investment and Economic Development, 2017	Improving the efficiency of the health system (e.g. by promoting comprehensive and coordinated care models, improving the quality of data and developing analytic tools for epidemiological forecasts) Improving the quality of services Promoting e-health service development Improving medical staff education system Investing in health promotion and disease prevention programmes
National Health Programme 2016–2020 *(19)*	Ministry of Health, 2016	Promoting healthy diet and physical activity Preventing and treating problems related to the use of psychoactive substances and behavioural addictions Preventing mental health disorders and improving mental health status Reducing physical, biological and chemical risks factors in work, housing, education and recreation sectors Promoting healthy and active ageing Improving reproductive health
National Strategic Framework – Policy Paper for Health Care 2014–2020 *(20)*	Ministry of Health, 2015	Development of health prophylactics, diagnostics and curative medicine focused on the main epidemiological problems Counteracting negative demographic trends via developments in health care for mothers, children and older people Improving efficiency and organization of the health care system Supporting medical workers' education
Regulation on Health Priorities – the Project *(36)*	Ministry of Health, 2018	Reducing the incidence and mortality rate for cardiovascular diseases, malignant cancers, chronic pulmonary diseases Preventing obesity and diabetes Reducing health risks related to addiction to psychoactive substances Preventing, treating and providing rehabilitation for mental disorders Creating health-promoting environments in education, work and housing sectors Improving the quality and efficiency of care for mothers and children up to 3 years of age Improving the coordination of care for older and disabled patients

Table 6. Key priorities for addressing Polish health status issues

	Problems/actions
Health status problems	Cardiovascular diseases and cancers are the largest contributors to mortality Musculoskeletal problems and mental health are among the leading causes of morbidity The number of deaths linked to diabetes and respiratory system diseases has been growing rapidly for over 10 years Proportion of deaths from transport accidents is higher than in the EU Death rate for suicides is high and stable
Priority actions for determinants of health	Reducing tobacco and alcohol consumption (smoking rates have declined but remain relatively high, especially in those aged 50–59; alcohol consumption is relatively stable but at a high level) Improving diet and increasing physical activity (deficits in these areas contribute to rising obesity and overweight problems) Reducing social inequalities in health and health determinants (differences in health status occur by gender, urban/peri-urban areas and education level; behavioural risk factors are more prevalent in those disadvantaged by education or income) Addressing the problem of anti-vaccinations movements Addressing environmental risk factors (e.g. air pollution)
Priority actions for health system organization and financing	Improving system stewardship (addressing the issues of system fragmentation and divided responsibility, developing reforms, implementating the Roadmap) Increasing public health expenditure (relatively low and below the EU average as a percentage of GDP and in monetary terms) Reducing the share of private expenditure (especially out-of-pocket spending) in total health expenditure) Increasing health care coverage (lower than in many other EU countries) Addressing the problem of shortage of health professionals (needs a comprehensive strategy) Shifting emphasis from medical care to prevention (improving coordination and intensity of public health programme realization; better integration between health and social policies) Improving integration between primary and secondary care Addressing the problems of deficits in long-term care

Sources: based on World Health Organization, 2012 *(37)*; Organization for Economic Co-operation and Development/European Observatory on Health Systems and Policies, 2017 *(38)*; Organization for Economic Co-operation and Development, 2017 *(39)*; National Institute of Public Health–National Institute of Hygiene, 2017 *(40,41)*.

Review of Polish experiences on ROI from public health policies

The Polish evidence base on ROI from public health policies is scarce, with existing studies either being standard health technology assessments of specific, most often clinical, interventions or having a focus on economic analysis of costs related to specific diseases or, rarely, risk factors. The latter type includes analysis of direct medical costs and indirect

costs of production losses, most often applying the elements of the methodology of cost-of-illness studies. The studies that have occurred provide information on the possible savings for the health system as well as the economy (possible production losses averted) related to disease incidence, mortality and/or severity progress reduction (Table 7) but do not involve an SROI approach.

Table 7. Polish analyses related to the ROI from public health policies

Source	Aims of the analysis	Conclusions[a]
Association of Manufacturers and Distributors of In-vitro Diagnostic Medical Devices & Delloite, 2017 *(42)*[b]	To assess the cost-efficiency of laboratory medicine in Poland (what would be the possible savings generated by increasing the number of laboratory tests that help to diagnose diseases at less-advanced stages)	For kidney failure, a 25% increase in creatinine testing would result in savings to the National Health Fund of PLN 93 million to PLN 197 million per year (5–9% of the annual costs, after taking into account the expenditure on additional tests) For diabetes, an increase in glucose testing of 25% would result in savings to the National Health Fund close to PLN 0.5 billion a year (11% of the annual diabetes treatment costs, after taking into account the expenditure on additional tests)
Institute of Innovative Economy, 2017 *(43)*[b]	To assess the costs of heart failure from the perspective of the Polish economy	The value of direct medical costs of treating heart failure in Poland in 2015 was approximately PLN 824 million and the value of indirect costs (potential production losses) was PLN 3.9 billion Production losses due to heart failure (decreased GDP) have an impact on public finance equilibrium (decreased tax/social insurance premium incomes) Calculating the costs of illness (direct medical as well as social/indirect production losses) should constitute the basis for strategic health policy decisions
Institute of Innovative Economy, 2016 *(44)*[b]	To assess the economic losses and costs of treatment of breast, cervical and ovarian cancer in Poland	Total cost of treating the three cancers during a five-year period (2010–2015) was PLN 3.3 billion, while the potential economic losses were PLN 20.8 billion Increasing current spending would lead to reducing the future production losses and so current spending should be treated as investment not costs
Dubas-Jakóbczyk et al., 2016 *(45)*	To assess the economic losses linked to cervical cancer in Poland in 2012	The total value of production lost from cervical cancer morbidity and mortality in Poland in 2012 was assessed at approximately €111 million
Lazarski University, 2013 *(46)*	To assess the economic effects of alcohol consumption in Poland	Government income from taxes on alcohol in 2011 was approximately PLN 17 billion Estimated total cost caused by addiction to alcohol in 2011 was more than PLN 40 billion (vast majority indirect costs of production lost)

Table 7. contd

Source	Aims of the analysis	Conclusions[a]
Hermanowski 2013 *(47)*	To present the methodological background for calculating social costs of diseases and a health status impact on work productivity	Total costs of production lost from those with cancer and their caregivers (absenteeism and presenteeism) in Poland in 2009 was almost PLN 14 billion (1% of GDP) Average production loss for a patient with asthma in Poland in 2008 was 29% On average, the costs of production loss due to illness constitute around 60% of its total costs
Ernst & Young, 2012 *(48)*	To present the methodological background for calculating health-related production losses in the Polish system	Total costs of production lost from flu infections in Poland in 2012 was almost PLN 800 million Calculating the diseases impact on work productivity should be included in the health technology assessment national guidelines

Notes: PLN: Polish złoty.

[a] Conclusions as presented in the publications; quality assessment of the studies was not conducted; because of significant differences in the methods used, the comparability and generalizability of the outcomes is limited.

[b] Analyses cofinanced by the pharmaceutical/medical devices industry.

In general, in Poland there is a problem of lack of good-quality, comprehensive data allowing for SROI analyses. The method has been discussed in Polish literature mainly in the context of assessing the impact of social programmes and/or corporate social responsibility *(49,50)*. No empirical, comprehensive study conducted in Polish settings could be identified.

Policy options for investments in health in Poland

Policy options for investment in health in Poland can be divided into two broad categories: (i) general guidelines on building and promoting the investment approach and (ii) more specific illustrations of actions on health investments supporting the implementation of the 2030 Agenda and Health 2020 strategies.

General policy options

1. **Promoting the investment approach.** Such approach must take into consideration the long-term and broadly defined effects of current public spending on people's lives. While making the decisions on public spending, policy-makers should analyse not only the direct, immediate impact but also the long-term, often indirect, effects. In order to support evidence-informed investments, analyses should be carried out that aim to calculate the social return from policies. This requires building mechanisms for good-quality data-gathering procedures and the promotion of systematic approaches (e.g. some form of national guidelines). Calculating SROI could contribute an important evidence base for strategic policy decisions. An important first step in providing evidence-informed impact assessment may be using methods other than SROI (e.g. cost–consequence or cost–benefit analyses conducted from a social perspective). Most importantly, a systematic approach is needed (e.g. promoted by a national

agency providing methodological background, examples of implementation tools and professional expertise).

2. **Enhancing public health policy coherence across sectors, levels of governance and specific thematic areas**. As numerous determinants of health lie outside the health sector, the intersectoral and whole-of-government approach is a prerequisite to pursue the objective of health and well-being for all. In Poland, better integration between health, social, education and environment policies is needed. This may be promoted by both top-down (a working group at the level of ministries) and bottom-up (joint achievement of an intersectoral and/or multilevel programme) initiatives. In general, interventions addressing investments across sectors and within all sectors are greatly facilitated by developing a common language bridging sector-specific barriers. Consequently, developing training programmes and incentives for staff, including both those in public health and those in other sectors, might encourage a whole-of-government approach. The Ministry of Health might take a leading role in enhancing and steering such cooperation.

3. **Improving coordination of public health policies.** Although relatively good legislative and strategic fundamentals of public health policies have been developed in Poland in recent years (the 2015 Law on Public Health *(25)* and the 2016 National Health Programme *(19)*), practical implementation faces numerous challenges. There is diversity of institutions that carry out public health programmes, often independently and without evaluating the health-related effects of realized tasks. There is no single steering entity responsible for coordination of public health policies, thus able to provide a clear vision and strong leadership in this area *(40,51,52)*. In 2017, the Ministry of Health announced plans to launch such an institution (Public Health Agency) but this proposal has not been developed. From the practical point of view, instead of forming a new structures, activation and better exploitation of the potential of existing ones might be a good solution, for example the Public Health Committee (Rada do spraw Zdrowia Publicznego). As an intersectoral group of experts (including representatives of diverse ministries, local governments, medical associations), the Committee is formally responsible for steering cooperation and providing expert consultation in the field of public health policies. Other examples of actions aimed at better coordination of public health policies include:

   - clarifying legal regulations related to diverse institution obligations in the area of public health in order to diminish the problem of fragmented responsibility (e.g. regulations on local government involvement in public health actions in order to reduce geographical inequalities in access; obligatory versus voluntary character of regulations; and the obligation to submit only predefined programme's projects to the national Health Technology Assessment Agency for expert assessment);
   - developing a publicly accessible database of best practices to address selected problem areas, with examples of programmes/policies that have been proved as effective and/or providing SROI (ideally in Polish settings);
   - providing guidelines and implementation tools for public health programme evaluation (developing training programmes for staff involved in public health);
   - improving integration between local and national health programmes and developing an information-exchange platform concerning ongoing health programmes as well those completed or being planned;
   - enhancing occupational medicine involvement (workplace health promotion programmes); and

- increasing the share of health expenditure devoted to public health (which at 2.6% is lower than the EU average of 3.0%).

Specific examples of health investments

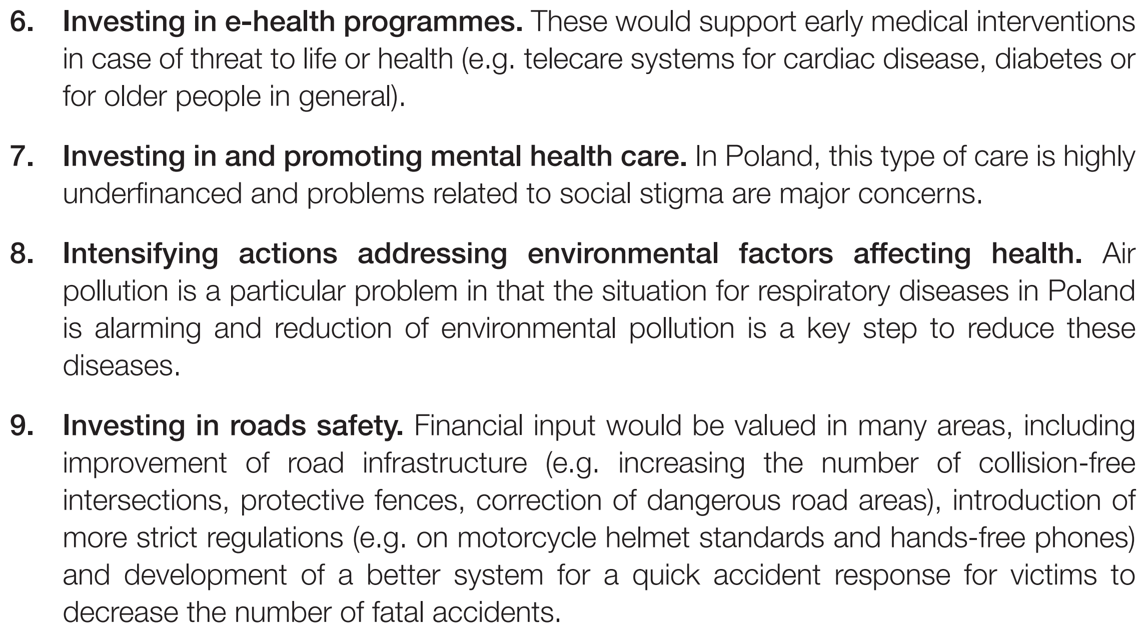
1. **Increasing public financing for health.** In 2017, the Polish Government undertook legislative actions aimed at regular annual increases of public expenditure on health to reach 6% of GDP in 2025 (from the baseline of 4.5% GDP in 2017) *(53)*. Monitoring the regulation, practical implementation and evidence-based priority settings, optimally using the investment approach, while allocating funds is of crucial importance.

2. **Investing in effective and comprehensive social protection and universal health coverage systems and actions aimed at reducing the social inequalities in health.** As numerous studies have proved, the social determinants of inequalities in health represent one of the most significant, modifiable causes of excess mortality *(37)*. In Poland, investing in programmes aimed at improvement in health, particularly among people with the lowest socioeconomic status, should be intensified.

3. **Developing coordinated and sufficiently financed medical care models addressing main health problems.** A good example is the cardiac care model that has been developed in Poland in recent years with very good effects. Another example is the Oncology Package, currently being introduced.

4. **Promoting population-based health promotion and disease prevention actions.** These should combine measures involving fiscal policies, legal regulations and improved access to health-relevant information. International evidence suggests that such policies can be highly cost-effective. In Poland, the following actions might be recommended:
   - increasing financing to support the achievement of the National Programme of Reducing Tobacco Smoking Health Effects, which presents a comprehensive approach including a broad scope of interventions (e.g. monitoring statistical data, introducing legislative and fiscal changes, providing access to medical services, disseminating health information, reducing tobacco product marketing, preventing and reducing illicit tobacco trade);
   - intensifying legislative actions aimed at reducing alcohol consumption and increasing financing for the tasks carried out by the State Agency for the Prevention of Alcohol-Related Problems;
   - increasing financing for population-based programmes aimed at prevention of noncommunicable diseases that have the biggest burden for society; securing stable sources of financing must be complementary to improving the efficiency of the implemented programmes;
   - implementing a coordinated programme promoting protective vaccinations; and
   - intensifying actions (e.g. legislative, informative) addressing healthy diets to limit the increase in prevalence of obesity and overweight; this may include more strict regulations on food safety and labelling (e.g. limiting allowed sodium content, increasing taxes on sugar-sweetened beverages).

5. **Responding to staff shortages.** Comprehensive actions are required that involve different sectors (education, health, social, labour, migration and finance) and all relevant stakeholders (patients, medical professionals, provider associations and public administration at central and local levels).



6. **Investing in e-health programmes.** These would support early medical interventions in case of threat to life or health (e.g. telecare systems for cardiac disease, diabetes or for older people in general).
7. **Investing in and promoting mental health care.** In Poland, this type of care is highly underfinanced and problems related to social stigma are major concerns.
8. **Intensifying actions addressing environmental factors affecting health.** Air pollution is a particular problem in that the situation for respiratory diseases in Poland is alarming and reduction of environmental pollution is a key step to reduce these diseases.
9. **Investing in roads safety.** Financial input would be valued in many areas, including improvement of road infrastructure (e.g. increasing the number of collision-free intersections, protective fences, correction of dangerous road areas), introduction of more strict regulations (e.g. on motorcycle helmet standards and hands-free phones) and development of a better system for a quick accident response for victims to decrease the number of fatal accidents.

Conclusions

In Poland, health care spending has been traditionally framed as costs to the Government. Even the recent reforms aimed at increasing public financing of health system activities were often justified and/or discussed mainly in the context of relatively low public spending on health in Poland in comparison with other EU countries (measured as a percentage of GDP). Yet, health has been shown to constitute a major contributor to economic growth in Europe. A healthier population means increasing labour supply and productivity. Consequently, spending on health should be viewed as an investment in Polish well-being and the country's economy.

Investment for health and well-being should happen along the life-course in partnership with all sectors and levels of government and society. In Poland, an investment approach to health should be incorporated into national policy strategic documents and actions. Such approaches aim to maximize the synergies and co-benefits for health and sustainable development while taking into account investment in all sectors and defining returns beyond individual shareholder value. This requires building mechanisms for systematic assessment of both public and private investment for health in order to promote evidence-informed decisions.

The adopted national strategic documents, most importantly the Strategy for Responsible Development and the National Health Programme 2016–2020, present strong commitment to the objectives of Health 2020 and the 2030 Agenda. They promote an integrated approach and prioritize achievement of health and well-being for all as an important objective. As a consequence, regular monitoring, evaluation and impact assessment of achievements towards these objectives is of crucial importance. That requires building systems to make high-quality data available, conducting and disseminating evidence-based analyses and developing effective implementation mechanisms. Further implementation of an integrated approach, in terms of both horizontal (multisectoral) and vertical (local, regional and national levels) cooperation, should foster the achievement of multiple SDGs and optimize the co-benefits for health.

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Annex 1. Targets and indicators for SDG 3 (ensure healthy lives and promote well-being for all at all ages) and other selected health-related indicators

Targets	Indicators
3.1. By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births	3.1.1. Maternal mortality ratio 3.1.2. Proportion of births attended by skilled health personnel
3.2. By 2030, end preventable deaths of newborns and children under-5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births	3.2.1. Under-5 mortality rate 3.2.2. Neonatal mortality rate
3.3. By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases	3.3.1. Number of new HIV infections per 1000 uninfected population, by sex, age and key populations 3.3.2. Tuberculosis incidence per 1000 population 3.3.3. Malaria incidence per 1000 population 3.3.4. Hepatitis B incidence per 100 000 population 3.3.5. Number of people requiring interventions against neglected tropical diseases
3.4. By 2030, reduce by one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being	3.4.1. Mortality rate attributed to cardiovascular diseases, cancer, diabetes or chronic respiratory disease 3.4.2. Suicide mortality rate
3.5. Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	3.5.1. Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and after-care services) for substance use disorders 3.5.2. Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
3.6. By 2020, halve the number of global deaths and injuries from road traffic accidents	3.6.1. Death rate from road traffic injuries
3.7. By 2030, ensure universal access to sexual and reproductive health care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes	3.7.1. Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods 3.7.2. Adolescent birth rate (aged 10–14 years, 15–19 years) per 1000 women in that age group

Targets	Indicators
3.8. Achieve universal health coverage, including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	3.8.1. Coverage of essential health services (defined as the average coverage of essential services among the general and the most disadvantaged population based on tracer interventions that include reproductive, maternal, newborn and child health; infectious diseases; noncommunicable diseases; and service capacity and access) 3.8.2. Number of people covered by health insurance or a public health system per 1000 population
3.9. By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.1. Mortality rate attributed to household and ambient air pollution 3.9.2. Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe water, sanitation and hygiene for all (WASH) services) 3.9.3. Mortality rate attributed to unintentional poisoning
3.A. Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate	3.A.1. Age-standardized prevalence of current tobacco use among people aged 15 years and older
3.B. Support the research and development of vaccines and medicines for the communicable and noncommunicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	3.B.1. Proportion of the population with access to affordable medicines and vaccines on a sustainable basis 3.B.2. Total net official development assistance to medical research and basic health sectors
3.C. Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in the least developed countries and small island developing states	3.C.1. Health worker density and distribution
3.D. Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks	3.D.1. International Health Regulations capacity and health emergency preparedness

Targets	Indicators
1.a. Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions	1.a.2. Proportion of total government spending on essential services (education, health and social protection)
2.2. By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under-5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older people	2.2.1. Prevalence of stunting (height for age ≤2 standard deviation from the median of the WHO Child Growth Standards) among children under-5 years of age 2.2.2. Prevalence of malnutrition (weight for height ≥2 or ≤2 standard deviation from the median of the WHO Child Growth Standards) among children under-5 years of age, by type (wasting and overweight)
5.2. Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1. Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age
5.3. Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.2. Proportion of girls and women aged 15–49 years who have undergone female genital mutilation/cutting, by age
6.1. By 2030, achieve universal and equitable access to safe and affordable drinking-water for all	6.1.1. Proportion of population using safely managed drinking-water services
6.2. By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1. Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
7.1. By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.2. Proportion of population with primary reliance on clean fuels and technology
8.8. Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	8.8.1. Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status
11.6. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.2. Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)

Targets	Indicators
13.1. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	13.1.2. Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030
16.1. Significantly reduce all forms of violence and related death rates everywhere	16.1.1. Number of victims of intentional homicide per 100 000 population, by sex and age 16.1.2. Conflict-related deaths per 100 000 population, by sex, age and cause 16.1.3. Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months
17.19. By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement GDP and support statistical capacity-building in developing countries	17.19.2. Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years, and (b) have achieved 100% birth registration and 80% death registration

Source: United Nations, 2018 *(1)*.

Reference

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Annex 2. The set of indicators recommended for the joint monitoring framework for SDGs, Health 2020 and the Global NCD Action Plan by public health domains

Domain	Category	Indicator	Indicator's alignment across frameworks[a]
Mortality and health expectancies	Life expectancy	Life expectancy at birth	**H2020**
		Life expectancy at birth and at ages 1, 15, 45 and 65 years	**H2020**
	Premature mortality from noncommunicable diseases	Standardized overall premature mortality rate (aged 30–69) for four noncommunicable diseases (cardiovascular diseases, cancer, diabetes, chronic respiratory disease)	**H2020–SDG–NCD**
	Maternal mortality	Maternal deaths per 100 000 live births	**H2020–SDG**
	Neonatal mortality	Neonatal mortality rate	**H2020**–SDG
	Healthy life expectancy	Healthy life years at age 65	**H2020**
	Mortality of children	Infant mortality per 1000 live births, disaggregated by sex	H2020**–SDG**
	Mortality (general)	Standardized mortality rate from all causes, disaggregated by cause of death	**H2020–**SDG–NCD
Health behaviours and risk factors	Physical activity	Prevalence of insufficiently physically active adolescents, defined as less than 60 minutes of moderate to vigorous intensity activity daily	**NCD**
		Age-standardized prevalence of insufficiently physically active people aged 18+ years (defined as less than 150 minutes of moderate intensity activity per week, or equivalent)	**NCD**
	Nutrition	Age-standardized prevalence of people (aged 18+ years) consuming fewer than five total servings (400 g) of fruit and vegetables per day	**NCD**
		Prevalence of malnutrition (weight for height ≥2 or ≤2 standard deviation from the median of the WHO Child Growth Standards) among children under-5 years of age, by type (wasting and overweight, respectively)	**SDG**

Domain	Category	Indicator	Indicator's alignment across frameworks[a]
Health behaviours and risk factors	Overweight and obesity	Age-standardized prevalence of overweight and obesity in persons aged 18+years	**H2020–SDG**
		Prevalence of overweight and obesity among adolescents (defined as body mass index for age >1 Z-score and >2 Z-score, respectively, relative to the 2007 WHO growth reference median)	**H2020–NCD**
	Alcohol	Total per capita alcohol consumption among people aged 15 years and older within a calendar year	**H2020–SDG–NCD**
	Smoking	Age-standardized prevalence of current tobacco use among persons aged 15 years and older	H2020**–SDG–**NCD
	Adolescent birth rate	Adolescent birth rate (aged 10–14 years, 15–19 years) per 1000 women in that age group	**SDG**
Social determinants of health	Educational attainment	Proportion of children of official primary school age not enrolled	**H2020–**SDG
		Educational attainment of people age 25+ who have completed at least secondary education	**H2020–**SDG
	Youth education	Proportion of youth (aged 15–24 years) not in education, employment or training (EU collects for 28 Member States and International Labour Organization collects from 2005 onwards for 44 Member States)	**SDG**
	Unemployment	Unemployment rate, disaggregated by age	**H2020–**SDG
	Reducing income inequality	Gini coefficient	**H2020–**SDG
Mortality from noncommu-nicable and communicable diseases	Tuberculosis	Percentage of people treated successfully among those with laboratory-confirmed pulmonary tuberculosis who completed treatment	**H2020–**SDG
		Tuberculosis incidence per 100 000 population	**SDG**
	Vaccination	Proportion of the target population covered by all vaccines included in their national programme	H2020**–SDG–**NCD
	Hepatitis B	Hepatitis B incidence per 100 000 population	**SDG**
	HIV	Number of new HIV infections per 1000 uninfected population, by sex, age and key populations	**SDG**

Domain	Category	Indicator	Indicator's alignment across frameworks[a]
Mortality from noncommu-nicable and communicable diseases	Cancer	Cancer incidence, by type of cancer, per 100 000 population	SDG–**NCD**
		Proportion of women between the ages of 30 and 49 years screened for cervical cancer at least once, or more often, and for lower or higher age groups according to national programmes or policies	**NCD**
Health system	Health expenditure	Private household out-of-pocket expenditure as a proportion of total health expenditure	**H2020**–SDG
		Total expenditure on health (as a percentage of GDP)	**H2020**–SDG
		Government expenditure on health (as a percentage of GDP)	**H2020**–SDG
	Health worker density	Health worker density and distribution	**SDG**
Well-being	Social support	Availability of social support	**H2020–SDG**
	Life satisfaction	Life satisfaction	**H2020**
	People aged 65+ living alone	Percentage of people aged 65+ living alone	**H2020**
Environmental health	Air quality	Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	**SDG**
	Sanitation	Percentage of population with improved sanitation facilities	**H2020**–SDG
		Tuberculosis incidence per 100 000 population	**SDG**
Health policy	Health 2020 target setting	Establishment of a process for documenting target setting (mode of documenting to be decided by individual Member States)	**H2020**
	International Health Regulations	International Health Regulations capacity and health emergency preparedness	**SDG**

Notes: H2020: Health 2020; NCD: Global NCD Action Plan.
[a] Bold indicates the definition proposed.
Source: WHO Regional Office EuropeWHO, 2018 (1).

Reference

1. Developing a common set of indicators for the joint monitoring framework for SDGs, Health 2020 and the Global NCD Action Plan. Meeting of the Expert Group, Vienna, 20–21 November 217. Copenhagen:WHO Regional Office for Europe; 2017 (http://www.euro.who.int/__data/assets/pdf_file/0003/360435/vienna-meeting-en.pdf, accessed 29 April 3018).

Annex 3. International examples of public health interventions providing SROI

Area of intervention	Examples of interventions
Improving health for all and reducing health inequalities	Programmes addressing the root causes of social and economic inequalities (e.g. paid parental leave, good-quality education, ensuring fair and decent work) Population-level interventions aiming to reduce health inequities (e.g. actions aimed at reducing unhealthy behaviours such as alcohol misuse or smoking) Achieving gender equity and women's empowerment (e.g. reaching gender wage equality) Environmental interventions aiming to reduce the social gradient (e.g. spatial planning and increasing access to green spaces; traffic-calming schemes)
Supporting health through a life-course approach and empowering citizens	Providing adequate social and health protection and support for pregnant women, mothers and young families (e.g. investing in early child development programmes, from conception to age 2 years can provide SROI of $1.26–17.07 for each $1 invested *(1,2)*; breastfeeding and positive parenting campaigns) Providing good early education (e.g. in the Netherlands, early education is calculated to return 1.3–5.8% per unit invested *(3)*; every additional four years of education has multiple benefits, providing returns of up to 7.20 for every unit invested *(4)*) Educating and supporting young people (e.g. the SROI for adult education is 21.60 per unit invested at age 19–24 years in the United Kingdom *(5)*) Health-promoting workplaces (e.g. investing in employment support to get people back into work in London has brought an SROI of 17.07 per unit spent *(5)*; workplace interventions to promote mental health could provide substantial savings by reducing absenteeism and early retirement) Having healthy ageing programmes (e.g. falls and injury prevention; physical activity; communicable disease prevention and vaccination; preventing mental ill health and elder maltreatment; multifaceted housing interventions; and reducing poverty, social isolation and exclusion) Preventing violence (e.g. in the United Kingdom, parenting programmes for families with children with conduct disorders has an SROI of almost 8 per unit invested *(6,7)*; programmes addressing emotion-based learning in schools may be cost-effective and provide an SROI of 50 for each unit invested within the first year through savings in health and social care and in the criminal justice sector *(4)*)
Tackling major burdens of noncommunicable and communicable diseases	Tackling unhealthy lifestyles with cross-sectoral interventions (e.g. increasing tax on tobacco products is considered the most cost-effective tobacco control policy; a 10% increase in cigarette price would reduce smoking prevalence by 4% in high-income countries *(1,8,9)*; combining taxation with other tobacco-control interventions; alcohol price interventions through taxation or increased minimum unit pricing; restricting access to retail alcohol outlets or implementing comprehensive advertising bans; primary care counselling on alcohol use; interventions addressing obesity, unhealthy diet and physical inactivity) Instituting early prevention of noncommunicable diseases and health promotion (e.g. a comprehensive approach including both population-wide and targeted policies) Combating communicable diseases (e.g. good immunization coverage of the population; public health interventions to prevent sexually transmitted infections, viral hepatitis and tuberculosis)

Area of intervention	Examples of interventions
Strengthening people-centred health systems and public health capacity, including preparedness and response capacity for dealing with emergencies	Investing in health security and the health sector as a job provider (e.g. the economic returns on investing in universal health coverage can be more than 10 times the costs at early stages *(10)*; optimizing health service delivery by developing multidisciplinary and complementary practices; building integrated people-centred systems with stronger linkages between the health and social sectors; empowering people and communities)
	Strengthening public health capacities (e.g. health protection, health improvement, health promotion and disease prevention; local and national public health interventions are highly cost-saving, showing a return of 14.3 for each unit invested in high-income countries *(11)*)
	Increasing public investments (e.g. more government spending in the health sector in the 25 Member States of the European Union in 2006 was associated with positive economic growth in the short term, with a two- to fourfold return per unit spent *(12)*)
	Achieving sustainable production, consumption and procurement for health (e.g. better use of information and communication technology, such as e-health, tele-health and m-health; waste management; educating staff to turn off equipment and lights and close doors/windows; encouraging staff to use healthy/active means of travel)
Creating supportive environments and resilient communities	Reducing the impact of environmental threats (air pollution control measures; effective waste-disposal mechanisms for health service-related hazards; mitigating climate change: reducing greenhouse gases in the European Union by 20% in 2020 would improve life expectancy by 3.3 months and reduce health damage costs by €12 billion to €29 billion *(13)*)
	Ensuring safe and healthy housing conditions (Dutch evidence shows that for every €1 spent on preventing homelessness, about €2.20 is saved elsewhere, including in emergency health care, psychiatric services and prisons *(14)*)
	Reducing road traffic injuries (e.g. the use of speed cameras in an urban setting in Spain provided a return on investment of 6.80 per unit spent in medical and societal costs over two years *(11);* encouraging the use of bicycle helmets in the United Kingdom provided an estimated SROI of 29 per unit spent *(15)*; buying car seats by families provided a return of 3.23 per unit spent in Sweden *(1)*)
	Improving spatial and urban planning, such as increases in green spaces (e.g. every 10% increase in exposure to green space translated into a reduction of five years in the age of expected health problems in the Netherlands *(4)*)
	Encouraging active methods of travel such as walking and cycling (e.g. the economic return on investing in cycle networks in Norway is between three and 14 times greater than the costs *(26)*)
	Building resilience through investing in social networks (e.g. every single unit spent on health volunteering returns between 4 and 10 in benefits, which is shared between service users, volunteers and the wider community *(4)*; a range of community interventions to improve diet and nutrition, increase physical activity and improve mental health through an asset-based approach showed an SROI of between 0.79 and 112 per unit spent *(15)*).

Source: based on Dyakova et al., 2017 *(16).*

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Annex 4. Key indicators for health-related SDGs: Poland

Target	Indicator	Unit/definition	To be attained by 2030 (globally)	Year (unless indicated otherwise)		
			2030	2010	2015	2016
3.1	3.1.1. Maternal mortality ratio	Deaths per 100 000 live births	70	4.0	3.0	–
	3.1.2. Proportion of births attended by skilled health personnel	Percentage		99.9	99.9	99.8[a]
3.2	3.2.1. Under-5 mortality rate	Deaths per 1000 live births[a]	25	5.8	4.7	4.6
	3.2.2. Neonatal mortality rate	Deaths per 1000 live births[a]	12	3.5	2.9	2.9
3.3	Epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases		End of epidemics by 2030			
	3.3.1. New HIV infections	New HIV infections among adults age 15–49 years per 1000 uninfected by sex, age and key population[b]		–	<0.1	–
		Number new HIV cases[a]		1 111	1 279	1 269
	3.3.2. Tuberculosis incidence	Incidence per 100 000 population		21	19	–
	3.3.3. Malaria incidence	Number of new cases (for Poland given as total number in population not per 1000 population)[a]		35	29	38
	3.3.4. Hepatitis B incidence	Incidence per 100 000 population[a]		4.2	9.1	9.9
	3.3.5. Number of people requiring interventions against neglected tropical diseases	Number requiring interventions		36	47	–

Target	Indicator	Unit/definition	To be attained by 2030 (globally)	Year (unless indicated otherwise)		
			2030	2010	2015	2016
3.4	Premature mortality from noncommunicable diseases	SDR per 100 000 population[b] for all ages, 0–64 years, 25–64 years	Reduce by one third premature mortality by 2030			
	3.4.1. Mortality rate attributed to cardiovascular diseases, cancer, diabetes or chronic respiratory disease	Cardiovascular diseases		335.6, 79.5, 131.3	292.4, 69.8, 124.5 (2013)	–
		Malignant neoplasms		195.8, 89.8, 147.7	187.0, 83.3, 138.9 (2013)	–
		Diabetes		12.8, 3.8, 6.3	12.2, 3.3, 6.6 (2013)	2.9
		Chronic respiratory disease		38.1, 10.6, 16.4	35.9, 9.4, 17.4 (2013)	–
	3.4.2. Suicide mortality rate			15.4, 15.1, 22.0	14.3, 14.1, 21.1	–
3.5	3.5.1. Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and after-care services) for substance use disorders	Number of people treated for disorders caused by the use of psychoactive substances[c]	Strengthen the prevention and treatment of addiction to psychoactive substances, including drugs and harmful alcohol consumption	46 436	59 864	–
	3.5.2. Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol	Pure alcohol consumption, litres per capita, age 15+[a]		10.0	10.5	10.5

Target	Indicator	Unit/definition	To be attained by 2030 (globally)	Year (unless indicated otherwise)		
			2030	2010	2015	2016
3.6	3.6.1. Mortality rate from road traffic injuries	Deaths per 100 000 population[a]	Halve the number of global deaths and injuries by 2020	10.1	7.6	7.9
3.7	3.7.1. Proportion of women of reproductive age (15–49 years) who have their needs for family planning satisfied with modern methods	Percentage[a]	Ensure universal access to sexual and reproductive health care services by 2030	49.6	51.6	–
	3.7.2. Adolescent birth rate per 1000 women in that age group	Birth rate per 1000 population for age 10–14		0.1	0.1	0.1
		Birth rate per 1000 population for age 15–19		15.2	12.2	11.9
3.8	3.8.1. Coverage of essential health services (defined as the average coverage of essential services among the general and the most disadvantaged population based on tracer interventions that include reproductive, maternal, newborn and child health; infectious diseases; noncommunicable diseases; and service capacity and access)	Service coverage index for universal health coverage (average coverage of essential services based on tracer interventions)[d]	Achieve universal health coverage including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all (WHO service coverage index for universal health coverage with threshold value of 80)	–	75	–
	3.8.2. Proportion of population with large household expenditure on health as a share of total household expenditure or income	Proportion of population with household out-of-pocket health expenditure greater than 25%/ greater than 10% of total household expenditure[d]		1.4/13.5	1.6/13.9 (2012)	10.5

Target	Indicator	Unit/definition	To be attained by 2030 (globally)	Year (unless indicated otherwise)		
			2030	2010	2015	2016
3.9	3.9.1. Mortality rate attributed to household and ambient air pollution	Deaths per 100 000 population	Substantially reduce the number of deaths and illnesses by 2030	–	38.6 (2012)	–
	3.9.2. Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe water, sanitation and hygiene for all (WASH) services)	Deaths per 100 000 population		–	<0.1 (2012)	–
	3.9.3. Mortality rate attributed to unintentional poisoning	Deaths per 100 000 population		0.41	0.37	–
3.a	3.a.1. Age-standardized prevalence of current tobacco use among persons aged 15 years and older	Percentage	Strengthen the implementation of the WHO Framework Convention on Tobacco Control	–	28.6	–
3.b	3.b.1. Proportion of the target population covered by all vaccines included in their national programme	People evading compulsory vaccinations per 1000 population age 0–19 years (proxy)[e]	Support research and development of new vaccines and medicines against infectious and non-infectious diseases	–	2.3	–
3.c	3.c.1. Health worker density and distribution	Physicians per 1000 population[a]	Significantly increase the financing of health care, as well as recruitment, development, training and maintenance of health care workers	2.1	2.3	2.4
		Dentistry personnel per 1000 population[a]		0.3	0.3	0.4
		Nursing and midwifery personnel per 1000 population[a]		5.4	5.7	5.7
3.d	3.d.1. International Health Regulations capacity and health emergency preparedness	International Health Regulations core capacity index	Strengthen the capacity in the area of early warning, risk reduction and management of national and global risk in the area of health	65.6	73.8	73.8

Target	Indicator	Unit/definition	To be attained by 2030 (globally)	Year (unless indicated otherwise)		
			2030	2010	2015	2016
1.a	1.a.2. Proportion of total government spending on essential services (education, health and social protection)	General government health expenditure as percentageof general government expenditure[d]		10.0	10.7	–
6.1	6.1.1. Proportion of population using safely managed drinking-water services	Percentage	By 2030, achieve universal and equitable access to safe and affordable drinking-water for all	93.9	93.9	–
6.2	6.2.1. Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water	Percentage of total population	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation	75.1	77.1	–
		Percentage of urban population		89.5	90.7	–
7.1	7.1.2. Proportion of population with primary reliance on clean fuels and technology	Percentage	By 2030, ensure universal access to affordable, reliable and modern energy services	–	>95 (2014)	–
8.8	8.8.1. Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status	Fatal occupational injuries among employees per 100 000 employees	Protect labour rights and promote safe and secure working environments for all workers	3.9	2.2	–
		Non-fatal occupational injuries among employees per 100 000 employees		–	654.0	–

Target	Indicator	Unit/definition	To be attained by 2030 (globally)	Year (unless indicated otherwise)		
			2030	2010	2015	2016
11.6	11.6.2. Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	Total as micrograms of PM2.5	By 2030, reduce the adverse per capita environmental impact of cities, by paying special attention to air quality and municipal and other waste management	–	24.1	–
		Urban as micrograms of PM2.5			25.4	
13.1	13.1.2. Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	Average death rate from natural disasters per 100 000 population[d]	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	<0.1	<0.1	–
16.1	16.1.1. Number of victims of intentional homicide per 100 000 population, by sex and age	Deaths per 100 000 population	Significantly reduce all forms of violence and related death rates everywhere	1.13	0.74	–
17.19	17.19.2. Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years and (b) have achieved 100% birth registration and 80% death registration	Conducting a census within last 10 years	By 2030, build on existing initiatives to develop measurements of progress on sustainable development	Yes (in 2002)	Yes (in 2011)	–
		Completeness of birth registration, percentage		100	100	
		Completeness of death registration, percentage		100	100	

Sources: SDG Indicators Global Database *(1)*.
[a] Sustainable Development Indicators database *(2)*.
[b] European Health for All database (unless otherwise stated, 2014 data not 2015) *(3)*.
[e] Estimates provided provided by Institute of Psychiatry and Neurology.
[d] Universal Health Coverage Data Portal *(4)*.
[c] Estimates provided by National Institute of Public Health–National Institute of Hygiene *(5)*.

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Annex 5. Key indicators for Health 2020 (other than SDG indicators): Poland

Target and indicators[a]	Quantification	Unit/definition	Year[b]		
			2010	2014	2015
1. Reduce premature mortality in the Europe by 2020					
1.1.a. SDR major noncommunicable diseases (30–69 years)	1.5% relative annual reduction in overall premature mortality until 2020	Per 100 000			
		Total	439	399	–
		Males	620	551	–
		Females	281	266	–
1.1.d. Age-standardized prevalence of overweight and obesity in people aged 18 years and over		Overweight (%)			
		Total	59.2	61.1	–
		Males	63.4	65.8	–
		Females	55.2	56.7	–
		Obesity (%)			
		Total	23.1	25.2	–
		Males	21	23.5	–
		Females	25.1	26.7	–
1.2.a. Percentage of children vaccinated	Achieved and sustained elimination of selected vaccine-preventable diseases and prevention of congenital rubella syndrome	Percentage			
		Measles	98	97	96
		Polio	96	94	92
		Rubella	98	–	98 (2016)
1.3.a. SDR external causes of injury and poisoning	Reduction of mortality from external causes	Deaths per 100 000			
		Total	55.6	48.5	–
		Males	93.5	81.0	–
		Females	20.7	18.5	
1.3.a (add). SDR motor vehicle traffic accidents		Total per 100 000	8.9	6.8	–
1.3.b (add). SDR accidental poisoning		Total per 100 000	3.8	3.2 (2013)	–
1.3.c (add). SDR alcohol poisoning		Total per 100 000	2.9	2.5 (2013)	–

Target and indicators[a]	Quantification	Unit/definition	Year[b]		
			2010	2014	2015
1.3.e (add). SDR accidental falls		Total per 100 000	7.5	8.8 (2013)	–
1.3.f (add). SDR homicides and assaults		Total per 100 000	0.9	1.0 (2013)	–
2. Increase life expectancy in Europe					
2.1.a (add). At birth	Continued increase in life expectancy at current rate (the annual rate 2006–2010), coupled with reducing differences in life expectancy in Europe	Total	76.5	77.9	–
		Male	72.3	73.8	–
		Female	80.8	81.9	–
2.1.a (add). At age 1 year		Total	75.9	77.2	–
		Male	71.6	73.1	–
		Female	80.2	81.2	–
2.1.a (add). At age 15 years		Total	62.1	63.3	–
		Male	57.8	59.3	–
		Female	66.3	67.3	–
2.1.a (add). At age 45 years	Continued increase in life expectancy at current rate (the annual rate 2006–2010), coupled with reducing differences in life expectancy in Europe	Total	33.6	34.7	–
		Male	29.9	31.1	–
		Female	37.0	38.0	–
2.1.a (add). At age 65 years		Total	17.7	18.6	–
		Male	15.2	16.0	–
		Female	19.7	20.5	–
2.1.b (add). Healthy life years at age 65 *(47)*	Reduction in the gaps in health status associated with social determinants in Europe	Male	6.7	7.5	7.6
		Female	7.5	8.1	8.4

Target and indicators[a]	Quantification	Unit/ definition	Year[b]		
			2010	2014	2015
3. Reduce inequalities in health in Europe (social determinants target)					
3.1.c. Proportion of children of official primary school age not enrolled		Total	3.2	3.5	–
		Male	3.3	3.5	–
		Female	3.1	3.5	–
3.1.d. Unemployment rate *(4)*	Number unemployed as a percentage of the total potential labour force (employed and unemployed) aged 15+, 15–24, and 25+ years	Total	9.6, 23.7, 8.0	9.0, 23.8, 7.6	7.5, 20.7, 6.3 (in 2016: 6.2, 17.6, 5.1)
		Male	9.3, 22.4, 7.7	8.5, 22.6, 7.1	7.3, 20.6, 6.0 (in 2016: 6.1, 17.4, 5.0)
		Female	10.0, 25.4, 8.4	9.6, 25.4, 8.2	7.7, 20.8, 6.7 (in 2016: 6.2, 25.4, 5.3)
3.1.f. Gini coefficient (income distribution)			31.1	30.8	–
4. Enhance the well-being of the European population					
4.1.a. Life satisfaction (average rating of overall life satisfaction) *(3)*	Will be set as a result of the baseline of the core well-being indicators, with the aim of narrowing intraregional differences and levelling up	Rating 0–10 for 16+, 16–24 and 75+ years			
		Total	–	7.3, 8.1, 6.9 (all 2013 data)	–
		Male	–	7.3, 8.1, 7.0 (all 2013 data)	–
		Female	–	7.3, 8.1, 6.9 (all 2013 data)	–

Target and indicators[a]	Quantification	Unit/ definition	Year[b]		
			2010	2014	2015
4.1.b. Availability of social support		Percentage	–	87 (2013)	–
5. Universal coverage and the right to health					
5.1.a. Private household out-of-pocket expenditure as a proportion of total expenditure on health	Moving towards universal coverage (according to the WHO definition) by 2020	Percentage	22.1	23.5	–
5.1.c. Total expenditure on health		Percentage GDP	6.9	6.4	–
5.1.c (add) Public sector expenditure on health		Percentage GDP	4.9	4.5	–

[a] Additional indicators are marked as (add) next to the number.
[b] Data from the year given unless indicated otherwise.
Sources: European Health for All database *(1)* and European Mortality Database *(2);* additional data from Eurostat *(3)* and ILOSTAT *(4)* databases as indicated.

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