Health-related SDG targets in Tajikistan: implementation of policies and measures for health and well-being

PROGRESS REPORT 2020

World Health Organization
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Abstract

The Republic of Tajikistan is one of the global pilot countries for implementation of the Global Action Plan for Healthy Lives and Well-being for All (GAP), with a focus on strengthening health financing as an accelerator towards achieving Sustainable Development Goal (SDG) 3 on health and well-being for all. This process is supported by United Nations agency partners and other development partners. This report reviews and assesses the achievements towards SDG 3 and its targets as well as health-related targets of other SDGs to date in Tajikistan. This is the first step of the GAP process (engage, assess, align, accelerate and account) and will clarify priorities for action to accelerate the achievement of SDG 3 in Tajikistan and alignment of development partners' support. Recommendations are made for finalization of the new 10-year National Programme of Strategic Development of Healthcare and Social Protection for the Population of the Republic of Tajikistan 2021–2030 and in its implementation.

Contents

Acknowledgements

Abbreviations

2030 Agenda	United Nations 2030 Agenda for Sustainable Development
AMR	antimicrobial resistance
BBP	Basic Benefit Package
DHS	Demographic and Health Survey
E4As	engage, assess, align, accelerate, account (approach)
FAO	Food and Agriculture Organization of the United Nations
FAST	Families and School Together (programme)
GAP	Global Action Plan for Healthy Lives and Well-being for All
Gavi	Gavi, the Vaccine Alliance
GDP	gross domestic product
GIZ	German Development Agency
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
HMIS	health management information system
IFRC	International Federation of Red Cross and Red Crescent Societies
IHME	Institute for Health Metrics and Evaluation
IOM	International Organization for Migration
JICA	Japan International Cooperation Agency
KfW	German Development Bank
National Programme 2021–2030	National Programme of Strategic Development of Healthcare and Social Protection for the Population of the Republic of Tajikistan 2021–2030
NCD	noncommunicable disease
NGO	nongovernmental organization (referred to in Tajikistan as a noncommercial organization)
NHS 2020	National Strategy for the Health of the Population of the Republic of Tajikistan for 2010–2020
OOP	out-of-pocket (expenditure)
PHC	primary health care
SDG	Sustainable Development Goal
SFP10-14	Strengthening the Family Programme (for children aged 10–14 years)
SGBP	State Guaranteed Benefit Package
TB	tuberculosis
UHC	universal health coverage
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNDAF	United Nations Development Assistance Framework
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
USAID	United States Agency for International Development

Executive summary

The Republic of Tajikistan has been selected as one of the global pilot countries for the national implementation of the Global Action Plan for Healthy Lives and Well-being for All (GAP), with a focus on strengthening health financing as an accelerator towards achieving Sustainable Development Goal (SDG) 3 on health and well-being for all. This process is supported by United Nations agency partners of the GAP and other development partners. This report and review of the achievements towards SDG 3 to date, and the contributions from other sectors with a direct influence on the determinants of health, represents the first step of the GAP process, assess, which will allow a clearer definition of the priorities for action to accelerate the achievement of SDG 3 in Tajikistan, and an alignment of development partner support.

The report describes the achievements by SDG 3 targets, as well as the interventions leading to these, and points to obstacles and key areas of concern that need to be addressed urgently and can be addressed in the upcoming 10-year National Programme of Strategic Development of Healthcare and Social Protection for Population of the Republic of Tajikistan 2021–2030 (National Programme 2021–2030). The report concludes with recommendations that can be used in the finalization of this new national programme and its implementation.

1. Introduction

1.1 Background to the GAP

The Republic of Tajikistan has been selected as one of the global pilot countries for the implementation of the GAP *(1)*, with a focus on strengthening health financing as an accelerator towards achieving SDG 3 on health and well-being for all at all ages. This SDG is critical to achieving progress on the 2030 Agenda for Sustainable Development (2030 Agenda) *(2)*.

It is a timely and opportune moment as the country is in the process of drafting National Programme 2021–2030, the new programme for health care and social protection, which is embedded in the National Programme of Development of the Republic of Tajikistan up to the year 2030 *(3).* It is already clear that all the funding for the new strategy will not be found from national resources and, therefore, it is vital to engage and align the support of international development partners, the donor community and the private sector. (Annex 1 lists the development agencies currently providing support to the health sector.) The National Programme 2021–2030 will be based on the findings of the Voluntary National Review of 2017 *(3)*, and on an assessment completed in 2018 (unpublished) of the effects of the National Strategy for the Health of the Population of the Republic of Tajikistan for 2010–2020 (approved by Decree No. 368; referred to here as NHS 2020). This 2018 assessment included the monitoring, evaluation and review of NHS 2020.

The results of these assessments indicated that key areas for improvement included health governance, financing, human resources for health, noncommunicable diseases (NCDs) and their risk factors, communicable diseases, heath information system, public health services and governance for intersectoral collaboration, among others. The assessment of NHS 2020 was prepared by an expert working group appointed by the Ministry of Health and Social Protection of the Population of the Republic of Tajikistan (referred to in this report as the Ministry of Health), with individual institutions and bodies responsible for implementation providing reports on both implementation and challenges. NHS 2020 was based on Health 2020, the WHO European policy framework and strategy *(4),* with attention to alignment of other sectoral policies with health and conducting joint annual intersectoral reviews. NHS 2020 had 98 well-defined indicators across the four established objectives, which facilitated monitoring and assessment, as well as a clear identification of areas that were still problematic.

The quantitative data collected were based on the indicators identified at the start of the programme. These were compiled centrally and/or through the Institute for Health Metrics and Evaluation (IHME) database and reported as relevant to the WHO European Health for All database. The Assessment Report of the NHS 2020 was also shared for broad consultations at national level, with the participation of state and sectoral institutions, representatives of Parliament, civil society and academia, as well as representatives of development partners. Findings of the national assessment were compiled in a comprehensive report by the Ministry of Health and shared with all stakeholders. Based on the assessment, areas of investment that would accelerate the achievement of SDG 3

could be identified. One of these accelerators was found to be health financing; others included health data and processing; the health workforce capacity; equity, including gender equity; and governance for health.

Moving forward, it was concluded that a coherent, well-balanced, robust and realistic national programme on strategic action for health and social protection was needed to mainstream efforts, facilitate health integration across sectors and policy domains, and ensure health policy coherence across different levels of government. The cross-border nature of the economic, environmental and social problems reinforced the importance of utilizing intersectoral mechanisms, as well as legal instruments, to tackle health-related issues within these domains and deliver on the SDGs. A strong and realistic responsibility, management, monitoring and evaluation framework should support efficient and effective action. Policy analyses and review would bear fruit if the health information system was strengthened to generate evidence and internationally comparable data. Policy-making systems would be strengthened by significant investments to increase the capacity to deliver solid and relevant, as well as outcome-oriented, policy advice.

In view of the above, the ongoing national process towards the development of National Programme 2021–2030 followed the E4As approach (engage, assess, align, accelerate, account) suggested in the GAP implementation process and identified sustainable health financing as a potential accelerator towards achieving SDG 3 in Tajikistan. This is reflected in the attention, expertise and detail given to this section in the draft of the National Programme 2021–2030.

Annex 2 lists the existing laws and regulations in Tajikistan as they relate to achievement of the targets in SDG 3.

1.2 The 2030 Agenda

The 2030 Agenda emphasized that ensuring healthy lives and promoting well-being globally for all at all ages are important for building prosperous societies, and major progress has been made in improving the health of millions of people. Maternal and child mortality rates have been reduced; life expectancy continues to increase globally and the fight against some infectious diseases has made steady progress. However, for other diseases, progress has globally slowed or stalled, and at least half the world's population is still without access to essential health services. The achievement of SDG 3 is dependent on and influenced by other SDGs and targets and, equally, has itself an impact on the achievement of the other SDGs (Fig. 1).

Fig. 1. SDG 3 and its interactions with the other SDGs

1.3 Tajikistan overview

Tajikistan is a mountainous, landlocked country in central Asia with an area of 143 000 km^2 and an estimated population of 9 275 828 (Fig. 2). Over two thirds of the country's population live in rural areas (72.9%) and are engaged in agricultural production. Tajikistan is classified as a lower middle-income country *(5)*.

Economic growth in Tajikistan has been rapid in the post-civil war period (Fig. 3) resulting in an increase in gross domestic product (GDP) from US$ 860.5 million in 2000 to US$ 7522.9 million in 2018 (all dollar values as current values) *(7)*. This increase was

Fig. 2 Map of Tajikistan

Source: United Nations, 2009 *(6).* (Reproduced with permission of
the United Nations Geospatial Information Section.)

reflected by a six-fold increase in GDP per capita, reaching US$ 826.6. Tajikistan's reported real GDP growth rate remained robust at 7.2% year on year in the first three quarters of 2019, which was similar to the growth rate of 7.1–7.3% in 2017–2018. Industry and services were the main drivers of growth on the supply side. On the demand side, buoyant domestic demand supported growth. The current account deficit narrowed down to 7% of GDP in the first half of 2020 from 11% of GDP in 2019, due to increased income transfers and a reduction in the trade deficit. The latter mainly reflected falling import spending on machinery and equipment.

Despite this improvement, falling international prices for aluminium and cotton negatively affected Tajikistan's export earnings and, together with the recovering imports, widened the trade deficit to 29.1% of GDP during the first nine months of 2019. A projected upturn in the import bill during the fourth quarter of 2019 was expected to keep the current account deficit at around 5% of GDP in full-year 2019, relatively unchanged from the 2018 deficit of 5.1% of GDP *(8).* Table 1 shows selected indicators for Tajikistan.

Fig. 3. GDP per capita, Tajikistan 1990–2018
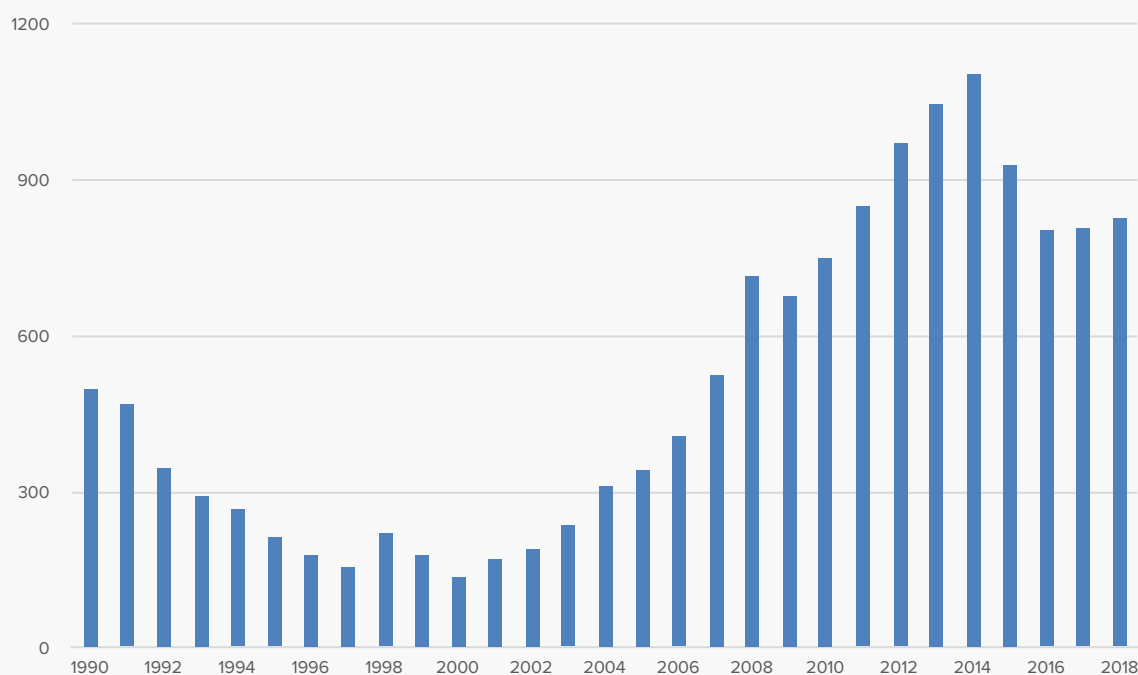
Source: World Bank, 2020 *(7)*.

Table 1. Selected demographic, economic and health indicators for Tajikistan

Indicator	2019
Total population (mid-year, millions)[a]	9.3
GDP per capita (US$)[a]	874
Unemployment rate (%)[b]	11.082
Perinatal deaths (per 1000 births)[c]	14.99 (2018)
Life expectancy at birth (years)[a]	70.6 (2018)
Standardized death rate (all ages, all causes, per 100 000)[d]	941 (2005)
Hospital beds (per 100 000)[d]	467 (2014)
Physicians (health professionals, per 100 000)[d]	171
Total health expenditure (% GDP)[d]	6.9 (2014)
Public expenditure on health (% total health expenditure)[d]	28.29.1 (2017)
Out-of-pocket expenditure on health (% total health expenditure)[d]	61.7 (2014)

Sources: [a]World Bank, 2020 *(9)*; [b]World Bank, 2020 *(10)*; [c]UNICEF, 2020 *(11)*; [d]WHO Regional Office for Europe, 2019 *(12)*.

1.4 The SDG framework and related policies and activities in Tajikistan

In 2016 a rapid integrated assessment of national level strategies and sectoral programmes and plans was carried out to ensure that the SDGs and their targets are achieved. It was found that 64% of the SDG targets were reflected in two national strategic documents. A broad review of two national and eight sectoral strategies showed that 78% have mainstreamed the SDGs *(3)*. Mainstreaming and alignment activities may include regional pilot projects for some of the SDGs. Many donors have been active in supporting health and development since the late 1990s and continue to remain committed to this support and alignment with national priorities, although some donors are gradually reducing their contributions in the light of increased national commitment and allocation of national resources to health and to the health sector. (Details of donors and supported health programmes are given in Annex 1.) The main partners for the health sector in the following areas were:

◆ strengthening health systems: the European Union and the Swiss Agency for Development and Cooperation;

◆ infrastructure upgrading: the Asian Development Bank and KfW (the German Development Bank);

◆ combating HIV/AIDS and tuberculosis (TB): the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), the Joint United Nations Programme on HIV and AIDS (UNAIDS), KfW and the United States Agency for International Development (USAID);

◆ improving maternal and child health: the German Development Agency (GIZ), Japan International Cooperation Agency (JICA), KfW, the United Nations Children's Fund (UNICEF) and the United Nations Population Fund;

◆ vaccine-preventable illnesses: Gavi, the Vaccine Alliance (Gavi) and UNICEF;

◆ antimicrobial resistance (AMR): tripartite partnership of the Food and Agriculture Organization of the United Nations (FAO), WHO and the World Organisation for Animal Health;

◆ for community outreach: the Aga Khan Development Network and the International Federation of Red Cross and Red Crescent Societies (IFRC);

◆ fighting malnutrition and hunger: FAO, UNICEF, Welthungerhilfe, WHO and the World Food Programme;

◆ addressing health determinants such as substance abuse: the United Nations Office on Drugs and Crime (UNODC);

◆ rehabilitation: USAID and collaborating nongovernmental organizations (NGOs; referred to in Tajikistan as a noncommercial organizations); and

◆ refugee and migrant health: the International Organization for Migration (IOM), the United Nations High Commissioner for Refugees, WHO and civil society organizations working with families of migrants and the communities where migrants come from or return to.

Other development partners align their projects and programmes with the relevant SDGs for their own terms of reference and assigned tasks, for example programmes for national agriculture are supported by the International Fund for Agricultural Development and UNAIDS supports Fast Track Cities for HIV Elimination. Development partners also support work on other determinants of health such as education, poverty alleviation, economic development, environment, urban development, rural development (Fig. 4). Further information can be found in the Voluntary National Review 2017 *(3)* and on the websites of the agencies themselves.

Fig. 4. SDG mainstreaming into Tajikistan development documents

Source: United Nations Tajikistan, 2017 *(3)*.

1.5 Main health targets addressed through national policies

The main health targets addressed through national policies and the new National Programme 2021–2030 are all targets under SDG 3. Further areas covered by the new strategy include SDG 3a (implementing the WHO Framework Convention on Tobacco Control), SDG 3b (providing access to affordable essential medicines and vaccines), SDG 3c (substantially increase health financing and the recruitment, development, training and retention of the health workforce) and SDG 3d (strengthen the capacity for early warning, risk reduction and management of national and global health risks). The new National Programme 2021–2030 also includes investment into large-scale digitalization and preventing disability by strengthening access to rehabilitation services and assistive products, as well as providing better support to the disabled.

1.6 Governance for health and well-being in Tajikistan

Following the assessment of the last national health programme NHS 2020, it was recognized that the Tajik health system suffers from lack of effective leadership and governance. Challenges relate to having had a centralized decision-making structure and low participation of key actors. To create ownership of policies and programmes, and consequently improve implementation, it is instrumental to involve local key actors in the decision-making process. Furthermore, limited use of evidence and poor recognition of contextual influences has led to ineffective use of resources. The Eighth Joint Annual Review recommended the improvement of health governance structure through more decentralization *(13)*. Additionally, there is a lack of managerial capacity at all levels of the health-care system, and, therefore, the need for capacity-building in this area remains high. There is a clearly identified need to make governance and decision-making more decentralized and context specific, with the inclusion of local key actors in the decision-making process. This is instrumental in making policies and programmes relevant to the local context, ensuring ownership and improving implementation. These issues have been partially addressed in donor-supported capacity-building for stewardship, governance and management at regional levels (Box 1).

The new National Programme 2021–2030 seeks to deepen this process by focusing on key aspects of health and social sector management and implementing short- and long-term actions.

Box 1. Mechanisms to improve governance for health

The Government of Tajikistan assumed the following functions to ensure strengthened stewardship and evidence-informed decision-making regarding health of the nation:

- ◆ develop fundamental values, guidelines and state policy in the field of public health;
- ◆ modernize legislation and the regulatory framework and supervise their implementation;
- ◆ form intersectoral and interinstitutional partnerships to improve living standards in the country;
- ◆ strengthen focus on international best practices; and
- ◆ coordinate international assistance and technical cooperation.

1.6.1 Health system organization overview

Health system organization currently is supported by national vision documents and the priorities outlined in National Programme 2021–2030.

In the Soviet era, Tajikistan had a highly centralized, hospital-centred health system, based on the right of every citizen to have free of charge health care (the *Semashko* system, named for the first Minister of Health of the Soviet Union). Fig. 5 outlines the structure and referral system in the *Semashko* model.

The Soviet Constitution of 1936 formulated the right to health (Box 2).

Fig. 5. Structure of Soviet health-care system

USSR MINISTRY OF HEALTH

UNION REPUBLIC
MINISTRY OF HEALTH
APPROXIMATELY 16 MILLION PERSONS

OBLASTS
(PROVINCES)
1–5 MILLION

OBLAST
REGIONAL GENERAL HOSPITALS
500–600 BEDS

MEDSANCHASTS
WORKPLACE CLINICS

RAYONS
(CITY)
40 000–150 000

POLYCLINICS
FULL OPD SERVICES
(FOR RESIDENTIAL COMMUNITES)

UCHASTOCKS
(MICRODISTRICTS)
7000–1500)
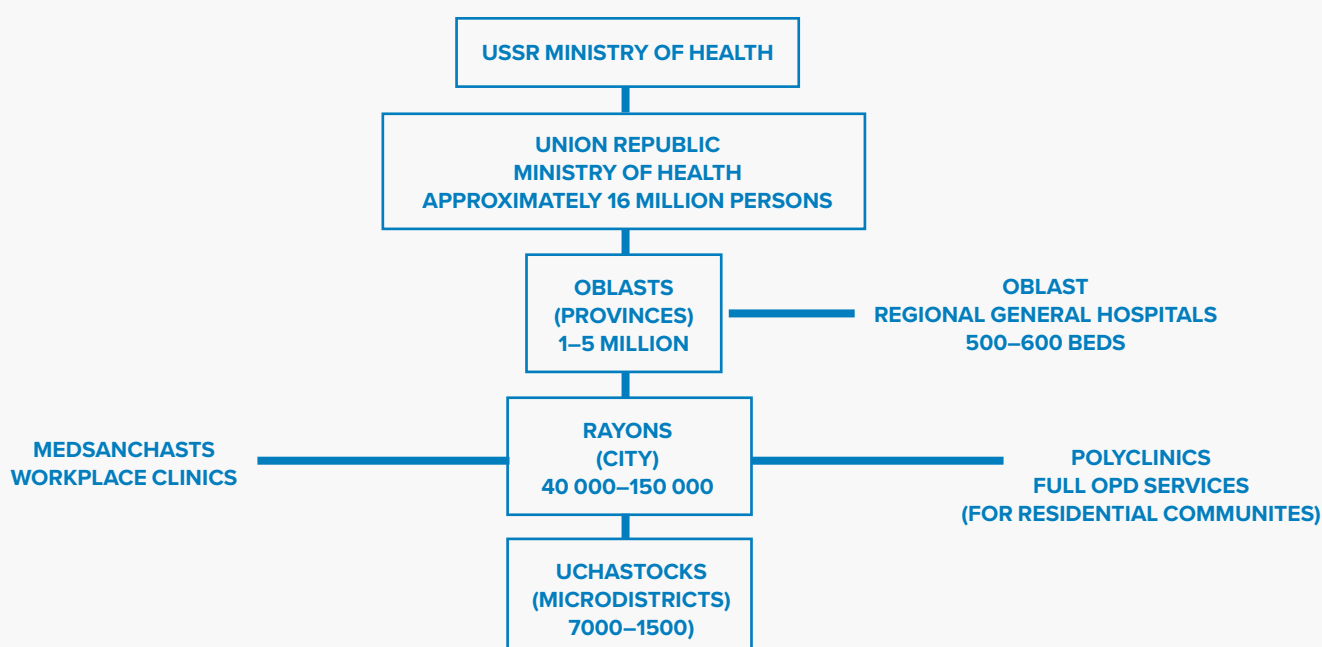
Source: adapted from Albrecht & Salmon, 1987 *(14)*.

Box 2. The right to health in Article 42 of the Soviet Constitution

Citizens of the USSR have the right to health protection. This right is ensured by free, qualified medical care provided by state health institutions; by extension of the network of therapeutic and health-building institutions; by the development and improvement of safety and hygiene in industry; by carrying out broad prophylactic measures; by measures to improve the environment; by special care for the health of the rising generation, including prohibition of child labour, excluding the work done by children as part of the school curriculum; and by developing research to prevent and reduce the incidence of disease and ensure citizens a long and active life.

During the Tajik civil war in 1993–1999, this system mostly disintegrated, and subsequent peace treaty efforts targeted the establishment of a system based on strong primary health care (PHC), with a focus on family medicine. In 2008, a decree was adopted which obliged cities and districts to allocate at least 40% of their budget to PHC. As a result, hospital expenditure decreased from 56% to 55% and the PHC facilities applying the family health principle increased from 56% in 2010 to 70.1% in 2017. This increase is in line with the NHS 2020 target for 2015 (70%) but needs to improve to reach the 2020 target of 100%. Despite the increased focus on and expenditure for PHC, the average number of visits to PHC facilities per inhabitant decreased slightly from 4.8 in 2010 to 4.1 in 2016 (Voluntary National Review of 2017 *(3)* and the Tajik unpublished policy note 2019). The Voluntary National Review proposed some evidence-informed policy accelerators for transforming PHC. Among others, these included adopting a community care model, which Tajikistan is doing by increasing the role of family medicine and family physicians, and engaging public and civil society. While Tajikistan is focusing on some of these policy accelerators, it may be useful to consider them all to further strengthen PHC in future policies and programmes. One of the challenges faced in the attempts to strengthen the health system is the migration of health workers, particularly doctors who migrate to the Russian Federation or other Russian-speaking countries where they may find jobs and better income.

1.7. Support for the 2030 Agenda in Tajikistan

The United Nations has been active in Tajikistan for 25 years since 1992 during the conflict-resolution process. Reconciliation in 1997 took place with United Nations mediation (deployment of the United Nations Mission of Observers in Tajikistan in 1994–2000). The United Nations also supported post-conflict rehabilitation and addressing the socioeconomic needs of the population in the post-conflict era. During 2000–2015, support from the United Nations and other development partners in achieving Millennium Development Goals contributed to reducing the poverty rate from 81% in 1999 to 31% in 2016, reaching 99% of primary education enrolment and eliminating malaria in Tajikistan. The United Nations Development Assistance Framework (UNDAF) was endorsed in December 2015 for a six-year period and it currently guides United Nations agencies' work on a country level. There are six outcomes for the UNDAF in Tajikistan 2016–2021:

- ◆ **democratic governance, rule of law and human rights**

- ◆ **sustainable and equitable economic development**

- ◆ **social development (health, education and social protection)**

- ◆ **nutrition and food security**

- ◆ **inclusion and empowerment of vulnerable groups**

- ◆ **resilience and environmental sustainability.**

UNDAF is aligned with the SDGs, the National Development Strategy 2016–2030 and the Mid-term Development Programme 2016–2020 priorities and will contribute towards their implementation. It draws on the full range of expertise and resources of the United Nations Country Team in Tajikistan, government, civil society and Development Coordination

Council partners to deliver development results for Tajikistan. The United Nations Country Team works to strengthen coordinated implementation and monitoring of the results of UNDAF 2016–2021 through six result groups chaired by representatives of various United Nations agencies *(15)*. External coordination and coordination with donor partners occurs through the Development Coordination Council in order to formulate a joint position for response to existing development challenges.

The United Nations Country Team works towards enhancing implementation of SDGs (supporting the Government of Tajikistan in preparation of the first national SDG report), enhancing human rights, gender mainstreaming and inclusive development to ensure that no one is left behind *(15)*.

The overview in Annex 1 lists donor contributions directly to the health sector; however, project and programmes in other sectors such as water, sanitation and hygiene, which also have impact on health, are not included in this overview. The main development partners for the health sector are the Aga Khan Development Network, the Asian Development Bank, the European Union, GAVI, Global Fund, IFRC, the International Planned Parenthood Federation, IOM, the Islamic Development Bank, JICA, KfW/GIZ, the Swiss Agency for Development and Cooperation, the Swiss Tropical and Public Health Institute, UNICEF, the United Nations Population Fund, United Nations agencies, USAID and the World Bank. The Global Financing Facility has also started to work in the country.

In Tajikistan, the country-level health cluster serves as a mechanism for participating organizations to work together in partnership to harmonize efforts and use available resources efficiently within the framework of agreed objectives, priorities and strategies for the benefit of the affected population(s). This includes avoiding gaps and/or overlap in the international humanitarian health response and resources (human and financial). Other coordination mechanisms and bodies include the TB Coordination Committee and the National Coordination Council on Maternal and Child Health as well as well as some other groups with a specific focus. All development partners have been actively involved in the development of the National Programme 2021–2030.

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Vlad Sokhin

2. Data and monitoring of SDG health targets in Tajikistan

This chapter provides a brief introductory note on the health targets and indicators, data and monitoring process building on national health information system assessments.

The global SDG health targets and indicators are relevant for Tajikistan and many have been tracked through the national reporting systems and reflected in the assessment in 2018 of NHS 2020. In addition, the country had identified a set of national reporting indicators, collected through the national health service and reporting within the Ministry of Health's Health Management Information Centre.

It should be noted that Tajikistan does not yet have a nationwide electronic patient record system. At the national level, District Health Information System 2 software is used for data aggregation, analysis and reporting. However, the quality of reporting and data discrepancies are common matters of concern. This lack of an efficient electronic monitoring system particularly affects PHC facilities in the rural and remote areas, and there is limited use of data in decision-making and planning. The Ministry of Health used data available from national sources as well as from different iterations of the Demographic and Health Survey (DHS) and other surveys for the assessment of progress within NHS 2020.

While staff shortages are frequently mentioned, many doctors in Tajikistan see only few patients a day. Doctors reported seeing on average four or five patients a day (0–12 patients a day). In Tajikistan in 2017, there were 22 paediatricians per 100 000 population, which is above the average for the WHO European Region *(16)*; numbers of general practitioners/family doctors were not available and the number of nurses was below average. Health worker density overall was calculated at 7.6 per 1000 population in 2017 *(17)*. While some rural areas may have shortages of doctors, nurses and midwives, other areas have high doctor to patient ratios. In some areas, many different specialists work at the PHC level, for example a vaccination specialist who is only responsible for childhood vaccinations, and heads of centres for reproductive health, HIV, healthy lifestyles and integrated management of childhood illnesses. However, PHC doctors and nurses are not always sufficiently skilled; they may lack confidence in delivering essential sexual and reproductive maternal, neonatal, child and adolescent health services, leading to multiple referrals and fragmentation of services. Providers of PHC play a critical role in supporting underserved patients in both rural and urban settings. For family doctors and general practitioners to fulfil this role, their task profile needs to be expanded and preservice medical education, postgraduate training and continuing professional development prioritized in key areas of population health. Key policy priorites for improving health workforce capacity at the PHC level include promoting infection prevention and control and the careful use of antimicrobial drugs; delivering essential sexual and reproductive maternal, neonatal, child and adolescent health services; and ensuring the rational distribution of health personnel.

2.1   Assessment of the SDG 3 health targets

The following assessment is organized by specific health targets and includes trends from 2000 and projections to 2030 using both official national data and other data sources (e.g. IHME, WHO's Global Health Observatory and other data sources, and United Nations reports).

Tajikistan has made some very good progress towards achieving of the set targets in some critical indicators, such as maternal mortality ratio and malaria elimination, while indicators for other targets have progressed only slowly and pose challenges ahead. This is particularly the case for some communicable diseases, such as HIV, TB and hepatitis, for the increasing resistance of different microorganisms to currently used antibiotic drugs and for some of the NCDs. In addition, mental health has not been given the necessary attention and is also not covered sufficiently in the National Programme 2021–2030, which is currently under development. There are also areas where no comprehensive data are available, for example on disability; however, discussions have shown that rehabilitation for people with various functional limitations is receiving increased attention and that is now also reflected in the new National Programme. Annex 3 provides data for SDG 3 targets and for health-related targets within other SDGs. Table 2 gives an overview of the SDG 3 indicators (and health-related SDG 2), which are enlarged upon in the following sections.

Table 2. Selected SDG indicators

Target	SDG indicator	Tajikistan	
		Indicator	Source
SDG 2. Hunger, malnutrition and food security			
2.2 Malnutrition	2.2.1 Prevalence of stunting among children under 5 years of age	17%	DHS 2017 *(18)*
	2.2.2 Prevalence of malnutrition among children under 5 years of age (wasting and overweight)	6%	DHS 2017 *(18)*

Table 2 contd.

Target	SDG indicator	Tajikistan	
		Indicator	Source
SDG 3. Health and well-being			
3.1 Maternal mortality ratio	3.1.1 Maternal mortality ratio	32 per 100 000 live births	Ministry of Health data
	3.1.2 Proportion of births attended by skilled health personnel	94.8%	DHS 2017 *(18)*
3.2 Preventable deaths, newborns and under-5 years	3.2.1 Under-5 mortality rate	33 per 1000 live births	DHS 2017 *(18)*
	3.2.2 Neonatal mortality rate	2 per 1000 live births	DHS 2017 *(18)*
3.3 Communicable diseases	3.3.1 Number of new HIV infections	6.0 per 100 000	IHME, 2019 *(17)*
	3.3.2 TB incidence (new cases, age standardized)	107.7 per 100 000	IHME, 2019 *(17)*
	3.3.3 Malaria incidence	0	IHME, 2019 *(17)*
	3.3.4 Hepatitis B incidence	2320 per 100 000	IHME, 2019 *(17)*
	3.3.5 Prevalence neglected tropical diseases	13.6%	IHME, 2019 *(17)*
3.4 NCDs	3.4.1 Mortality (age standardized rate) attributed to cardiovascular diseases, cancer, diabetes or chronic respiratory disease	539.0 per 100 000	IHME, 2019 *(17)*
	3.4.2 Suicide mortality rate	5.6 deaths per 100 000	IHME, 2019 *(17)*
3.5 Prevention and treatment of substance abuse	3.5.1 Coverage of treatment interventions for substance use disorders	No precise quantitative coverage data available; data on the absolute numbers of patients with addiction problems treated can be obtained from the specialized health services for drug addiction treatment	–
	3.5.2 Harmful use of alcohol (pure alcohol, aged 15 years and older)	Estimated 4 litres per capita per year (no exact data because consumption of home-produced alcohol is hard to evaluate) Clinical reports from health centres treating hepatic diseases report a trend to decline of alcohol-related liver damage (possibly linked to religious practices relating to the use of alcohol)	

Table 2 contd.

Target	SDG indicator	Tajikistan	
		Indicator	Source
3.6 Reduce deaths and injuries from road traffic accidents	3.6.1 Death rate due to road traffic injuries	18.1 per 100 000 (2016)	WHO, 2019 (19)
3.7 Access to sexual and reproductive health-care services, reproductive health in national strategies and programmes	3.7.1 Women aged 15–49 years who have their need for family planning satisfied with modern methods	52.5% (2017)	IHME, 2019 (17)
	3.7.2 Adolescent birth rate	27.5 live births per 1000 women aged 10–19 years 24 abortions per 1000 live births (women aged under 20 years)	IHME, 2019 (17)
3.8 UHC, including financial risk protection and access to essential medicines and vaccines	3.8.1 Essential health services (based on tracer interventions among the general and the most disadvantaged population)	Tracer of measles vaccination: 98%	WHO, 2019 (20)
	3.8.2 People covered by health insurance or a public health system per 1000 population	UHC service coverage index (proxy indicator): 60.6%	IHME, 2019 (17)
3.9 Deaths and illnesses from hazardous chemicals and pollution	3.9.1 Mortality attributed to household and ambient air pollution	81.1 per 100 000	IHME, 2019 (17)
	3.9.2 Mortality attributed to unsafe water, unsafe sanitation and lack of hygiene	15.3 per 100 000	IHME, 2019 (17)
	3.9.3 Mortality attributed to unintentional poisoning	0.7 per 100 000	IHME, 2019 (17)
3.a Implementation of the WHO Framework Convention on Tobacco Control	3.a.1 Prevalence current tobacco use (aged 15 years and older, age-standardized)	9.6%	IHME, 2019 (17)
3.b Research and development of vaccines and medicines for diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines for all	3.b.1 Proportion of population with access to affordable medicines and vaccines on a sustainable basis	No quantitative indicator available; vaccine availability covered by international donor programmes (see text)	
	3.b.2 Official development assistance to medical research and basic health sectors	No data	
3.c Health financing and health workforce in developing countries	3.c.1 Health worker density and distribution	7.6 per 1000 population (2017)	IHME, 2019 (17)
3.d Strengthened capacity for early warning, risk reduction and management of national and global health risks	3.d.1 International Health Regulations capacity and health emergency preparedness	Capacity being built through WHO Emergency Preparedness Programme	WHO, 2020 (21)

2.1.1   Malnutrition, stunting and wasting (SDG 2)

Tajikistan has achieved progress in reduction of stunting (indicator 2.2.1), bringing the national average down from 26% in 2012 to 17% in 2017, but with some regions still showing high rates among children under-5 (DHS *(18)*). Wasting (indicator 2.2.2) was 6% in 2017, with children under 6 months being most affected (up to 14%); 2% in this age group were found to be severely wasted *(18)*. The country is addressing this issue of malnutrition with support from UNICEF, WHO and the World Food Programme. The FAO and World Food Programme provide support for the Government through their school feeding programmes. Other programmes are supported by GIZ, USAID and other donors, who have included nutrition and agriculture components in their health and development aid programmes.

Fig. 6. Prevalence of child wasting, Tajikistan
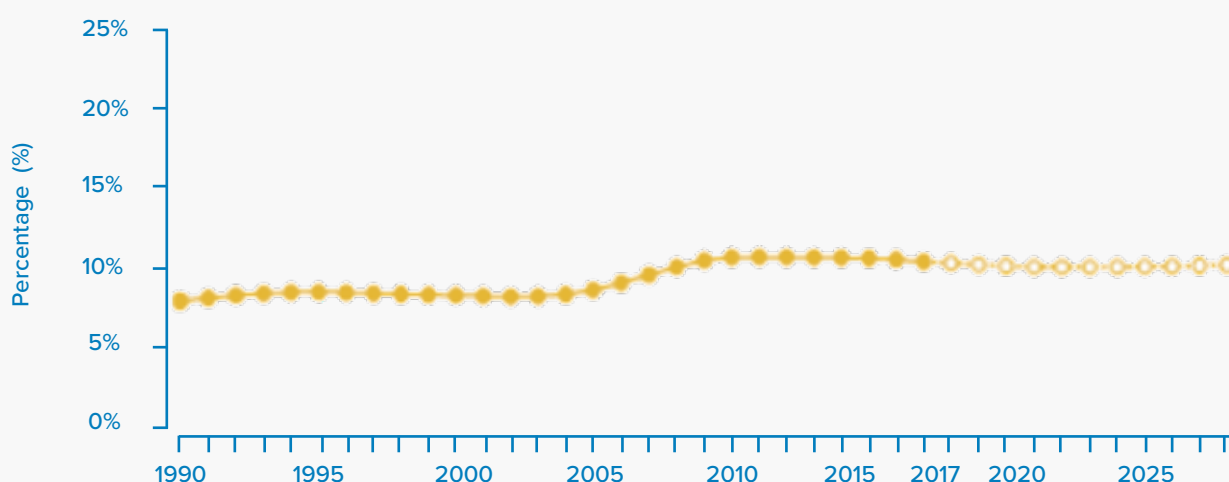
Source: IHME, 2019 *(17)*.

2.1.2   Maternal, infant and child health (SDG 3.1, 3.2 and 3.7)

Maternal, infant and child health are governmental priorities and receive attention from high-level governmental bodies. Despite improved maternal and child health services, neonatal disorders are still the second most common cause of premature death. It is, therefore, critical that infant, child and maternal care is strengthened further so that the mortality rates can be reduced. Currently, the maternal mortality ratio is reported by the Ministry of Health as 32 per 100 000 live births.

The use of modern contraceptives among married women aged 15–49 years was reported as 29.3% in the DHS 2017 *(18)*, largely unchanged since 2012 when it was reported as 27.1%. This is a relatively low compared with some neighbouring countries such as Georgia (40%), Kazakhstan (50%), Kyrgyzstan (40%) and Turkmenistan (48%) *(18)*.

World Bank data show a rising trend in the adolescent fertility rate (Fig. 7) *(22)*. Possible reasons could be family pressure in rural areas for earlier marriage of girls, low availability of contraceptives or lack of sexual and reproductive education.

Fig. 7. Adolescent fertility rate, Tajikistan 2000–2017
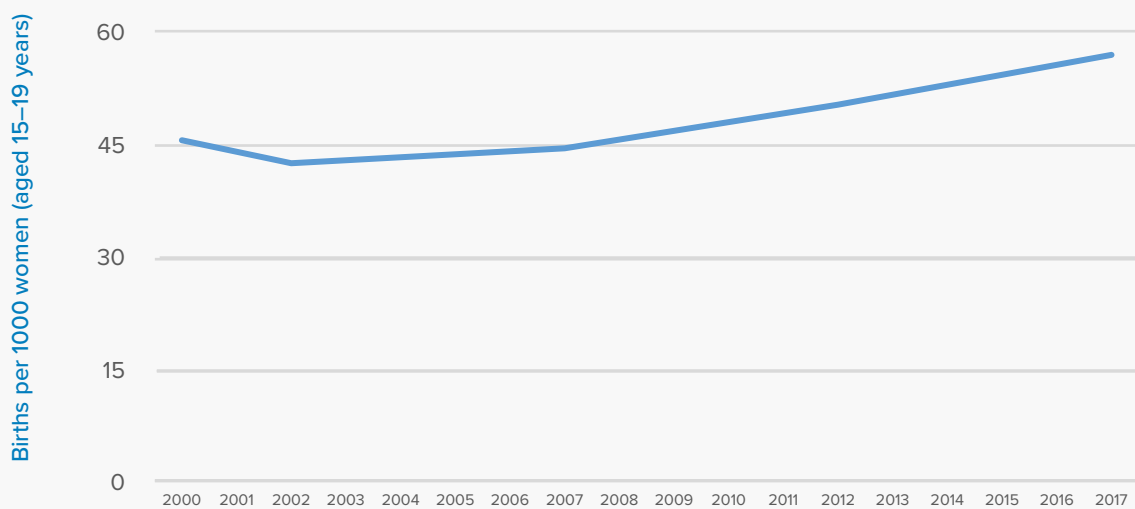
Source: World Bank, 2019 *(22)*.

Neonatal mortality rate was reported as 15 per 1000 live births in 2017, approaching the global target of 12 per 1000 live births set for this indicator (Fig. 8) *(17)*. Under-5 mortality rate is still high for both male and female (37 and 30, respectively, per 1000 live births), which is far above the global target of 25; however, trends and projections of data show that the target can be reached by 2030 provided that consistent national efforts with international support continue (Fig. 9) *(17)*.

Although the country has made significant progress with regard to infant mortality since 1990, when it was reported to be as high as 40.9 per 1000 live births (WHO data, while the UNICEF estimate from household surveys was 83), it was still far behind the WHO European Region average of 8.8 in 2015. However, considering the current trends and projections for the next 10 years, this goal is also achievable with consistent efforts.

Fig. 8. Neonatal mortality rate, Tajikistan 1990–2017 and projection to 2030
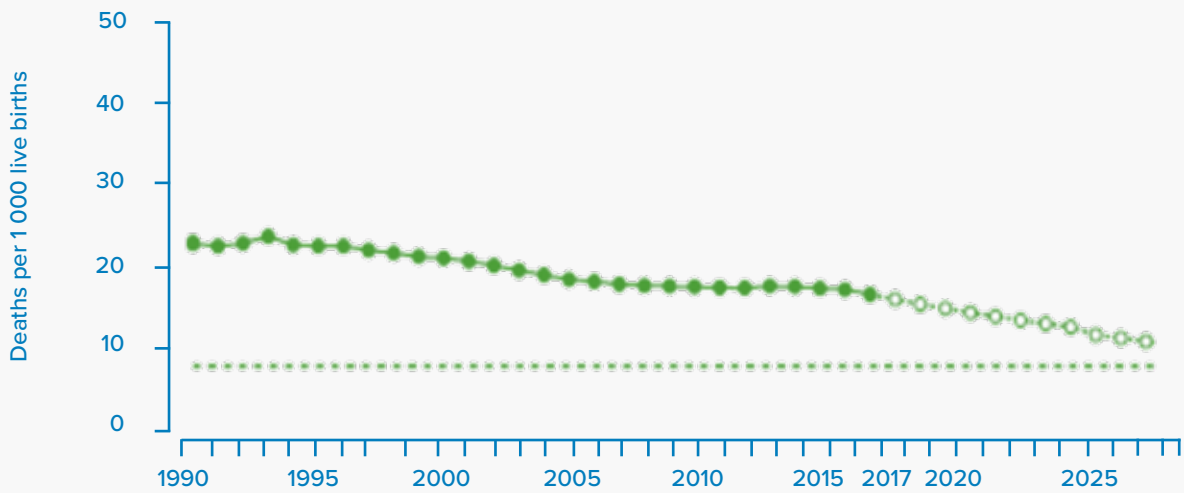
Note: horizontal line indicates the target of ≥12 deaths per 1000 live births.
Source: IHME, 2019 *(17)*.

Fig. 9. Under-5 mortality rate, Tajikistan 1990–2017 and projection to 2030
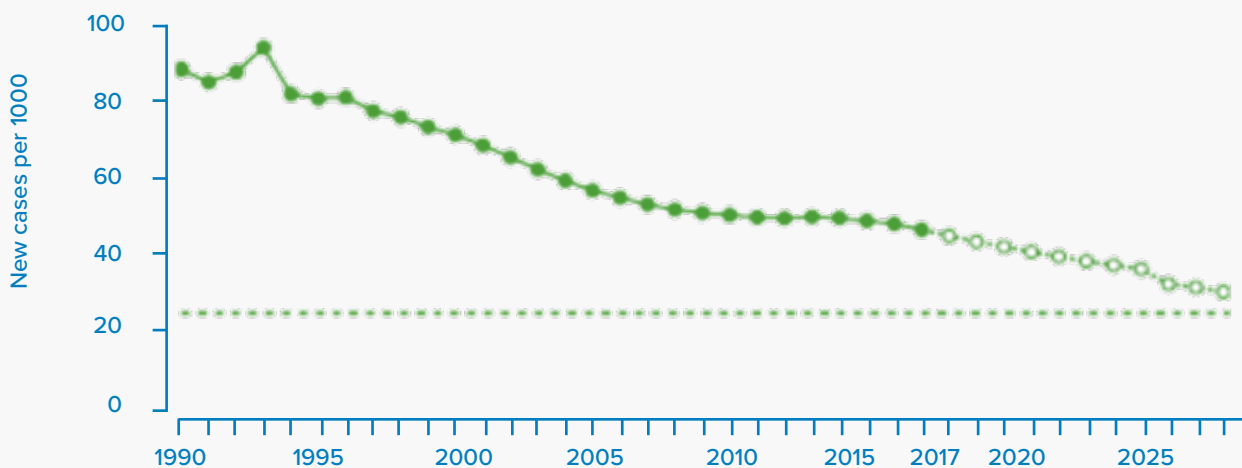
Note: horizontal line indicates the target of 0.005 new cases per 1000.
Source: IHME, 2019 *(17)*.

Table 3. Improvement in under-5 mortality from 1990 to 2017

Age groups	1990	2017
Sex-specific under-5 mortality (male/female, per 1000 live births)	112/97	37/30
Infant mortality (per 1000 live births)	83	29
Infant deaths	17 000	7000
Neonatal mortality (per 1000 live births)	32	15
Neonatal deaths (thousands)	7000	4000

Source: UNICEF, 2018 *(16)*.

2.1.3 Communicable diseases (SDG 3.3)

Efforts to combat HIV/AIDS, multidrug-resistant TB and hepatitis B remain areas of highest concern and focus for the Government, as reflected in the fact that Tajikistan is one of the countries piloting intersectoral approaches for HIV, TB and viral hepatitis. Since 2010, new HIV infections have increased by 23% (Fig. 10) while AIDS-related deaths have decreased by 5% *(17)*.

Fig. 10. HIV incidence rate, Tajikistan, 1990–2017 and projection to 2030
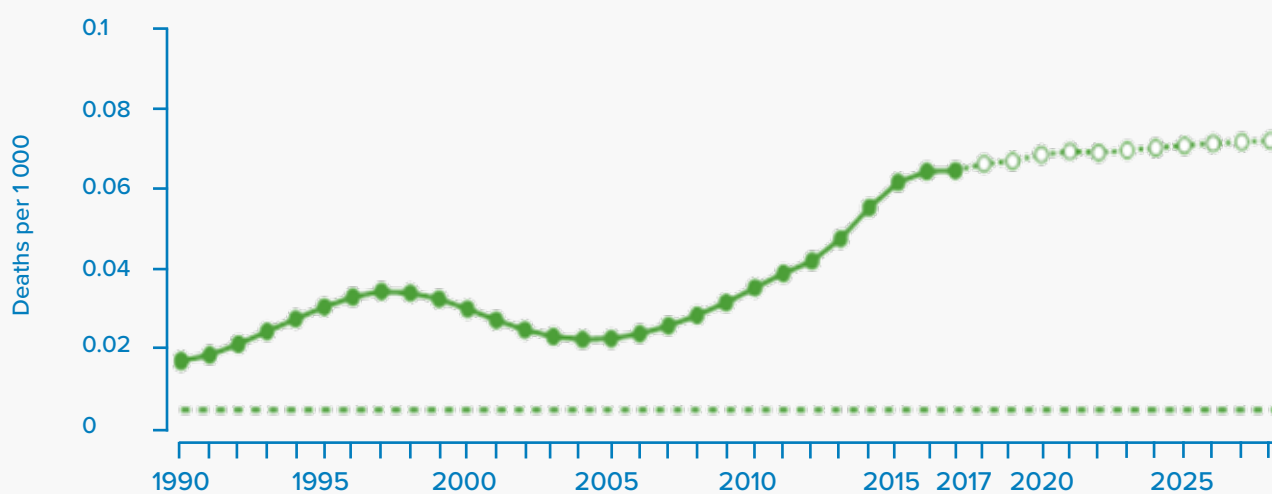
Note: horizontal line indicates the target of 0.005 new cases per 1000.
*Source*: IHME, 2019 *(17)*.

Certain groups within the populations are particularly affected by HIV in Tajikistan:

◆ **sex workers, with an HIV prevalence of 3.5%;**

◆ **homosexual men and other men who have sex with men, with an HIV prevalence of 2.7%; and**

◆ **people who inject drugs, with an HIV prevalence of 13.5%.**

In 2016, Tajikistan had 1300 (<1000–2100) new HIV infections and less than 1000 (<500–1000) AIDS-related deaths *(23)*. There were 14 000 (10 000–19 000) people living with HIV in 2016, among whom only 30% (23–42%) were accessing antiretroviral therapy. Among pregnant women living with HIV, 85% (68–95%) were accessing treatment or prophylaxis to prevent transmission of HIV to their children. Fewer than 100 children were newly infected with HIV through mother-to-child transmission in 2016.

Among people living with HIV, approximately 22% (16–30%) had suppressed viral loads through use of treatment *(23)*. As part of its response to HIV, Tajikistan is planning to increase the coverage of harm reduction services and to increase the percentage of those living with HIV who are receiving treatment. Antiretroviral therapy protocols will be updated to align with WHO's test and treat strategy.

Viral hepatitis is a serious public health concern with data collected on hepatitis B incidence (Fig. 11); however, other hepatitis viruses (A, C, D and E) are also important to monitor and control. Tajikistan is currently designing a roadmap for the elimination of viral hepatitis, with support from WHO. This work is expected to accelerate progress under indicator 3.3.4. Environmental interventions such those related to water and sanitation are expected to have a positive impact as will enhanced efforts for prevention of substance abuse (intravenous drug use).

Fig. 11. Hepatitis B incidence rate, Tajikistan 1990–2017 and projection to 2030
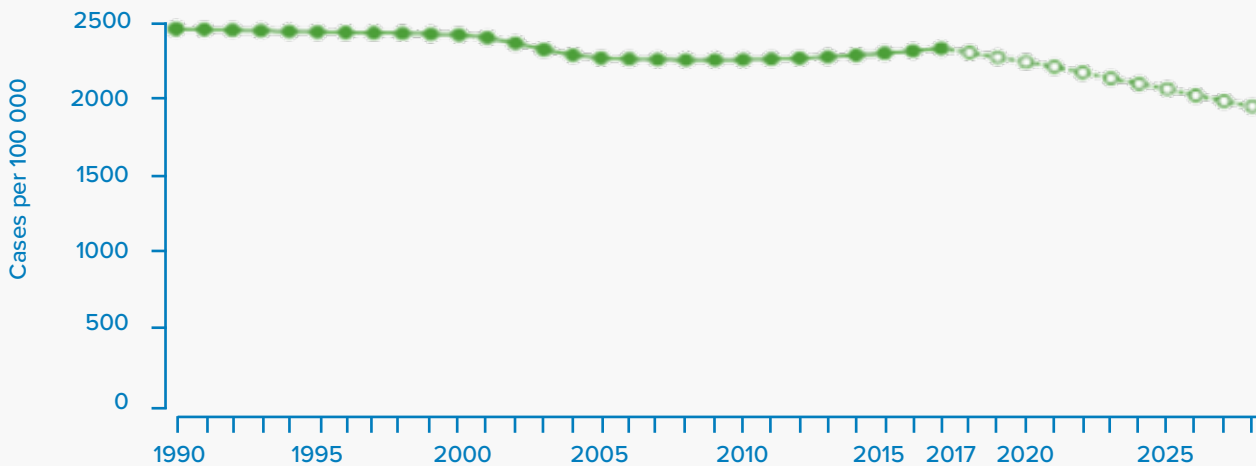
Source: IHME, 2019 *(17)*.

According to IHME data, TB incidence has been declining (Fig. 12): 137.4 per 100 000 in 2004 to 107.7 in 2017 *(17)*. Tajikistan is one of the 10 countries worldwide with the highest burden of multidrug-resistant TB; all, apart from Somalia, are within the WHO European Region (Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Ukraine and Uzbekistan) *(24)*. Labour migration is an important factor driving the spread of TB in the country. The Ministry of Health has been working with the Global Fund, Project Hope, USAID, WHO and other partners to integrate TB into PHC and has introduced the TB strategy recommended by WHO (Directly Observed Treatment Short Course). The draft assessment of NHS 2020 quoted TB morbidity and mortality rates of 78.5 and 6.2 per 100 000, respectively, in 2010 based on data collected by the Health Management Information Centre. Both indicators had been reduced by about one third by 2017, to 59.2 (half-year data) and 4.0, respectively (data from the Medical Statistical Agency of the Ministry of Health) (Fig. 12). This reduction may reflect an increase in the number of people at risk of TB being examined in PHC facilities (from 77% in 2010 to 87.3% in 2017).

Fig. 12. Tuberculosis incidence, Tajikistan 1990–2017 and projection to 2030
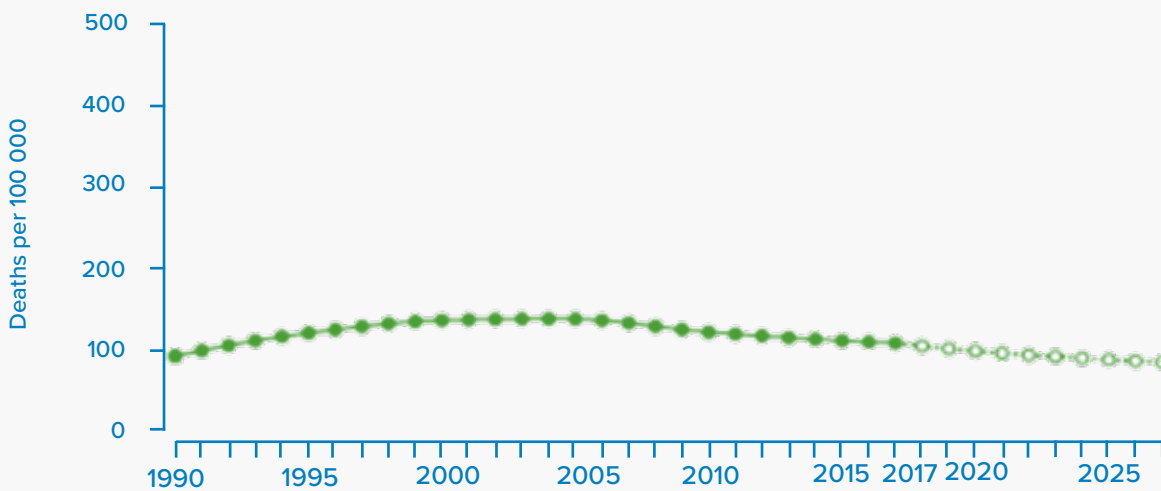
Source: IHME, 2019 *(17)*.

Tajikistan has been one of the countries in the WHO European Region most affected by malaria, with close to 30 000 cases reported in 1997. It was also the only country in the Region with a resurgence of *Plasmodium falciparum* malaria. By 2009, *P. falciparum* was eliminated and Tajikistan achieved the global goal for malaria elimination *(25)*. In 2017, Tajikistan reported three consecutive years of zero indigenous cases *(26)*. Achieving this goal is a remarkable achievement considering that Tajikistan has a border that *is* over

1300 km in length with Afghanistan where there are still cases of malaria. The high receptivity (presence of local vectors and environmental and climatic conditions favourable for malaria transmission) of the southern part of Tajikistan means that even limited importation of malaria could lead to reactivation. In 2017 Tajikistan signed the Ashgabat Statement on Preventing Resurgence of Malaria in the WHO European Region *(27)* and is aiming at the certification of malaria elimination. Tajikistan has sent the official request to WHO asking to support preparations for this certification.

Tajikistan has not been systematically collecting data on the neglected tropical diseases; however, data from the health system suggest that worm infestations are high, mostly among children and in rural areas. Soil-transmitted helminthiasis was a significant public health problem, with a reported prevalence of 74.3% and 54.2% in 2004 and 2010, respectively. The most recent prevalence survey (2016) included districts from all ecological zones and indicated a range of 0–20.9% for all species (which includes *Hymenolepis nana* (dwarf tapeworm) and *Enterobius vermicularis* (pinworm), which are of national importance), with a range of 0–14.9% for *Ascaris lumbricoides* (large roundworm) and 0–4.5% for *Trichuris trichuria* (whipworm). Some urbanized areas, including the national capital, report 10% prevalence of soil-transmitted helminthiasis.

Leishmaniasis is also regularly reported in Tajikistan. Diagnosis and treatment capacities have significantly improved and the incidence of both cutaneous and visceral leishmaniasis has been reduced (Fig. 13) *(28,29)*.

## Fig. 13. Incidence of leishmaniasis and number of new cases, Tajikistan 1998–2016
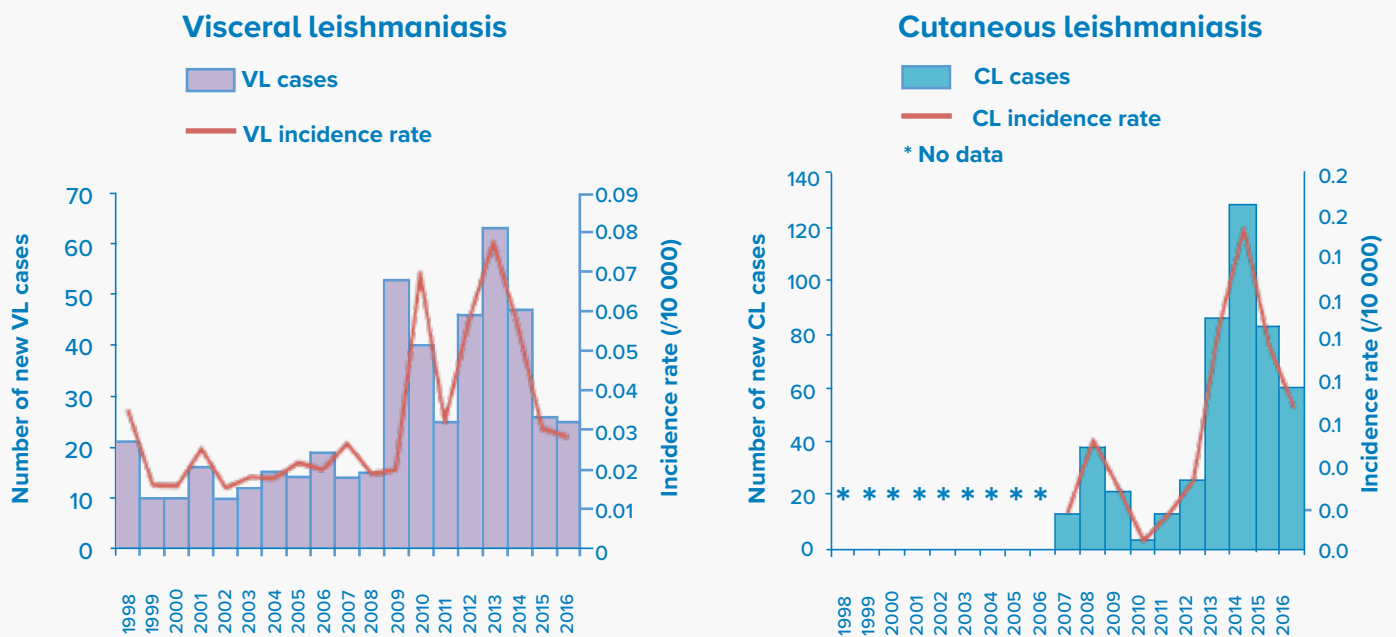
Notes: CL: cutaneous leishmaniasis; VL: visceral leishmaniasis.
Source: WHO, 2018 *(28)*.

2.1.4 NCDs (SDG 3.4)

With demographic and lifestyle changes and urbanization, NCDs are increasing in Tajikistan, in particular cardiovascular diseases, which are responsible for over half of the deaths in the country *(30)*. The impact of specific NCDs on mortality has not changed considerably over a 10-year period (2007 to 2017) although diabetes had in 2017 entered into the group of top 10 causes of premature mortality (Fig. 14).

Fig. 14. Top 10 causes of death all causes, all ages, Tajikistan 2007 and 2017

● Communicable, maternal, neonatal and nutritional diseases
● NCDs
● Injuries

2007 ranking	2017 ranking	% change 2007 - 2017
Lower respiratory infect ①	① Lower respiratory infect	**10.8%**
Neontal disorders ②	② Neontal disorders	**15.7%**
Ischaemic heart disease ③	③ Ischaemic heart disease	**44.4%**
Diarrheal diseases ④	④ Diarrheal diseases	**19.2%**
Stroke ⑤	⑤ Congenital effects	**45.3%**
Congenital effects ⑥	⑥ Stroke	**23.4%**
Drowning ⑦	⑦ Cirrhosis	**27.5%**
Cirrhosis ⑧	⑧ Drowning	**−0.9%**
Tuberculosis ⑨	⑨ Diabetes	**111.7%**
Meningitis ⑩	⑩ Tuberculosis	**−8.1%**
Diabetes ⑯	⑱ Meningitis	**−34.1%**

Source: IHME, 2019 *(31)*.

Tajikistan has indicator targets for the NCDs (Table 4).

Table 4. Indicator area A-3 related to NCDs with baseline, current and target values

Indicator	Rate per 100 000 population		
	Baseline 2010	**Data 2017**	**Target 2020**
A-3.1. Coronary heart disease mortality	212.4	243.8 (2016)	160.0
A-3.2. Diabetes morbidity (primary)	58.4	56.4	88.9
A-3.3. Malignant tumours morbidity	38.2	35.0	52.0
A-3.4. Injuries mortality	2.9	22.5 (2016)	3.5

Source: data supplied by the Statistic Agency under Presidential Office, 2020.

Data are not readily available on the prevalence of mental health disorders, although the death rate from self-harm is reported to be as high as 6 per 100 000, with more young people and young women committing suicide (Fig. 15). However, currently this is not an area receiving the public health attention and it is still to be considered for inclusion in the list of priorities within National Programme 2021–2030, which is currently under development, including research and data generation on the mental health risk factors in the country.

Fig. 15. Mortality rate for self-harm, Tajikistan 1990–2017 and projection to 2030
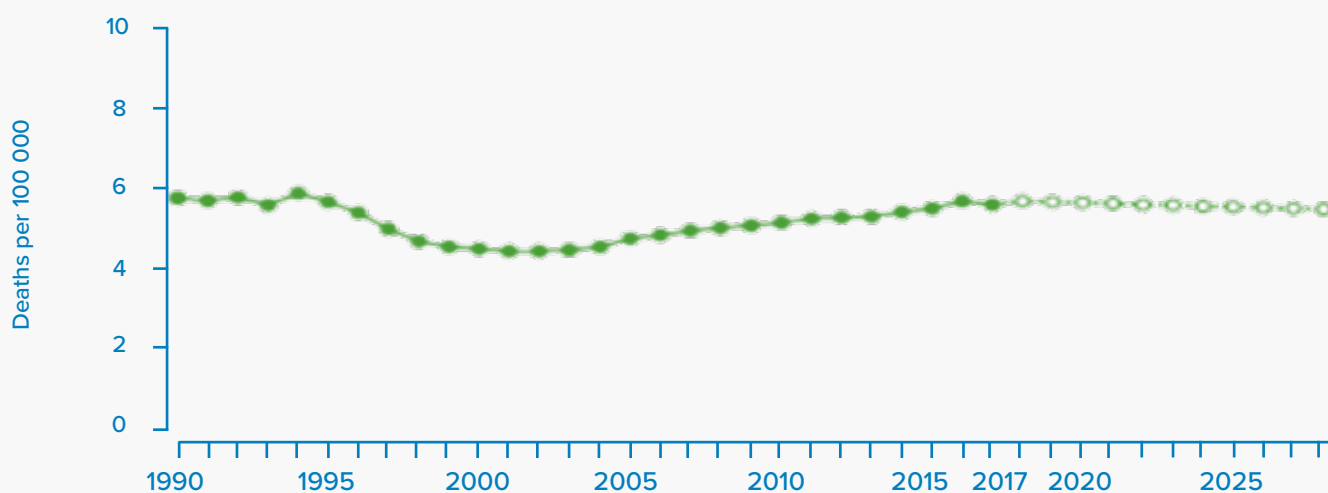
Source: IHME, 2019 *(17)*.

2.1.5 Prevention and treatment of substance abuse (SDG 3.5)

Although prevention of substance abuse is not a major focus within NHS 2020, and data are mostly restricted to those generated within the health services, some special services do exist in the bigger cities (e.g. Dushanbe) and awareness programmes are conducted in the schools. UNODC has a programme on prevention of substance abuse in young people in central Asia including Tajikistan. It includes school-based activities, and out of school activities in youth and sport centres (Box 3).

Box 3. UNODC interventions in central Asia for drug prevention

The core intervention promoted by UNODC in the field of drug use prevention in central Asia is family skills training. UNODC has selected the Families and School Together (FAST) programme for implementation for its adaptability and suitability for the region. FAST is an after-school multifamily programme offered for eight weeks to all children within the first grade (6–7 years of age) and their families. The multisystemic intervention brings together family, home, school and community to increase child well-being by strengthening relationships and factors that protect against stress.

Since 2010, five central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan,) have benefited from piloting the FAST programme, which has been culturally adapted and successfully piloted in 35 schools in the Region during three implementation cycles. Training has been provided for 305 national facilitators on FAST implementation and 12 of these have been trained as national supervisors for programme implementation and scaling-up. Overall, 762 families have benefited from the programme.

UNODC has started to implement another evidence-based family skills training programme for children aged 10–14 years in central Asia using the established infrastructure of the FAST programme (Strengthening the Family Programme 10-14 (SFP10-14)).
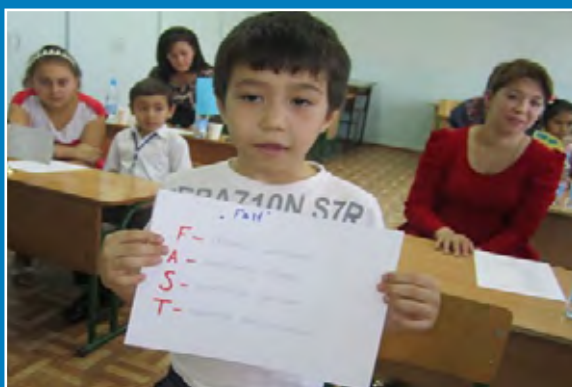
SFP10-14 is a seven-session programme focusing on reducing family-related risk factors for adolescent problem behaviours and on building protective factors among adolescent children (10–14 years) and their parents/caregivers with involvement of community members. SFP10-14 has been evaluated many times by independent researchers in randomized control trials or health services research with very positive results in reducing substance abuse and delinquency risk factors by improving family relationships.

Source: UNODC, 2018 *(32)*.

Alcohol consumption in Tajikistan is significantly lower than the average for the WHO European Region (7.9 litres), with 4.0 litres of pure alcohol per capita (all aged 15 years and over) in 2016 *(33)*. However, this is an increase from 2010, when the consumption was 2.4 litres and could be an underestimation because of the wide availability of alcohol in the country and local alcohol production (Tajikistan unpublished policy note 2019).

2.1.6   Deaths and injuries from road traffic accidents (SDG 3.6)

In terms of road traffic injuries, WHO reports 18.1 deaths per 100 000 in 2016 *(19)*, which is one of the highest compared to 9.3 per 100 000 as an average for the WHO European Region, It is important to note however, that initial disaggregated data show a much higher rate of traffic accidents in some of the urban regions, requiring future effective interventions on road safety.

2.1.7   Universal health coverage (SDG 3.8)

Coverage with free essential health services was reported as 20.7% in a progress assessment of NHS 2020 conducted in 2019 (Tajikistan unpublished policy note and technical report, 2019). This is in addition to some services being provided on a fee-for-service basis, including those provided under the Decree No. 600 "on the procedure for the provision of health services to citizens of the Republic of Tajikistan by institutions of the state health system" in 2008. Coverage is thought to be much higher if it includes access to affordable essential health services, not just free of charge ones, but this is still not universal health coverage (UHC).

Tajikistan has good vaccination coverage, including for measles and poliomyelitis (Fig. 16).

Road in Dushanbe
© Yasmin Brandrup-Versi

Fig. 16. Percentage of children vaccinated against measles and poliomyelitis, Tajikistan 1980–2016
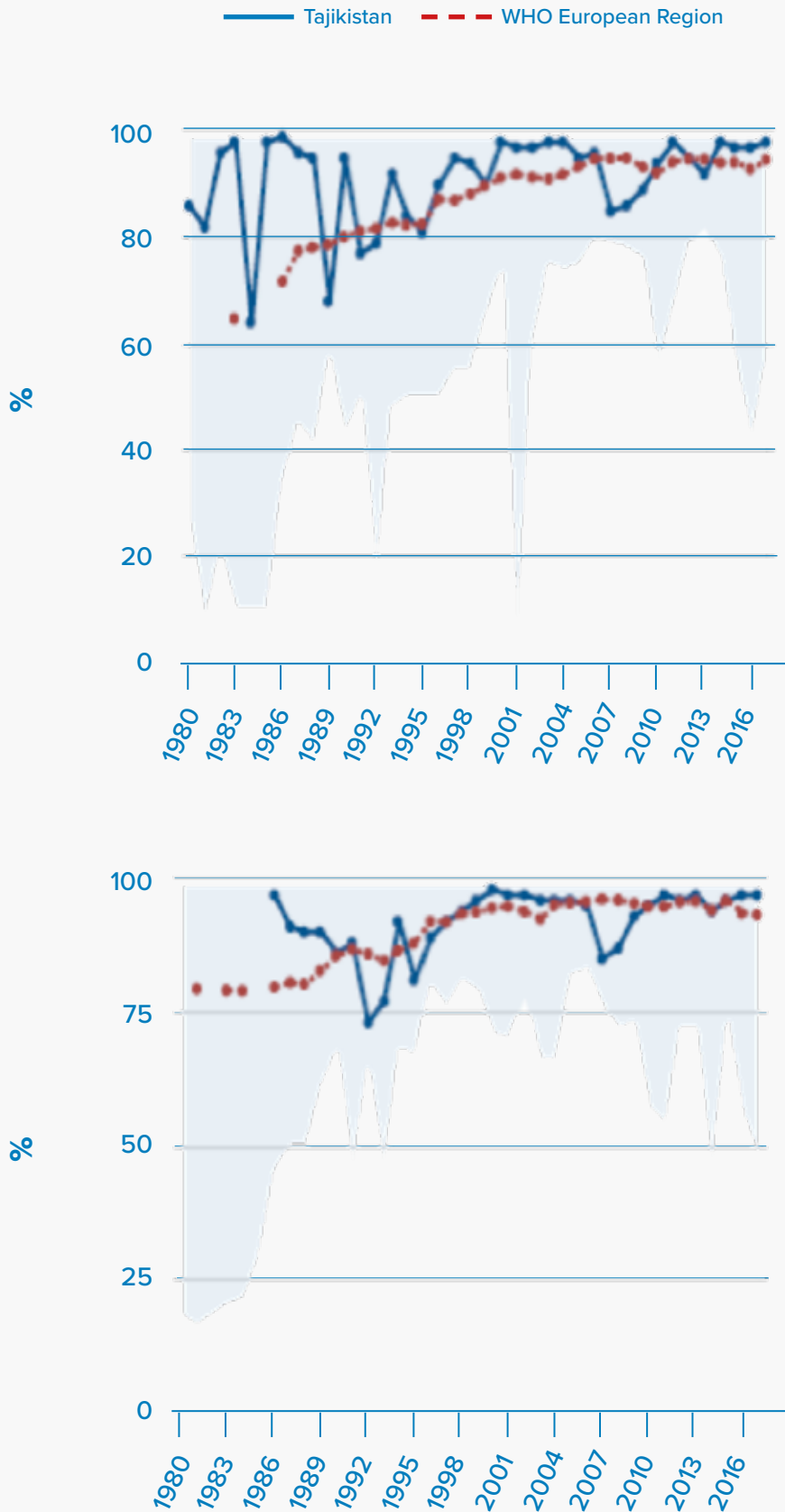
Source: World Bank, 2019 (*34,35*).

3. Key priorities in Tajikistan to improve health and well-being for all at all ages

3.1 Health governance

The government of the country, including the Ministry of Health, central and local executive bodies of state power, have the following functions to ensure stewardship and evidence-informed decision-making regarding health of the nation:

◆ **develop fundamental values, guidelines and state policy in the field of public health;**

◆ **modernize legislation and regulatory framework and supervision of their implementation;**

◆ **form intersectoral and interinstitutional partnerships to improve living standards in the country;**

◆ **strengthen focus on international best practices; and**

◆ **coordinate international assistance and technical cooperation.**

The upcoming National Programme 2021–2030 seeks to deepen this process by focusing on key aspects of health and social sector management and implementing short- and long-term actions. Initiation of NHS 2020 was an important milestone in the development of the country's health-care system. This first comprehensive strategy ensured strategic coherence and promoted integration of health across all sectors and policy areas. During this implementation process, overall health system stewardship function and overall management of the system were improved, leading to:

◆ **significant improvement in the general state of public health and modernization of the national health system for sustainable development of human capital in the country;**

◆ **creation of an effective system of interaction and management of the reform process; and**

◆ **significant improvement in intersectoral cooperation between ministries and state bodies, at the republican and regional and district levels.**

In 2013, the Ministry of Health of the Republic of Tajikistan was restructured into the Ministry of Health and Social Protection of the Population of the Republic of Tajikistan, which provided a special "window of opportunity" for integrating service provision. For effective implementation of this merger, more than 400 new sectoral regulatory legal acts of republican, regional and district significance were developed, revised and approved.

3.1.1 Challenges within health governance

Some issues related to the improvement of the health-care system are unresolved and new challenges have arisen during recent years (as reported in the unpublished 2018 assessment of NHS 2020 implementation).

◆ The health management model at district level is imperfect and ineffective. In 2012, district and city departments/health sectors were abolished. As an interim solution, it was decided to empower the heads of the hospital service to report on the entire health sector at district and city levels. However, this has proved to be extremely inefficient.

◆ The integration of health and social protection services is not yet complete. Given the expanded functions of the Ministry of Health to include social welfare, this has created a very difficult task for the urgent integration of activities within the health and social protection services. This again is an issue that will require additional funding.

◆ Health management functions are not always supported by appropriate information. Limited use of evidence and low recognition of contextual impacts lead to inefficient use of resources and poor decision-making. In particular, these impact the rational use of resources within regional and district health systems and complicate monitoring and evaluation of the implementation of a health strategy. Indicators do not always correspond to the real situation.

◆ Health information systems currently contain aggregated information at regional and district levels and from health-care institutions. The data cover the state of public health, the activities of health-care institutions, information on national health accounts, and information on revenues and expenses of health-care institutions. This information is very important for the operational management of the health-care system and the assessment of the performance of health-care facilities; however, it does not contain personalized patient data, which limits its use.

◆ Problems in intersectoral coordination remain key. Vertical tools and plans have been adopted as tools of NHS 2020. However, they have not yet reached full integration and coherence. The relationship between the health strategy and other sectoral strategies is still not well defined and needs to be improved. By ensuring coherence between comprehensive development strategies, health policies and other sectoral policies, strategies and plans, a country can also directly contribute to the achievement of SDG 17.14, which calls for greater policy coherence for sustainable development and to encourage industries to work towards SDG implementation. The long-term issues of coordinating strategic documents among institutions within different departments, and existing disagreements during the implementation of individual projects, slow down the reform process.

◆ Low efficiency and poor coordination in managing external resources and foreign investment reduces the effectiveness of the funds raised in achieving the main goal.

3.2   Health financing

A sound health-care financing model is the core of any health-care system. It defines the public vision for resource mobilization and polling, purchasing and reimbursement. Administrative inefficiencies and major regional and district disparities in health allocations are primarily caused by fragmentation in public sources of financing. NHS 2020 addressed these problems in two stages: first, by pooling public finances from different sources under a single management at regional level (institutionalized establishment of the health insurance fund) for piloting financing mechanisms and, second, by incorporating these mechanisms into a unified state medical insurance structure.

Increasing the share of Government financing used for health is a critical reform area. Public spending on health is currently low compared with other Member States in the WHO European Region, both in relative terms as a percentage of GDP and in absolute terms per capita (US dollars, purchasing power parity). The limited allocation of public resources to the health sector is reflected in low salaries of health workers in the public sector and high out-of-pocket (OOP) payments for health care. Monthly salaries of health personnel are low (US$ 85–125 for PHC doctors and US$ 62–84 for nurses). Spending on medicines accounts for 37% of OOP payments with the remainder being spent on consultations and laboratory tests. The practice of informal payments is reported at all levels. Reliance on informal payments to supplement salaries may – at least in part – explain the lack of an evidence-informed basis for treatment and prescribing practices.

The private sector has grown rapidly in recent years. While informal payments may be less likely in the private sector, this trend is causing widening inequities and likely supplier-induced demand.

The proposed National Programme 2021–2030 considers the reform of the existing health financing system as an essential step toward improving the efficiency of health service delivery and addressing the issues of equity, access and affordability of PHC and other essential health and social care services for the population.

Standalone financing interventions that increase efficiency or modify benefits packages separately from complementary supply-side interventions are unlikely to achieve the desired result. Rationalization of the hospitals sector will significantly improve the effect of public spending on hospital care.

Steady economic growth in Tajikistan has led to a significant increase in Government spending for health care. In 2019, spending grew to 1.7 billion somoni, which is four times more than in 2010 (404 million somoni). In 2017, overall public health spending was 2.3% of GDP compared with 1.7% in 2010. Despite a steady increase, public health expenditure as a share of GDP and as per capita health spending is among the lowest in the Region, leaving a significant amount to be covered by OOP payments. Household expenditure for health accounts for more than 60% of total spending, which indicates the high risk of impoverishment through health-care related costs *(36)*.

Within the framework of NHS 2020, the Government began to implement systemic changes in health financing. For the rational use of public resources and to improve efficiency in the administration of the health financing system, the Strategic Plan for Further Reforming of Healthcare Financing in the Republic of Tajikistan for the Period 2015–2018 and the Strategic Plan for Reforming Healthcare Financing in the Republic of Tajikistan for the Period 2019–2021 were developed and approved.

3.2.1 Achievements within health financing

Within the framework of these reforms, the following achievements are notable.

◆ Introduction of per capita financing for PHC, which allowed equitable distribution of financial resources at the PHC level. In addition, a pilot of performance-based financing mechanism carried out with the support of the World Bank has established an efficient model to improve performance of health-care facilities;

◆ The State-guaranteed Basic Benefit Package (BBP) programme has been developed. This was intended to enhance equity by focusing on those most in need and on allocative efficiency by targeting public funding to cost-efficient interventions (Decree No. 237 from 2 July 2005). Currently, the BBP covers more than 21% of the population. In addition, a Government Decree (No. 600) in 2008 defined the types of health-care services provided free of charge or on a fee-for-service basis in State inpatient facilities.

◆ In order to mobilize and pool domestic resources, which is key for progress towards UHC, the Parliament of the Republic of Tajikistan in 2009 amended the 2005 Law on health insurance (No. 504), which planned for creation of the mandatory Health Insurance Fund to act as a single payer in the country's health-care system. Parliament has postponed the introduction of the law until 2022.

◆ A system of national health accounts was introduced in 2009, which allows improved tracking of resources for health for decision- and policy-making purposes.

3.2.2 Challenges within health financing

◆ Despite the steady increase in Government spending on health and social protection, there is still a low level of public health expenditure and this is one of the main obstacles and the main risk for successful implementation of the National Programme 2021–2030. Per capita Government spending on health in 2019 did not exceed 29% of total health expenditure *(37)*, which is one of the lowest figures in the Region.

◆ The existing revenue collection model is fragmented and does not allow pooling of funds at regional or national level. There are also no mechanisms in place to pool public and private resources and, thus, improve financial risk protection. High informal payments deter individuals from seeking essential health-care services. The introduction of per capita and performance-based financing of PHC services at district level has contributed towards improved pooling of resources; however, these mechanisms are not sufficient to compensate for existing subnational inequities. The Law on Health Insurance (No. 504), which has been adopted but not yet implemented, will allow increased pooling of private sources of financing.

◆ An outdated and extremely inefficient form of so-called passive financing is maintained based on historical budgets. This is based on inputs such as the number of hospital beds and staff.

◆ The infrastructure for delivery of medical services is outdated and underutilized, with many old dilapidated buildings with poor water and electricity supplies inherited from the Soviet era. Despite approval in a hospital rationalization plan, the hospital provider network has not been downsized and a more pro-active policy for this is needed.

◆ The design of the BBP is not optimized in that the package is not universally available and does not respond to the basic health-care needs of the population. Substantial efforts are needed to optimize the BBP and tariffs and ensure universal access to basic services. Special efforts are crucial to ensure full public awareness of the state guarantees in public health care.

◆ There is poor public finance management at national and subnational level and better leadership and management in this area is key to support reforms in both health financing and health purchasing. Attention must be paid to the entire management system, including management skills, accountability and coordination mechanisms between the relevant ministries and departments at different levels of government.

3.3 Human resources for health

The provision of health services depends on the availability of an informed, qualified and motivated health workforce. Planning and training of this workforce, particularly medical personnel, is a long-term process and will affect the availability and quality of medical services for the population. WHO has defined health workers as "all people engaged in activities whose primary purpose is to enhance health" *(38)*. This extends from the definition of the health system as comprising activities whose primary goal is to improve health. Consequently, it includes clinical staff (e.g. physicians, nurses, pharmacists and dentists), support staff (e.g. ambulance drivers) and management staff (e.g. administrative staff or accountants). The personnel involved in the training and education of health professionals and medical science workers are also an integral part of this grouping.

Meeting the health system's objectives, particularly with regard to accessibility, equity, quality and efficiency of the system, requires sufficient staff to deliver these services. Creation of a system for strategic planning of the health workforce is key to achieving these objectives. The system should ensure effective public/state stewardship of the health labour market, allow implementation of a unified policy to improve health of the public and ensure sustainable development of the health-care system. This approach implies a systematic approach to planning of (i) training for the health workforce; (ii) creating *adequate conditions* for employment; (iii) creating conditions for continuous improvement of quality, the provision of postgraduate education and continuous professional development; and (iv) increasing the potential for scientific activity in medicine. Creating an integrated model for training, building up clinical skills and developing medical science are some of the main aims within the upcoming National Programme 2021–2030.

Health care is one of the leading sectors for employment in Tajikistan. Of those in formal employment, 116 100 (10%) are employed in health care *(39)*.

Data collected to support development of the National Programme 2021–2030 indicate that the numbers of doctors and professionally trained nurses have increased by 34.5% and the numbers of mid-level health providers (e.g. midwives and *feldshers*) have increased by 70.1% since the mid-2000s. In 2018, there were 18 716 practising general clinicians and 51 788 specialists. The density of medical personnel per 10 000 population had also increased by 12.2% for doctors and 41.8% for nurses. There were 20.9 medical doctors per 10 000 population in 2018 (data from the Ministry of Health).

Despite the overall increases in the numbers of health personnel, there are significant inequalities in terms of geographical distribution. The highest density is observed in

Dushanbe, where there are 8.25 doctors per 1000 population, whereas there are only 1.15 doctors per 1000 in Khatlon Oblast. There are still vacant positions in the country and there are insufficient numbers of clinicians in some specialties. This includes family physicians; paediatricians, particularly neonatologists; psychiatrist–narcologists and infectious disease specialists.

Migration of medical personnel is one of the leading causes of the shortages observed *(40)*, although the current data collection system does not collect the data to analyse this challenge.

Over 50% of all doctors are between 25 and 45 years of age and 50% of nurses and other professionally trained personnel are younger than 34 years. Overall, 40% of health professionals are women but this percentage goes up to 84% if medical doctors are excluded and only nurses and other professionally trained personnel such as midwives and laboratory technicians are considered.

The average monthly salary for medical personnel is 831.13 somoni (US$ 83). This is 30% lower than the average salary in the country for all sectors (1233.82 somoni). There are also significant pay inequalities among medical personnel.

Medical education is delivered by public and private medical schools. The number of medical schools has increased since 2010, as well as the number of students and graduates. There is a growing demand for medical education in the country and all available places are filled.

Continuous medical education is currently being piloted for family doctors in the city of Tursunzade. This pilot is for implementation of regulations for continuous medical education; 101 doctors and 100 nurses are already participating in the process. Positive results from this pilot will become the foundation for the gradual rollout of the programme nationwide.

A new health-care system also requires well-trained health-care managers. There are currently two programmes in health-care management: a two-year programme for the qualification of health systems manager (59 graduates in 2018) and a one-year training programme for PHC doctors, which was developed in 2015. The one-year programme consists of 10 modules and provides in-depth practical training in health-care management.

Health research has also progressed since the late 2000s. Despite an overall lack of scientific personnel, outdated infrastructure and limited funding, stand-alone research institutions, as well as research departments within medical schools and hospitals, are engaged in ongoing national and international projects. The Medical Science Academy under the Ministry of Health oversees research activities in health-care facilities, including development of human resources. The Academy consists of 20 research institutes and three territorial groupings. Staff members are involved in original research that is publicly funded and there are dissertation boards in 17 specialties for researchers to pursue doctoral degrees (see section 4.5). Currently, Tajikistan has dissertation boards in 17 specialties, which allows researchers to pursue doctoral degrees.

3.3.1 Challenges within human resources for health

The following challenges are observed with respect to the health workforce.

- ◆ Availability of medical personnel:

  - ❖ no system of strategic planning for human resources, nor a register of medical workers, to allow emerging needs (e.g. transition to UHC, achievement of SDGs and demographic and epidemiological changes) to be considered when planning for future health workforce needs;

  - ❖ lack of information impedes the adoption of informed decisions regarding development and training for medical staff;

  - ❖ a general shortage of medical personnel as well as within certain specialties in spite of increases in the total number of medical educational institutions and the number of graduates;

  - ❖ shortage of medical personnel exacerbated by extensive migration of qualified personnel to professional or nonprofessional employment abroad;

  - ❖ geographical inequalities in the distribution of medical personnel, resulting in an imbalance in the availability of medical services by region, caused by a lack of personnel, population growth and migration within the country; and

  - ❖ unfavourable working conditions, such as low salaries and poor infrastructure, making the health professions unattractive.

- ◆ Health workforce education:

  - ❖ poor state of educational institutions, outdated educational and training materials and technical support;

  - ❖ lack of academic degrees amongst faculty members and low level of professional training negatively affecting the quality of their education;

  - ❖ existing clinics inadequately utilized to provide clinical training opportunities for students and lack of any university clinic; and

  - ❖ lack of a system of continuing professional education at the national level negatively affecting the sustainability of knowledge and the development of medical personnel.

- ◆ Health science:

  - ❖ obsolete materials and technology in scientific institutions and a lack of investment funds for updating;

  - ❖ lack of funding for research/research grants; and

  - ❖ limited private interest in medical research.

3.4 Strengthening neonatal, child and maternal care

With a young and growing population, Tajikistan puts special emphasis on ensuring the health of mothers and children. Core health indicators have been improving since the late 2000s, but significant improvements can still be made.

Maternal and child health-care services are particularly sensitive to failures of the health-care system. Outcomes for mothers and children are directly influenced by system-wide characteristics, such as degree of universality, inequalities and inequities; access to proper nutrition and social support; and inefficiencies in financial arrangements. All pregnant women have free access to PHC. In addition, the number of women delivering in the hospital or at home with skilled medical support has increased. In 2017, less than 6.6% of all births were at home and 77% of those were attended by skilled professionals compared with 12% in 2010.

Early childhood intervention is the ideal approach to improve the health of children and avoid preventable disabilities, which are particularly acute for Tajikistan. The high rate of congenital malformations is alarming. According to the Centre for Medical Statistics and Information of the Ministry of Health, 2000 to 3300 children are born with congenital malformations every year. The high number of these defects, their structure, and the high associated mortality indicate an acute need to examine potential causes within prenatal care or exposure to hazardous substances, and for perinatal diagnosis of possible genetic disorders. Nutritional deficits among pregnant women and newborn babies remain one of the leading causes of disability and complications.

Health service coverage is limited; the quality of services is not always in line with international standards and often has to be funded through OOP payments by the patient at the point of care. Specific examples include issues in antenatal care, transport of neonates to specialist units and case management of childhood conditions.

Antenatal care is jeopardized by a lack of equipment (e.g. urine analysis/test strips) and lack of knowledge and skills of PHC providers to detect and manage pre-eclampsia and other pregnancy complications.

Effective transport for sick neonates to a specialist team and equipment is critical to ensure maximum safety and efficiency in provision of their care. In Tajikistan, such transport often has to be organized privately by parents/family as there are insufficient numbers of emergency vehicles. Those vehicles that do exist and are used for neonatal transport are often not equipped properly and the transport team may not be trained for the purpose. No helicopters are available for emergency transport. With a significant proportion of deliveries still taking place at home, swift transport mechanisms in emergencies are particularly important to save lives.

Treatment for common childhood conditions is often not evidence informed or in line with international guidelines; it may include medication with unclear benefits, such as antimicrobial drugs without a good indication for their use, interferon therapy, intramuscular or intravenous vitamin injections or antihistamines for viral cough. Prescribed medications must be purchased in private pharmacies and paid for by the parent for children over 1 year of age. Such prescribing practices involving unnecessary medications contribute to the high share of OOP payments.

Access to sexual and reproductive health services for the general population, and in particular for adolescents and young people, is the foundation for a healthier population at all ages. Management of sexually transmitted infections needs to be improved, with lack of services at the PHC level leading to multiple referrals and fragmentation. In some districts, even first-level hospitals do not have the resources to manage sexually transmitted infections but have to refer patients further. Laboratories are private, and patients are required to pay for testing. Medicines for management are not covered, and prescribed treatments need to be purchased by the patient at a pharmacy.

Birth rates for adolescents are high in Tajikistan indicating a clear need for adolescent-friendly health services to cover sexual and reproductive health. The United Nations Convention on the Rights of the Child, signed by Tajikistan, clearly states that the best interests of the child and adolescent should be the primary consideration of the health-care provider. However, in Tajikistan, the age of consent is 18 years for accessing medical services at so-called adolescent friendly health-care centres (supported by UNICEF); health-care providers are not allowed to provide services to adolescents without parental consent. While in most cases parental involvement would be beneficial for the adolescent, in certain circumstances it can be detrimental to their health and well-being, particularly when concerning sexual and reproductive health. In fact, if a pregnant girl turns to a youth-friendly health centre for help, law enforcement will be called if she is younger than 16 years and her parents called if she is between 16 and 18 years. Furthermore, absence of a policy on sexuality education leaves adolescents with little support and few options for accessing information on sexual and reproductive health.

A comprehensive system of examination and surveillance for all types of illness in the population (so-called dispensarization visits) is mandatory and requires annual visits for all those up to 18 years of age. The purpose of these examinations is early recognitions of risks and respective referral. Mandatory premarital screening is carried out to identify risks of sexually transmitted infections, HIV/AIDS, TB and viral hepatitis, with the aim of supporting couples to receive treatment if necessary and to prevent possible transmission of HIV and other infections to a child.

3.4.1 Challenges within neonatal, child and maternal care

Tajikistan faces several challenges to ensure the health of mothers and children.

- **Overall, the health status of mothers and children is poor, starting with a high level of morbidity during antenatal care, labour complications and postnatal and neonatal problems. These lead to high levels of maternal, neonatal, infant and child mortality and impose a significant health burden on the country's population.**

- **There is limited access to and underutilization of antenatal care services.**

- **Evidence-informed and highly effective interventions for improvement of maternal and child health, such as folic acid and iron supplements, are not generally implemented.**

- **There is still a high rate of home deliveries although this is decreasing.**

- **Discrepancies in routine statistical data and survey data, particularly immunization cover and maternal and child mortality, limit the capacity for evidence-informed decision-making.**

◆ There are challenges in maintaining the reported high immunization coverage rates.

◆ There is limited capacity within PHC to deliver comprehensive diagnostic, curative and preventive care, and difficulties in providing timely referral to other levels of care.

◆ Lack of access to sexual and reproductive health services for adolescents results in high birth rates among adolescent girls.

3.5 Communicable diseases and increasing AMR

Tajikistan has launched various strategies and multisectoral action plans and programmes in line with international policies, strategies and recommendations to tackle AMR, in particular the National Action Plan to Tackle Antimicrobial Resistance in the Republic of Tajikistan (2018–2022) *(41)* and programmes for the prevention and control of infectious diseases such as TB (2016–2020), HIV (2016–2020), malaria (2019–2023), soil-transmitted helminths (2018–2022) and for national immunization (2016–2020). All these programmes have aspects that consider AMR and rational use of antimicrobial drugs.

Viral hepatitis (B and C) has been a growing concern worldwide. New treatment options increasingly provide options for successful treatment and reduction of the linked morbidity and mortality. Tajikistan has joined the Coalition for Global Hepatitis Elimination and has set targets to prevent transmission and improve outcomes for patients.

It is estimated that hepatitis B infection causes 473 deaths a year, and 22% of liver cancer deaths is attributable to hepatitis B. Hepatitis C is estimated to cause 511 deaths a year and be linked to 41% of liver cancer deaths *(42,43)*. Similarly, sexually transmitted infections pose a significant public health risk, and prevention, detection and treatment should be available for at-risk populations.

3.5.1 Challenges for communicable diseases and AMR

Tajikistan has joined the Codex Alimentarius and the International Food Safety Authorities Network to fight the increase in AMR.

◆ There is currently a lack of data on AMR for the population and for the veterinary/agricultural sector. High-quality data are necessary for effective countermeasures against AMR and for evaluating the effectiveness of such measures. Guidelines are available for the treatment of most infectious diseases within hospitals but these are not regularly updated to take into account local evidence on susceptibility or resistance of pathogens. Generation of such data requires improvements in laboratory equipment and in training for specialists.

◆ Antimicrobial drugs may be obtained without prescription, resulting in a generally high level of use. A survey conducted by the WHO/Europe-ESAC Project Group based on 2011 data ranked Tajikistan third among 12 eastern European countries for the general use of antibiotics *(44)*. Newer comparable comprehensive/national data are not available.

◆ Improved data collection and monitoring are needed for AMR, antimicrobial drug consumption and drug procurement policy at national, regional and local levels in order to maintain a national system of surveillance for the veterinary environmental

and agriculture sectors and in the food production chain. These areas all interact with the health sector and can have a significant impact across sectors.

◆ Provision of safe water, safe sanitation and hygiene measures (known as the WASH services) plays an important role in the prevention and control of infections both within the community and in health-care facilities. It is particularly important in hospitals to reduce the number of infections and the need for antibiotics, thus suppressing the spread of resistant bacteria. Provision of WASH services and effective infection prevention and control measures are also needed in PHC and other outpatient settings and in services for certain population groups, such as nursing care facilities and day care centres.

◆ Expensive treatment and lack of diagnostic capability limit access to effective treatment for patients who have infections. The challenge of AMR requires Government action and strong multisectoral, multidisciplinary and multiparty cooperation to support implementation of the strategies and plans being developed in Tajikistan *(41)*.

◆ Environmental surveillance is required as are measures to reduce the emission of untreated sewage from farming, municipal sewerage, hospitals and industries producing antimicrobial products.

3.6   NCDs and their risk factors

Prevention of diseases is a priority area for the new National Programme 2021–2030. Actions need to be strengthened in relation to four common risk factors related to lifestyle and behaviour: tobacco use, harmful use of alcohol, inadequate physical activity and unhealthy diet. Increased access to screening and early diagnosis programmes are needed. It is also very important to have sufficient resources to ensure adequate treatment, prevent disability and improve the quality of life for all. Access to rehabilitation and improved care models can help people to maintain their autonomy and economic activity.

Cardiovascular diseases are the leading cause of death in Tajikistan, accounting for nearly half of all deaths based on currently available data.

Cancer is also a growing problem in Tajikistan and the country faces challenges in terms of early detection, treatment outcomes and provision of palliative care. Over 15 000 individuals with neoplasms were registered in the country in 2018 and the incidence is rising (35.5 per 100 000 population in 2018). Most of the cancers were detected late at stages II and III.

Palliative care is an integral part of long-term care, supporting people to maximize the quality of life at the end of life. There are over 4000 adults in need of palliative care and it is estimated that about 8550 children each year would benefit from palliative care (communication from the Republican Oncological Research Centre of the Ministry of Health).

Tajikistan has followed the rest of the world in seeing a significant increase in metabolic diseases since the late 2000s. The incidence of diabetes mellitus per 100 000 populations has increased from 321.6 in 2007 to 482.1 in 2018, resulting in more than 30 000 patients in the country.

Unfortunately, there has been little change in the public provision of mental health services in spite of the growing burden of mental illness and increasing numbers of patients needing treatment. Those in need of intensive treatment are placed in large public institutions with dilapidated infrastructure and poor quality of services, which falls short of meeting acceptable quality standards and treatment approached and basic human rights.

3.6.1 Challenges for NCDs and their risk factors

◆ The burden of NCDs is increasing, linked to both the ageing of the population and the increasing incidence of behavioural risk factors such as tobacco consumption, harmful use of alcohol, physical inactivity and poor nutrition.

◆ Most of the risk factors for NCDs require intersectoral action, not simply preventive medicine in the health sector. The low detection rate for NCDs is widespread, which is one of the key issues. For example, only 0.2% of hospitalized patients in the cardiology centre in Dushanbe in 2018 had a referral. Poorly developed infrastructure for the diagnosis and treatment of NCDs and insufficient funding for specialized services create barriers to improve the availability and quality of services in this direction.

◆ Palliative care is an important aspect of treating NCDs and is particularly a necessary component of the comprehensive treatment of cancer patients at all stages. Although there is a clear need for palliative care in Tajikistan, there are insufficient facilities for those in need, both adults and children.

◆ Rehabilitation requires special skills; consequently, multidisciplinary teams of specialists can significantly improve the quality of medical care and treatment results. An integrated approach to rehabilitation has proved effective in treating many chronic, complex and severe diseases that can significantly limit a person's functioning (e.g. vision, communication, ability to move and cognitive activity). Appropriate policies and measures are needed to ensure that high-quality rehabilitation services are available to all who need them. The rehabilitation services provided in medical and social institutions should be effectively and properly integrated into the health-care system.

3.7 Health information systems

A well-functioning health management information system (HMIS) is essential to support evidence-informed decision-making by the Ministry of Health in all critical fields of management. It also needs to establish standards for reporting and real-time information exchange and ensure a high level of both security and confidentiality of patient's information. Furthermore, a good information system will improve the administration, execution and monitoring of expenditure and support the establishment of productive partnerships with other parties. A strengthened system will also create a strong basis for prudent statistical data collection and analysis, improve the quality and responsiveness of services and strengthen the role of the Ministry of Health as the regulator in terms of promoting clinical and organizational excellence and performance.

The HMIS under development in Tajikistan is based on global experience in terms of international standards and best practices and customized to respond the unique needs of the population and the health-care system. It will provide real-time information that is comparable and able to be exchanged at local, regional and international levels. The system must be linked and integrated in the country e-governance platform (Decree No. 643). Full implementation of the HMIS will bring social benefits in terms of increased knowledge and level of accessibility of citizens to health-related information through notifications and citizen portals. The standardization and streamlining of business processes will optimize administrative and human resources, thus improving the overall efficiency and performance of the system.

The 2030 Agenda recognizes the need for the development of information and communication technologies. Improving access, use and quality of such technologies could be a key driver behind the implementation of all the SDGs. Development of information and communication technologies and promotion of their accessibility and rational and safe use are among the key instruments for the realization of the Astana Declaration commitment to strength PHC *(45)*.

There are many challenges and resource requirements for the introduction of a well-functioning country-wide HMIS. First, it requires equipping all health institutions with the necessary and unified hardware, and provision of finance to cover its maintenance. Secondly, it requires the guarantee of a continuous supply of electricity and Internet connectivity. Finally, it requires the selection of a suitable software system and the subsequent nationwide training of all future user groups: doctors, nurses, technicians, secretaries, administrators and, possibly, students. This requires the allocation of major national resources and major partner resources. As a first step, an assessment of investments needed to cover the basic requirements and costs would be essential in order to mobilize the required resources.

3.8   Public health

Tajikistan's national health system delivers public health services that aim to prevent diseases, prolong life and promote health. These interventions are an important part of the Government's obligations as they benefit the population at all ages and create a foundation for a healthier population. The system still has a relatively high number of hospital beds and significant overcapacity. Bed occupancy rates in Tajikistan are 66.4%, with an average length of stay of nine days; this points to significant scope for efficiency gains. Reorienting service delivery away from hospital care and towards PHC is necessary to improve health outcomes and generate efficiency savings. The current system remains biased toward hospital care, leaving PHC underfunded and underdeveloped. This is shown by the limited services available at PHC. Key diagnostic tests (e.g. urine analysis, blood tests, ultrasound) are currently not consistently available in PHC, and patients are routinely referred for essential diagnostic and treatment services, leading to fragmentation of services and a risk of the population losing trust in PHC's ability to provide service. Efforts are being undertaken with the support of development partners to address these issues at a higher level and introduce good regional management structures for PHC.

A winter walk
© Yasmin Brandrup-Versi

The Government of the Republic of Tajikistan pays special attention to immunization against vaccine-preventable diseases and considers it one of the priority areas of the health-care sector. Since the late 2000s, coverage with routine immunization has reached ≥95% and new vaccines, such as the inactivated polio vaccine, have been added to the routine immunization schedule. Infrastructure and procedures for procurement, storage and transportation using cold chain have been optimized. The Government is fulfilling its obligations and annually increases funding for the immunization programme. In partnership with Gavi, in the project Strengthening the health system for the period 2017–2022, surveillance and supervision of immunization programmes have been strengthened. Vaccination coverage is reportedly very high (see section 2.1.7). However, newer vaccines such as the pneumococcal conjugate vaccine and the human papillomavirus vaccine have not been introduced.

On 30 November 2018, the Government of the Republic of Tajikistan approved national goals and an action plan in the context of the Protocol on Water and Health and Decree No. 676 at the 14th meeting of the Coordination Committee of the Dialogue on National Policy.

Tajikistan has made significant progress in providing access to improved drinking water sources since 2000. Repair and restoration works have been carried out to improve both quality and quantity: 38 non-working water supply facilities and networks have been repaired and 128 water supply systems have been upgraded. Access to improved and basic water supply has increased by more than 50% in rural areas during 2000 to 2016. The modernization of the infrastructure for drinking water supply, sanitation and hygiene, energy supply and food systems, especially in rural areas and small towns, should be considered as an important component in ensuring quality medical care and access to it.

3.8.1   Challenges for public health services

Delivery of public health services in Tajikistan faces a number of challenges. There is a need to collect systematic data on the frequency and causes of food- and waterborne infectious diseases, and to ensure that the respective multisectoral regulations are implemented effectively to decrease the burden of gastrointestinal infections in children and adults. WHO and FAO are working together in the development of a new national food safety strategy for the country, expected to be published in 2021.

- **There is limited capacity for disease surveillance/monitoring and control because of a shortage of technological and human resources and managerial capacity. Disease surveillance and monitoring systems in Tajikistan are still at the development stage and quality of data needs to be improved.**

- **Emerging AMR will require improved capacity for both detection and response.**

- **Transboundary health issues result from the high level of migration and limited access of migrants to essential health services, including prevention and detection of communicable diseases. This lack of care challenges the health of both the migrants and the host population.**

- **The increasing burden of NCDs and the increase in the dietary and lifestyle risks for these will require increased attention to health promotion.**

- **Infectious diseases, particularly vaccine-preventable diseases, pose a significant threat during the ongoing gradual transition from donor to domestic funding.**

3.9   Pharmaceuticals: availability, accessibility and quality control

The availability and accessibility of medicines continues to be a problem, particularly within the framework of the existing health financing system, which does not provide affordable medicines for vulnerable groups.

A major issue in preventing AMR lies in the long-term challenge of altering a clinical culture of prescribing and treating with antibiotics without full evidence that such treatment is required. The second challenge lies in ensuring implementation of regulatory procedures to require that pharmacies only sell antibiotics on medical prescription. As a first step, existing regulations should be enforced and pharmacists/owners of pharmacies trained regarding the risks of increasing AMR, and on their responsibilities in preventing this.

Currently, the material and technical basis of laboratories for controlling the quality of medicines in national and regional centres does not meet modern requirements for quality assurance, and there is no laboratory that can conduct modern immunobiological and radiological studies.

A comparative analysis of affordability and drug prices between urban and rural pharmacies in some areas of the country shows low physical affordability and high prices in rural pharmacies. Currently, there are 2450 pharmacies operating in Tajikistan, of which 30% are in rural areas (data for National Programme 2021–2030); yet 73.7% of the population lived in rural areas and only 26% in urban areas in January 2019. Consequently, a large part of the population does not have easy access to pharmacies.

The responsible use of medicines is seen as a policy accelerator in the framework of strengthening PHC and the health system. With a global increase in the threat of AMR, ensuring regulated and rational access to medicines for all the population plays an important role (Box 4).

Box 4. Tasks and actions proposed in National Programme 2021–2030 to improve provision of drug and pharmaceutical activities

Tasks

◆ Provide equitable physical and economic access of the population to essential medicines

◆ Strengthen the state control in the field of circulation of medicines to prevent counterfeit and unregistered medicines in the pharmaceutical market of the country

Actions

◆ Provide equitable physical and economic access of the population to essential medicines:

❖ review the list of current essential medicines using WHO recommendations;

❖ improve the regulatory framework governing pharmaceutical activities;

❖ use the electronic procurement platform for public procurement of medicines and medical goods;

❖ attract local and foreign investors to create new pharmaceutical industrial enterprises;

❖ take measures for the rational use of medicines; and

❖ develop local production of pharmaceutical products.

◆ Strengthen state control of the circulation of medicines to prevent counterfeit and unregistered medicines in the pharmaceutical market in the country:

❖ improve the material and technical base of republican and regional laboratories for the quality control of medicines and medical goods;

❖ monitor the side effects of the drugs used and develop methods for informing the public about the safety and effectiveness of drugs;

❖ conduct research on the use of medicines and the regulation of pharmaceutical activities; and

❖ implement international standards (Good Laboratory Practice, Good Clinical Practice, and Good Manufacturing Practice).

Dushanbe city centre
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4. Recommendations on current and future joint action

A number of areas can be recommended for building on current and future joint action to follow the SDG roadmap strategic directions and the GAP accelerators (Box 5) to achieve SDG 3 targets.

Box 5. The accelerator themes of the GAP

The GAP proposes specific actions at country and global/regional levels under seven linked and mutually reinforcing accelerator themes.

Accelerator 1: sustainable financing

Accelerator 2: frontline health systems/PHC

Accelerator 3: community and civil society engagement

Accelerator 4: determinants of health

Accelerator 5: research and development, innovation and access

Accelerator 6: data and digital health

Accelerator 7: innovative programming in fragile and vulnerable states and for disease outbreak response

4.1   Progress and action required on sustainable financing for health (accelerator 1)

Government expenditure on health presently constitutes 6.9% of GDP, while the additional donor funding is equivalent to 0.5% of GDP. This is, however, still insufficient to cover health-care costs. It was estimated that household expenditures still accounted for 60% of total health expenditure in 2018. Three years earlier, in 2015, a study was performed to assess the level of household expenditure for health and found that it was 18% of total household income, and more in the poorest families. According to the Intersectoral Expert Group, the burden of health expenditures on households continues to remain high, sometimes catastrophic.

Consequently, pooling of funds is essential to implement the National Programme 2021–2030 and to achieve equity in health and quality of care for the whole population of Tajikistan, leaving no one behind. Funding of health care has been infrastructure based and centrally allocated. Transition from this to a per capita and performance-based system is expected to make the use of financial resources more effective. The Ministry of Health is conducting a pilot transition programme in five districts of Sogd Oblast. The aims of the pilot are to train the heads of health facilities on health financing, to develop contracting mechanisms in the health facilities in the framework of pooled funds, to develop a methodology for calculating standards for health services financing based on statistical indicators, and to develop quality control of health services and data verification mechanisms for health facilities. This approach will be evaluated in 2021 and, if successful, will be scaled up to other regions. There are a further 10 pilot districts implementing a performance-based funding approach supported by the World Bank.

A further area of investment is to scale up coverage within the BBP and the State Guaranteed Benefit Package (SGBP). At present, only 20% of the population is covered by the BBP. National Programme 2021–2030 aims to increase coverage to reach a larger section of the population. It is also intended to introduce a health insurance scheme with shared contributions by employee and employer, but the details of this scheme are not yet elaborated.

4.2 Progress and action required on achieving UHC (accelerator 2)

WHO defines UHC as ensuring that "all people have access to needed health services (including prevention, promotion, treatment, rehabilitation and palliation) of sufficient quality to be effective while also ensuring that the use of these services does not expose the user the financial hardship" *(46)*. UHC has, therefore, become a major goal for health reform in many countries, including Tajikistan, and a priority objective for WHO.

The proportion of the population covered by PHC in Tajikistan is growing: in 2017, 94% had coverage, which was a 2 percentage point increase over 2015. The value of this indicator exceeds the target set in the Mid-term Development Programme 2016–2020 by 0.8 percentage points.

There is a lack of equitable access to hospital care. In 2010, there were 50.1 beds per 10 000 population, with an average occupancy of 62.8%. In 2016, the number of beds was reduced to 45.5 per 10 000 population, with an average occupancy of 66.4%. The NHS 2020 target was 36 beds per 10 000 population, and an average occupancy of 80% by 2020 *(3)*. However, there are often large differences in access to hospital beds between urban and rural areas. Rehabilitation services, for example, are mostly located in urban areas even though most of the population lives in rural areas *(47)*. Although health access and quality have improved, the score of 51.7 for this indicator is still relatively low. Hospital care needs to improve in effectiveness and access. Clinical protocols can help to ensure standardized care and high-quality care across all facilities. Moreover, quality indicators should be put in place to monitor quality improvements and patient safety.

Although the BBP has been introduced, coverage is low and it does not provide sufficient financial protection. One programme aimed at improving equitable access to health services includes formal co-payments for the general population, and the SGBP for the most vulnerable groups. However, while a target was set to achieve a 100% coverage with the BBP, only 20.7% of the population was covered in 2017 *(3)*. In addition to the SGBP, there is also another fee-for-service programme in place, governed by Decree No. 600, which was adopted in 2008 and determines types of health-care services provided free of charge or on a fee-for-service basis. Almost all health facilities in Tajikistan that are not covered by the SGBP provide services under Decree No. 600. The technical report on NHS 2020 pointed out that the existence of two fee-for-service programmes has resulted in a complicated health system and a lack of equity and transparency in health governance *(3)*. Surveys carried out under SGBP have shown that informal OOP expenses have decreased from 53.6% to 46.5% between 2009 and 2013. Catastrophic health-care payments declined from 31% in 2003 to 19% in 2011. Subsequently, this decline slowed, only reaching 18% in 2015. One reason for the persistence of this issue could be the underfunding of the BBP by the state budget *(3)*. The result has been that, despite the introduction of the BBP, a significant portion of the population lacks cover and is vulnerable to catastrophic health-related cost.

In the current financing scheme, private sources of health expenditures, including expenses towards private insurance companies and OOP payments, remain high. Household expenditure covered over 60% of total health expenditure in 2015.

Given the challenges and current trends in health financing reforms in the country, this area has been identified as the key accelerator for achieving the UHC and SDG 3 targets in Tajikistan. This is reflected in the clear priority this area is given in the National Programme

2021–2030, as well as in the establishment of an intersectoral working group on financing of health care, staffed with health economists, clinicians, medical statisticians and legal advisers. This group has been working since 2018 to develop new models of sustainable health financing for Tajikistan.

PHC in Tajikistan was historically based on the *Semashko* model, with the first point of care being a village health post staffed with a surgical nurse and a midwife. The next level was rural polyclinics and regional general or specialized hospitals to which referrals were made, with national centres of excellence at the top of the pyramid. While this system provided for geographical closeness of PHC and a theoretically good referral system, the shortness of resources led to system inefficiencies no longer responding to the real needs of patients.

In Tajikistan, one particular challenge for human resources in PHC is the emigration of medically trained personnel, mainly to the Russian Federation where the pay is higher. To retain health workers and increase the capacities of the existing workforce, it is crucial to create incentives for workers to stay, such as keeping the training of working physicians and nurses up to date. Since a policy accelerator for PHC is investment in the competencies of practitioners, this should continue to be an area of focus in the future. Investment in health workers may also contribute to reducing the current brain drain of medically trained personnel, which continues to be one of the most pressing challenges to the Tajik health system.

Since the late 1990s, investments have targeted strengthening the provision of PHC through regional structures and regional health management capacity in order to guarantee a better responsiveness to the local needs. This approach has been piloted in five regions with donor support from the Swiss Cooperation for Development and training of regional health managers. These have led to an improvement of the quality of patient care and the approach is now to be scaled up with support from European Union.

4.3   Community and civil society engagement (accelerator 3)

The Asian Development Bank brief on civil society for Tajikistan *(48)* noted that civil society in the country cuts across a wide "spectrum of participants, ranging from local organizations (communal councils, neighbor's councils, etc.) to more formal, officially registered public associations". The Government of Tajikistan refers to NGOs as noncommercial organizations, as in other former Soviet countries. NGOs in Tajikistan form the heart of civil society. In 2009, there were 1723 NGOs registered with the Government. The report noted that NGOs and civil society in Tajikistan have limited resources and lack fund-raising skills. A number of international organizations (e.g. the Aga Khan Foundation, Mercy Corps, Mission East, Save the Children and the World Bank) are active in supporting civil society work in Tajikistan. These organizations actively work with grassroots civil society, such as women's groups, village organizations, various types of health committees and specific support groups trying to increase citizen's participation in planning and delivering of health services. The WHO business planning model for PHC facilities has been piloted in the country and involved local communities in development of their health facility plans. These examples have paved a way for future successful and more intensive engagement of civil society in the health sector, with a particular focus on areas important to achievement of SDG 3.

4.4 Progress and action required on the determinants of health (accelerator 4)

4.4.1 Poverty

Tajikistan has been making steady progress in reducing poverty and growing its economy. Between 2000 and 2017, the poverty rate fell from 83 to 29.5% of the population (Fig. 17) while the economy grew at an average rate of 7% per year. The proportion of the population living below the international poverty line has decreased slowly but steadily (Fig. 18). Nonetheless, Tajikistan remains one of the poorest countries in the WHO European Region, having a GDP of US$ 3061 per capita in 2018 and a gross national income of US$ 3482 per capita. Tajikistan's Human Development Index was 0.656 in 2017 *(49)*. Approximately 7.4% of the 9.2 million population is living at a level of multidimensional poverty, and more than 20% is vulnerable to multidimensional poverty *(3)*. Monetary poverty has been rapidly declining since the early 2000s, falling from 83% in 2000 to 31% in 2016 *(3)*.

Fig. 17. Rate of reduction in the national poverty rate (%), Tajikistan 2012–2017
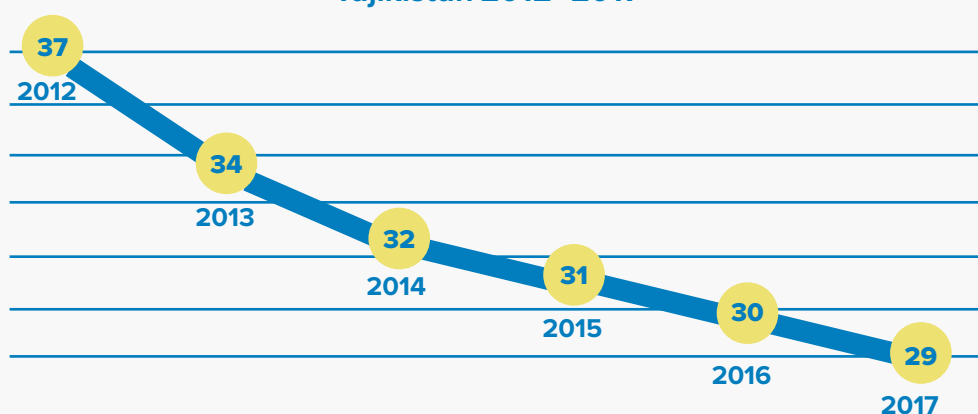
Source: World Bank; 2018 *(50)*.

Contrary to the declining monetary poverty, non-monetary deprivations remain widespread. Access to an improved source of water (see section 4.4.3) is an example of a non-monetary deprivation; 80% of households in Tajikistan have access to an improved source of water, but the discrepancies in access between urban households (96%) and rural households (65%) are large *(9)*. This highlights the uneven progress in the decline in general poverty, with rural areas seeing less decline than urban areas: 39% of the population in Tajikistan lives below the poverty line with the majority of these living in rural areas *(3)*. Research has also shown that this decline in poverty has occurred mostly among higher-income sectors of the population *(3)*; inequities between high- and low-income groups have, in fact, increased. Since most health-care services are also concentrated in urban areas, both poverty and service availability lead to inequities in access to health care. Although overall OOP payments have decreased, the poorest 20% of the Tajik population still experiences significant financial hardship due to OOP payments and, consequently, around half of this group do not seek medical care when in need (Tajikistan unpublished policy note 2019). Fig. 19 shows the World Bank's projections on economic development and poverty.

Fig. 18. Proportion of the population living below the international poverty line

PPP $1.90/day **PPP $3.10/day** .... **Linear PPP$1.90/day**
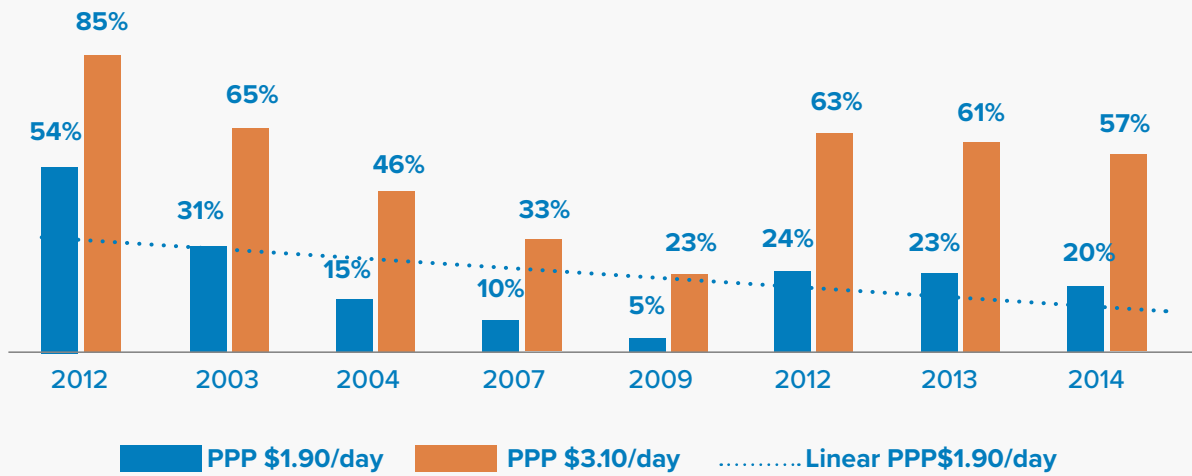
Note: PPP: purchasing power parity.
Source: United Nations Development Programme, 2019 *(49)*.

Fig. 19. Tajikistan: country economic update — autumn 2019

GDP GROWTH
GDP GROWTH PROJECTIONS

6.9% 2016
7.1% 2017
7.3% 2018
6.2% 2019
5.5% 2020
5.0% 2021

Strong GDP growth continued in 2019.

Annual GDP growth will slow to 5.0–5.5% over the medium term.

Inflation is above the target range.

Tajikistan is among the top ten busines climate reformers worldwide in the Doing Business 2020 ranking.

Currency was devalued in August 2019.

Poverty rate is projected to fall to 10% by 2021.

Natural disasters pose a threat to economic growth.

Source: World Bank; 2019 *(8)*.

4.4.2 Hunger and malnutrition

Where poverty persists, hunger also persists. Malnutrition results if people do not get enough, or sufficient variety of, food over long periods. However, people who have plenty to eat may still be undernourished or overweight if they do not eat food that provides the right nutrients, vitamins and minerals. Hunger and malnutrition are grave risks for health through decreased immunity and decreased capacity to respond to treatment and recover, for example from TB. Poverty and the risk of malnutrition for individuals and communities are also major causes of labour migration, particularly from poor rural areas.

4.4.3 Access to water and sanitation

The percentage of the population with access to improved sources of drinking water and sanitation facilities in rural areas has been steadily increasing (Figs 20 and 21), but according to the latest available comprehensive data (2014), less than 75% of homes were connected to a water supply system. Continued improvement in access to water and sanitation, particularly in rural areas, needs to remain a focus for investment in order to reduce the risk of waterborne and parasitic infections and to improve sanitation in homes, which will also contribute to good food hygiene and the reduction of foodborne diseases and person-to-person disease transmission.

Fig. 20. Percentage of rural population with improved sanitation facilities, Tajikistan and WHO European Region 1990–2014
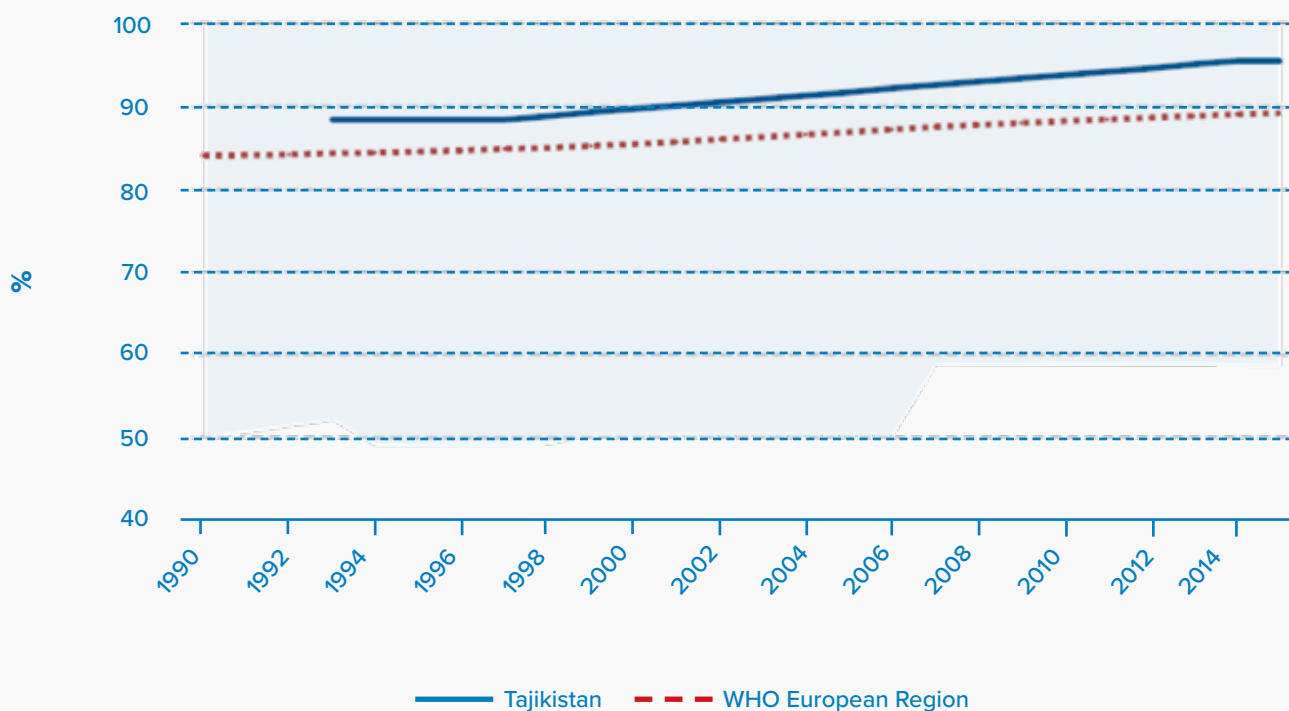
Source: WHO Regional Office for Europe, 2020 *(51)*.

Fig. 21. Trends of access to improved source of drinking water by households: percentage of population with homes connected to water supply system
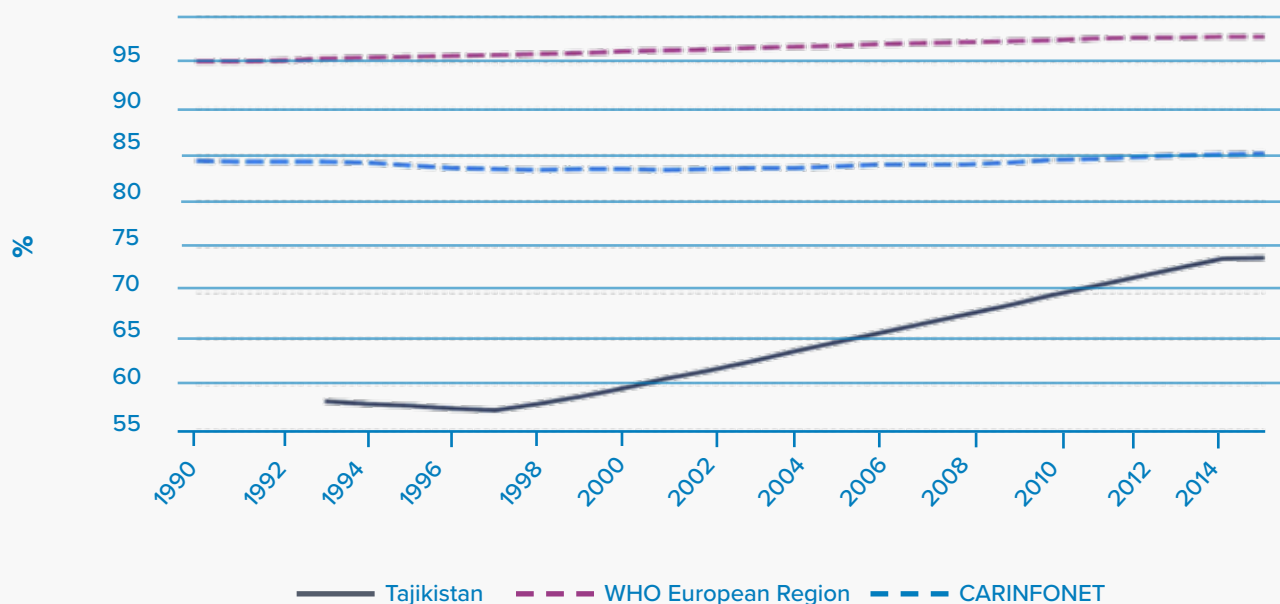
Note: CARINFONET: Central Asian Republics Information Network.
Source: WHO Regional Office for Europe, 2020 *(52)*.

4.4.4 Environment

Despite significant improvements since the late 1990s, a large proportion of the population, particularly in rural areas, still lives without access to clean water or sanitation facilities. This exposes them to higher risks of infectious diseases, often gastrointestinal infections, and represents a particularly high risk for the health of children. Degradation of soil is a further environmental factor, having an impact on health through poorer growth of crops and poorer nutritional quality of crops.

Increasing levels of air pollution, particularly in the cities, contribute to increased incidence of acute and chronic respiratory illness and allergies.

4.4.5 Migration

Migration has been identified as a determinant and risk factor for health in several ways. The risk of contracting communicable diseases, particularly TB and HIV, is higher in labour migrants, who, in addition, may not have access to the same health services as the host population. There is further risk of migrants being sent back to their home countries without completing treatment, thus carrying the risk back to their families and communities of origin. Tajikistan has an estimated returnee flow of 300 000 migrant workers per year, which presents a challenge for health services to respond adequately to their screening and treatment needs. Tajikistan has made some good progress towards achieving SDG targets

related to migration. Its health representatives discussed migrant health as a priority area for health during the Seventy-second World Health Assembly in 2019, and the Government has considered migration as a priority issue for the country at the highest level. The Ministry of Health has created a national multisectoral coordination group to examine these issues. The group has developed a draft strategic action plan for health care of refugees, asylum seekers and migrants in the Republic of Tajikistan for 2020–2025. This is based on the Strategy and Action Plan for Refugee and Migrant Health in the WHO European Region *(53)*.

4.4.6 Education

According to the National Programme 2021–2030, education services are still facing significant challenges, such as insufficient increases in the number of preschool institutions, poor-quality school infrastructure in the regions and low qualification of teachers. School attendance rate is low, especially in winter. Many rural schools and health facilities lack access to improved sanitation or water supply sources.

4.4.7 Gender equity

The National Programme 2021–2030 noted that the Gender Inequality Index was 0.377 in 2018, which ranked Tajikistan 69th out of 155 countries and territories in the world *(54)*. Indicator 5.5.1 measures women's proportional representation in two distinct areas of government: national parliaments and local government. A report by United Nations Women on Women's Representation in Local Government in Tajikistan found that about 15.2% of deputies were women in 2015 (1572 out of 10 337) *(55)*. A gender assessment report conducted by the World Bank found inequality in the tertiary education enrolment of boys and girls (Fig. 22).

Fig. 22. Enrolment rate in tertiary education, total, by gender and by ratio of female to male enrolment, 2000–2011

Legend:
- School enrolment, tertiary, male (% gross)
- School enrolment, female (% gross)
- School enrolment, tertiary (% gross)
- Ratio of female to male tertiary enrolment (% gross)
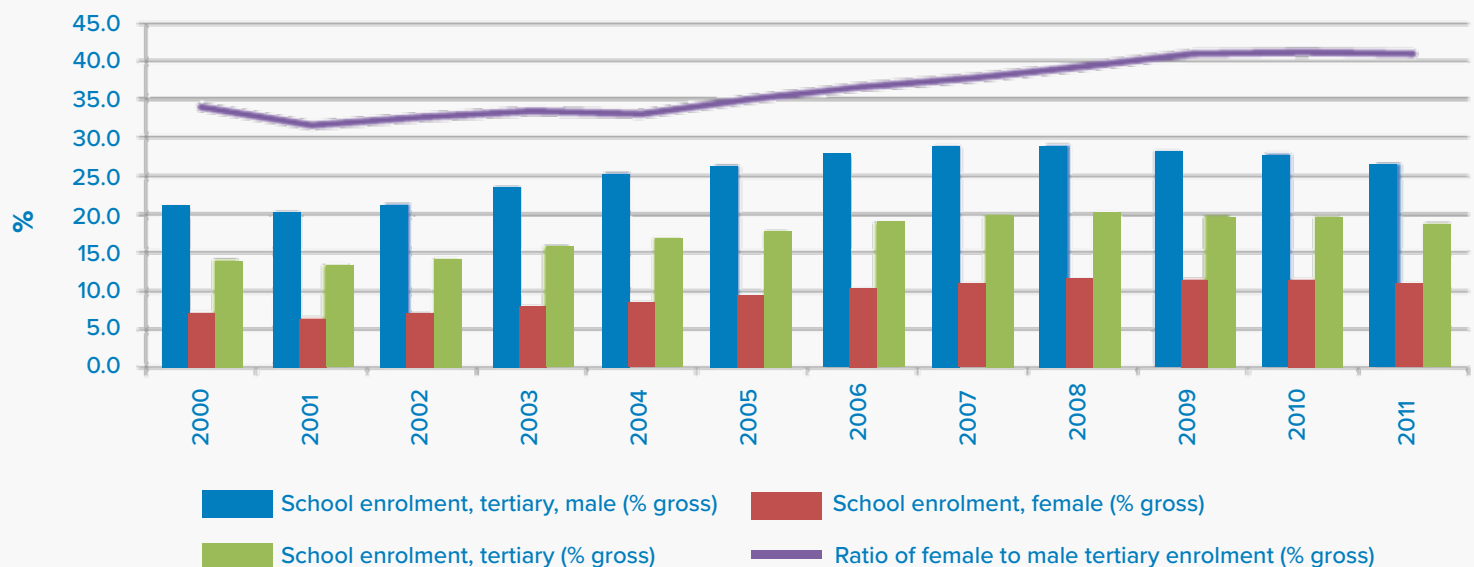
Source: World Bank, 2013 *(56)*.

Tajik family at the Dushanbe Botanical Garden
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A gender assessment from 2003 to 2012 found that the number of women working in national and local authorities increased to 44.7% over that period *(56)*. In 2014, women accounted for 23.4% of all employees in public administration (4393 women) but women occupied only 17.1% of leadership positions in national and subordinate structures combined (528 women) *(57)*. The same document reported that women's representation as civil society leaders was greater than in other sectors. Women's influence in NGOs has seen two benefits for gender equality: first, NGOs provide a social activism platform for women without necessarily having a gender perspective; second, women have played a leading role in advancing gender equality through NGOs. The number of households headed by women is said to be increasing, which reflects labour migration rates. For many of these households, remittances from a distant worker are the sole source of income.

Female-headed households are more likely to have fewer employed family members and so many need to borrow money for food and other household goods. Chronic income shortages mean that such families cannot invest in human development efforts, such as education. Within employment, women are concentrated in unskilled jobs. The 2009 Labour Force Survey *(58)* showed that 72.5% of employed women were unskilled. Male managers outnumbered female managers by an almost 4:1 ratio. There were 1.5 times more male specialists than female, and 6.7 times more male skilled workers in industry.

The Labour Code provides women with fully paid maternity leave (140 days before and/or after delivery), and child care leave for a maximum of three years. It also protects women (and single fathers) with children under 3 years of age from certain overtime work and it regulates employment for pregnant women. The Labour Code does not stipulate any specific paternity leave but does provide for child care leave for any family member or guardian. Men in Tajikistan are still expected to fulfil traditional roles. The same report from the Asian Development Bank noted that multigenerational families conform to a

patriarchal model *(57)*. Traditionally, a woman joins her husband's extended family at the time of marriage and "[t]his system provided little incentive to invest in daughters, since a married woman's contribution accrued to the husband's family rather than to her parents. … A young, newly married woman has the lowest family social status, a position that will change once she has children and as she ages" *(57)*. In a survey of 1500 households, 53% of respondents either fully or partially agreed with the statement, "a woman's mission is to give birth to children and be a good housewife" *(57)*. Gender roles tend to be rigid and women's lives centre around childrearing and domestic tasks, even if they are engaged in formal employment.

Since the early 2000s, Tajikistan has taken several measures to improve gender equality, for example the Law "on state guarantees of equal rights and opportunities for men and women" in 2005 and the National Strategy for Activation of the role of Women in the Republic of Tajikistan for 2011–2020. Moreover, Tajikistan was party to the Convention on the Elimination of All Forms of Discrimination against Women in 2007. However, of the 29 recommendations from the Convention, 14 were partly implemented and only one was fully implemented. There was also no effective enforcement mechanism and weak monitoring and evaluation of progress was noted (Tajikistan unpublished technical report, 2019).

Consequently, achieving gender equality remains a challenge. The 2017 DHS survey reported that 31% of ever-married women experienced physical, sexual or emotional violence at the hands of their current or most recent husband *(18)*. This was an increase of 7% since 2012. Patriarchal views remain widespread within society, and there is insufficient support for survivors of violence, mostly because of inadequate human resources and capacity, low resource allocation and poor coordination and integration between institutions.

4.5   Research and development, innovation and access (accelerator 5)

The National Programme 2021–2030, which is currently being developed, has noted that health science has progressed since the late 2000s, despite overall lack of scientific personnel, outdated infrastructure and limited funding. Standalone research institutions, as well as research departments within medical schools and hospitals, are engaged in ongoing national and international projects. The Medical Science Academy works under the Ministry of Health with the objectives of (i) coordinating research activities in health-care facilities; (ii) supporting the introduction of new evidence-informed interventions and innovative methods for diagnostic and treatment; and (iii) developing human resources for research and science. The Academy consists of 14 scientific centres, research departments of the State Medical University and the Institute of Post-Diploma Education.

Since the late 2000s, two new scientific centres have been established, one in transplantation medicine and one in urology. In addition, the Institute for Medical-social Expertise and Rehabilitation and the Centre of Intensive Care and Detoxification have been transferred under the management of the Academy. Over 90 research projects have been carried out during this period with public funding, and the number of publications in peer-reviewed journals, both local and international, has increased. Eight research centres have received national accreditation. Currently, Tajikistan has dissertation boards in 17 specialties, which allows researchers to pursue doctoral degrees.

4.5.1 Challenges in research and development

◆ There is an obsolete material and technical base of scientific institutions and a lack of investment funds to update it;

◆ Lack of funding for research/research grants; The development of science, technology and innovations contributes to the introduction of advanced technologies and promotes the growth of human capital. Lack of funding for research activities, outdated material and technical infrastructure and lack of scientific personnel do not allow the country to realize its full scientific potential.

◆ Limited private interest in medical research.

◆ The National Programme 2021–2030 states that there is a need to attract specialists to science and identify new sources of financing through attracting private capital to science and research and commercialization of achievements. This would include:

  ❖ increasing the number and quality of research activities;

  ❖ improving procedures for ethical review of medical research through implementing Good Clinical Practice standards;

  ❖ improving standards and increase access to ethical review of research activities involving human subjects;

  ❖ increasing the number of dissertation councils in order to allow more doctoral students to pursue postgraduate studies in the country; and

  ❖ gradually upgrading infrastructure of scientific institutions through a public and private funding mix.

4.6 Data and digital health (accelerator 6)

Health data may come from hospitals, clinics, external devices or elsewhere. To turn these data into information and knowledge requires an information model that utilizes a standardized message structure and is populated with a predefined vocabulary. This is critical to facilitate not only interoperability between heterogeneous information systems, but also the aggregation and interpretation of pooled data from multiple sources.

Despite progress in data collection and digital health, there are a number of challenges that still exist in the area of data quality, as discussed in earlier sections of this report. The Government is supporting development of the data digitization and system, and related points are included in the new national health plan currently under development.

4.6.1 Challenges for data and digital health

◆ There is not yet adequate legislation ensuring effective implementation of HMIS, e-health, digital health and telemedicine. Improving the legal and regulatory framework context within which health information is generated and used is crucial. There are number of laws and other normative acts addressing HMIS; however, significant improvements/changes must be made to respond adequately to the current country and economic contexts.

◆ Health information systems in Tajikistan are fragmented because they have evolved in response to administrative, economic, legal or donor preferences. Responsibility for health data is divided across different line ministries or institutions, and coordination is often resisted because of financial and administrative constraints. Little integration is seen among different information systems and this, together with competing interests of different actors from different sectors, frequently results in generation of conflicting results.

◆ The quality of data does not meet the required standards. One of the most challenging issues in health-care information technology is to review existing standards and adjust to adopt international data standards. The benefits realized by an HMIS become greatly diminished if the underlying data quality is poor.

◆ Excessive demands for data and reporting can overburden health workers, particularly in PHC. Multiple, poorly coordinated subsystems only add to their workload and also fail to deliver timely, accurate and complete data. Although many data groups are collected at district level, little is synthesized and analysed and so actually useful information is in short supply.

◆ A further significant problem is that the little information being produced and collected is not really being used for decision-making. Data are often collected without being analysed critically or turned into information that can be used for day-to- day management or longer-term planning.

◆ Inadequate funding is one of the main obstacles for the modernization of the existing HMIS and development of the required infrastructure and human resources. Building a nationwide network of institutions for implementing a health information system will require careful estimation/projection of all costs that should include new infrastructure, sufficient skilled personnel and clearly defined activities. This will need to be adequately budgeted and funded to ensure smooth implementation and improved health information collection by the Ministry of Health *and* its regional branches in order to produce the required deliverables.

◆ Information and communication technology infrastructure and administrative capacity are poor, underfunded and not equally distributed. There is a lack of dedicated and skilled health information staff at all levels of government for data collection, reporting and analysis.

◆ Under the National Programme 2021–2030, several measures are planned that will lead to a strong modern and effective HMIS. These include to:

   ❖ adjust legal and regulatory frameworks for the health information system and digital health development;

   ❖ strengthen the digital infrastructure of the Ministry of Health to improve coverage of the population with digital health services;

   ❖ strengthen the ability of administrative and health workers in the Ministry of Health to use digital platforms and to provide digital health services to the population;

   ❖ develop the National Investment Plan for the development of HMIS, digital medicine services and telemedicine;

- harmonize national standards in line with international best practice to enable consistent and accurate collection and exchange of health information across health systems and services;

- clearly define the roles and responsibilities of all the institutions involved in health information collection at different levels;

- agree on a minimum set of national health indicators that are appropriate for each level, simple and clear and linked to action;

- formulate an essential dataset to limit the routine reporting requirements for service providers to a core set of elements, thus enabling the calculation of minimum set of national indicators; and

- integrate the reporting requirements of various programme managers so that their needs are contained within the set of essential data elements and indicators.

It will be possible to meet these challenges if there is good information and communication technology and an effective health information system to collect and utilize data. This will require adequate infrastructure and equipment, sufficient staff, good training for personnel and the required technical capacity.

4.7 Innovative programming in fragile and vulnerable settings and for disease outbreak responses (accelerator 7)

To increase health access equity in Tajikistan and protect the population from financial risk, the Government adopted a Law on Health Insurance in the Republic of Tajikistan (No. 504) in 2008. However, it was postponed to 2014. In 2017, the concept was piloted in two districts but nationwide implementation was postponed and the Ministry of Health is currently considering postponing implementation again until 2022 *(3)*.

This review of the determinants of health shows that most health issues cannot be solved through relatively simple so-called silo solutions and enhanced efforts by the Ministry of Health alone. In order to improve health, it is key to address health and health-related issues in an intersectoral and inclusive way, adopting whole-of-government and whole-of-society approaches.

In NHS 2020, the importance of whole-of-government and whole-of-society approaches were stressed and partially implemented and the Ministry of Health has developed multiple strategies, programmes and plans that together address approximately 87% of NHS 2020 indicators, indicating a certain level of policy coherence. Such policy coherence is critical for achieving a sustainable impact on health. While there has been a lack of intersectoral policy action, currently in NHS 2020 there is a focus on ensuring a whole-of-government approach to addressing health issues. Moreover, policy coherence has been identified as a priority.

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5. GAP's E4As approach to achieve SDG 3

This section summarizes the discussions in the earlier sections of this report.

5.1 Engage

There are many stakeholders and donors engaged in health and health-related sectors in Tajikistan working on determinants of health such as poverty, hunger, water and sanitation, environment, economic growth, education and gender equity. Others are ready to support the developmental efforts in the country. It is important to engage these actors at all stages of the development, planning and implementation of interventions as well as in monitoring and evaluation of interventions towards improving the health and well-being of the population.

5.2 Assess

Baseline assessments as well as continuous reassessment are of prime importance to support the choice of interventions and their continuous adaptation and also to ensure that national and international resources are allocated to support them. Sources used for these assessments should include information from national statistics databases, from databases and reports of WHO and other United Nations agencies on indicators of health and the determinants of health, from studies conducted by development partners and civil society organizations, and from the perspectives of the population on self-reported health, perceptions of health services, their quality and continuity of care.

5.3 Align

All interventions of development partners should be aligned with national priorities, plans and programmes, and with each other to maximize the impact of investments and avoid duplications as well as multiple reporting requirements. Alignment requires establishing mechanisms of continuous dialogue and cooperation.

5.4 Accelerate

Following joint decisions on the accelerators to be prioritized, coordinated efforts to strengthen these should be intensified, as described above, and as formulated in the National Programme 2020–2030. A particular area of importance is the development and strengthening of sustainable financing for health and UHC.

5.5 Account

Mechanisms of transparent accounting and reporting should be established linked to governmental structures, development partners, the public and the beneficiaries of the investments made into health and well-being. Increased accountability will improve credibility and trust and ensure the continued engagement, support and contribution of civil society.

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Mosaic
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Annex 1. Activities of United Nations agencies in Tajikistan mapped against accelerator areas

Table A1.1. Overview of donors providing support to health in Tajikistan.

Agency/organization, donors, partners	Health-related project/activity	Capacity-building: health workforce development 2018–2019
WHO in Tajikistan	Introduction of perinatal audit at national level	Orientation workshop for key obstetricians, gynaecologists and neonatologists on main principles and methods of confidential death audit (August, 2019)
WHO in Tajikistan	School for Health in Europe and health-promoting schools project	Orientation and technical workshops for representatives of school health workers, healthy lifestyle centres, family medicine sector on employing health-promoting school tools and whole-school health approach (September–November, 2019)
UNFPA in Tajikistan	Joint Project on Strengthening National Family Planning Services for 2017–2020	Capacity-building of health-care providers (midwives) from selected PHC facilities on counselling and service provision on short- and long-acting family planning methods, training for trainers on rights-based voluntary surgical sterilization for obstetricians and gynaecologists in selected maternity departments at national and regional levels
UNFPA in Tajikistan	Cervical cancer prevention project in two pilot districts of Sogd and Khatlon Oblasts	Introduction of a pilot model of organized cervical cancer screening and pre-cancer management through capacity-building and field level exercise; overall, 93% of women from a target group screened through the pilot (2018)
WFP in Tajikistan; donor, USAID; partner, Ministry of Health and Social Protection of Tajikistan	Prevention and treatment of moderate acute malnutrition	Training on integrated management of acute malnutrition (IMAM) protocol and growth monitoring for PHC staff in target districts (May and November, 2018)
WFP in Tajikistan; donor, USAID; partner, Ministry of Health and Social Protection of Tajikistan	Digitalization of the moderate acute malnutrition (SCOPE CODA Programme)	On-the-job training on digitalization of moderate acute malnutrition treatment for frontline PHC staff in Balkhi district (November 2018, September 2019)
UNICEF	Prevention and treatment of malnutrition	Capacity strengthening of counselling skills of health workers regarding maternal nutrition and infant and young child feeding practices; capacity-building of health staff on integrated management of acute malnutrition
JICA	Project for Improving Maternal and Child Health Care System in Khatlon Oblast Phase II	Capacity strengthening of health workers on effective perinatal care (neonatal care, antenatal and postnatal care; ultrasound skills in obstetrics, bleeding) and equipment maintenance at primary and second level health facilities; capacity-building for national and oblast supervisors on supportive supervision
JICA	Training Programme Knowledge-Co Creation Programme	Capacity-building of health workers and government officers on (i) perinatal neonatal health care, (ii) hospital management, (iii) medical equipment management and maintenance, (iv) Mother and Child Health Handbook, (v) health systems management-leadership and governance
JICA	Follow-up cooperation on medical equipment management and maintenance	Capacity building of health workers, engineers, technicians and teachers on medical equipment management and maintenance

Notes: UNFPA: United Nations Population Fund; WFP: World Food Programme; UNICEF, WFP and WHO work jointly on the Integrated Management of Acute Malnutrition.

Table A1.2. Projects and partners in Tajikistan

Project title	Partner organization
Human Development Support Programme	European Union
Medical Education Reform Project	Swiss Agency for Development and Cooperation
Enhancing PHC Services	Swiss Agency for Development and Cooperation
Integrated Health and Habitat Project in Rasht Valley	Swiss Agency for Development and Cooperation
Mother–Neonatal and Child Health Project in Kulab Oblast	GIZ
Mother and Child Health/Emergency Care	KfW
Tuberculosis Control Programme	KfW
Treatment and Prevention of Polio Cases	KfW
Early Childhood Development	World Bank
Health Services Improvement Project	World Bank
Optima Nutrition	World Bank
Prevention and treatment of Moderate Acute Malnutrition	USAID, World Food Programme
Digitalization of the Moderate Acute Malnutrition	USAID, World Food Programme
Tajikistan Health and Nutrition Activity	USAID
CVD/Diabetes Control	Swiss Tropical and Public Health Institute, WHO, World Bank
National Road Safety Strategy	Asian Development Bank, WHO
Scaling-up Water Safety Plan and Effective Water Quality Monitoring in rural Tajikistan	WHO
Continuous Quality Improvement	UNICEF
Effective Perinatal and Neonatal Care	UNICEF
Immunization Supply Chain Data Management	UNICEF
Adolescents Mental Health	UNICEF
Youth Friendly Health Services	UNICEF
Improving Maternal and Child Health Care System	JICA
Knowledge-Co Creation Programme	JICA
Medical Equipment Management and Maintenance	JICA
Strengthening National Family Planning Services	United Nations Population Fund
Cervical Cancer Prevention Project in two pilot districts	United Nations Population Fund
Introduction of Perinatal Audit at National Level	WHO
School for Health in Europe (SHE) and health-promoting schools	WHO
Diffusion of new WHO ANC standard at PHC level	WHO
Introduction of "Health Behaviour of School-aged Children"	Aga Khan Development Network, European Union, UNICEF, United Nations Population Fund, WHO
GAVI Health System Strengthening in Tajikistan	UNICEF, United Nations Development Programme, WHO
Moving towards UHC Project	European Union, WHO

Annex 2. Existing laws and regulations by SDG health target

The right to health, health service coverage and health insurance coverage

Decree of Government of the Republic of Tajikistan dated 4 March 2002 No. 94 "on approval of the concept of health care reforms in the Republic of Tajikistan"

Decree of the Government of the Republic of Tajikistan dated 2 July 2005 No. 237 "on approval of the basic benefit package for citizens of the Republic of Tajikistan and guidelines for the provision of medical and sanitary services by the state"

Decree of the Government of the Republic of Tajikistan dated 3 April 2006 No. 140 "on the preservation in the budget of the healthcare sector of the funds saved during the reform process" (still active)

Decree of the Government of the Republic of Tajikistan dated 2 December 2008 No. 600 "on the procedure for the provision of health services to citizens of the Republic of Tajikistan by institutions of the state health system"

The Law of the Republic of Tajikistan dated 26 March 2009 No. 504 "on amendments and additions to the Law of the Republic of Tajikistan on private medical activities"

Decree of the Government of the Republic of Tajikistan dated 12 February 2010 No. 52 "on approval of the State guarantees programme to provide the population with health care for the pilot districts of the Republic of Tajikistan for 2017–2020" (NB: a new decree is under development)

Decree of the Government of the Republic of Tajikistan dated 29 May 2010 No. 269 "on the national strategy for the activation of the role of women in the Republic of Tajikistan for 2011–2020" (NB: a new decree is under development)

Decree of the Government of the Republic of Tajikistan dated 2 August 2010 No. 374 "on the draft Law of the Republic of Tajikistan on amendments to the Law of the Republic of Tajikistan on health insurance in the Republic of Tajikistan" (this Law will enter into force on 1 January 2022)

Decree of the Government of the Republic of Tajikistan dated 2 August 2010 No. 368 "on approval of the national strategy for the health of the population of the Republic of Tajikistan for the period 2010–2020"

Decree of the Government of the Republic of Tajikistan dated 30 December 2015 No. 801 "on the concept of family development in the Republic of Tajikistan"

National development strategy of the Republic of Tajikistan for the period to 2030 (2016)

Decree of the Government of the Republic of Tajikistan dated 15 March 2017 No. 712 "on the health code of the Republic of Tajikistan", approved by Decree MM MORT dated 18 May 2017 No. 374

Control of communicable diseases

Decree of the Government of the Republic of Tajikistan dated 11 March 2000 No. 100 "on the national programme for the control of hepatitis B and its prevention in the Republic of Tajikistan for 2000–2007" (NB: a new decree is under development)

Decree of the Government of the Republic of Tajikistan dated 1 July 2011 No. 331 "on approval of the list of work, the implementation of which is associated with the risk of contracting infectious diseases and require mandatory preventive vaccinations"

Law of the Republic of Tajikistan dated 22 July 2013 No. 1010 "on amending the Law of the Republic of Tajikistan on ensuring sanitary and epidemiological safety of the population" (NB: this has been amended but is active)

Decree of the Government of the Republic of Tajikistan dated 28 October 2016 No 456 "on the national programme on immunoprophylaxis for 2016–2020"

Decree of the Government of the Republic of Tajikistan dated 25 February 2017 No. 89 "on the national programme to combat the human immunodeficiency virus epidemic in the Republic of Tajikistan for 2017–2020" and the earlier Decree of the Government of the Republic of Tajikistan dated 30 October 2010 No. 562 "on approval of the programme to combat the HIV/AIDS epidemic in the Republic of Tajikistan for the period 2011–2015 (NB: a new decree is under development)

Regulation of medicines

Laws of the Republic of Tajikistan dated 2 April 2009 No. 204 "on medicines, medical goods, narcotic drugs, psychotropic substances and precursors used in medicine in the Republic of Tajikistan"

Laws of the Republic of Tajikistan dated 31 October 2009 No. 600 " on the training programme for medical personnel for 2010–2020"

Laws of the Republic of Tajikistan dated 3 May 2010 No. 210 "on certification procedures for medicines and medical products"

Law of the Republic of Tajikistan dated 3 July 2012 No 861 "on amendments to the Law on Pharmaceuticals and Pharmaceutical Activities"

Other laws of the Republic of Tajikistan about drugs and pharmaceuticals related activities. (Bull Majlisi Oli. 2001;7:499; 2003;12:700; 2007;5:375; 2008;6:467

Infrastructure and public investment

Decree of the Government of the Republic of Tajikistan dated 1 April 2011 No. 168 "on approval of the concept of the Republic of Tajikistan on the restructuring of health care facilities for 2011–2020"

Social protection

The Order of the Government of the Republic of Tajikistan dated 29 December 2006 No. 783 "about approval of the concept of social protection of the population of the Republic of Tajikistan" (NB: an updated document is under development)

The Order of the Government of the Republic of Tajikistan dated 2 May 2007 No. 244 "on the payment of benefits to low-income families with children studying in secondary schools of the Republic of Tajikistan"

The Law of the Republic of Tajikistan dated 5 January 2008 No. 358 "on amending the Law of the Republic of Tajikistan on social protection of persons with disabilities in the Republic of Tajikistan"

Decree of the Government of the Republic of Tajikistan dated 1 August 2008 No. 379 "on strengthening social assistance to poor families and citizens"

Decree of the President of the Republic of Tajikistan dated 20 June 2009 No. 671 "on measures to strengthen social security and increase the current salaries of employees of organizations and institutions of the social sphere"

The Law of the Republic of Tajikistan dated 28 June 2011 No. 737 "on amending the Law of the Republic of Tajikistan on non-state pension funds"

Decree of the Government of the Republic of Tajikistan dated 30 December 2011 No. 651 "on the draft Law of the Republic of Tajikistan on amendments and additions to the Law of the Republic of Tajikistan on state social insurance"

Decree of the Government of the Republic of Tajikistan dated 2 March 2013 No. 91 "on the procedure for the payment of pensions to children under full state support"

Decree of the Government of the Republic of Tajikistan dated 3 August 2013 No. 345 "on issues of compulsory pension insurance"

Decree of the Government of the Republic of Tajikistan dated 25 September 2015 No. 588 "on the procedure for indexing pensions and contingent pension capital"

Decree of the Government of the Republic of Tajikistan dated 23 August 2016 No 368 about "the concept of development of social services provision in the Republic of Tajikistan"

Decree of the Government of the Republic of Tajikistan dated 28 October 2016 No. 455 about "approval of the state programme on empowering of disabled persons"

Control of NCDs

Law of the Republic of Tajikistan dated 28 February 2004, No. 22 "on amending the Law of the Republic of Tajikistan on psychiatric care (NB: still active)

Decree of the Government of the Republic of Tajikistan dated 30 December 2010 No. 702 "on approval of the list of occupational diseases and the list of harmful substances and production factors, the implementation of which is associated with exposure to harmful working conditions, as well as the list of harmful substances and adverse production factors, with which preliminary and periodic medical examinations of workers are obligatory"

Decree of the Government of the Republic of Tajikistan dated 30 June 2012 No. 340 "on approval of the organization of medical care for victims of road traffic accidents" (as amended by the Decree of the Government of the Republic of Tajikistan dated 3 September 2019 No. 453)

Decree of the Government of the Republic of Tajikistan dated 3 December 2012 No. 676 "on the prospects for the prevention and control of non-communicable diseases and injuries in the Republic of Tajikistan for 2013–2023"

Decree of the Government of the Republic of Tajikistan dated 31 December 2014 No. 808 about the "National Strategy on nutrition and physical activity in the Republic of Tajikistan for the period of 2015–2024"

Decree of the Government of the Republic of Tajikistan dated 2 October 2019 about "the prevention of obesity and promotion of healthy nutrition in the Republic of Tajikistan for 2019–2024"

Decree of the Government of the Republic of Tajikistan dated 31 December 2019 No. 463 about "the national programme on healthy life styles in the Republic of Tajikistan for 2011–2020"

Capacity-building for health

Decree of the Government of the Republic of Tajikistan of 31 November 2009 No. 600 about "the development of health human resources for 2010–2020"

Decree of the Government of the Republic of Tajikistan of 11 November 2011 "on the concept of reforms of the medical and pharmaceutical education in the Republic of Tajikistan"

Decree of the Government of the Republic of Tajikistan dated 30 December 2011 No. 643 "on the concept of the formation of electronic government in the Republic of Tajikistan (2012–2020)"

Other sectors relevant to SDG 3

The Order of the Government of the Republic of Tajikistan of 1 August 2008 No. 377 about "ensuring protection of the rights of the child"

The Order of the Government of the Republic of Tajikistan of 31 October 2008 No. 532 about "the Commission under the Government of the Republic of Tajikistan on the rights of the child"

The Order of the Government of the Republic of Tajikistan dated 27 February 2010 No. 94 "on the medium-term plan for the implementation of the concept of environmental protection in the Republic of Tajikistan for 2010–2012" (NB: still active; status to be updated)

The Law of the Republic of Tajikistan dated 19 March 2013, No. 954 "on the prevention of domestic violence"

Annex 3. Detailed analysis on indicators and trends for the SDGs

Target	SDG indicator	Tajikistan	
		Indicator	**Source**
SDG 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture			
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 persons	**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	17%	DHS 2017 *(1)*
	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)	6%	DHS 2017 *(1)*
SDG 3. Ensure healthy lives and promote well-being for all at all ages			
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	32 per 100 000 live births	Data from Ministry of Health
	3.1.2 Proportion of births attended by skilled health personnel	94.8%	DHS 2017 *(1)*
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	33 per 1000 live births	DHS 2017 *(1)*
	3.2.2 Neonatal mortality rate	2 per 1000 live births	DHS 2017 *(1)*
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 100 0000 uninfected population, by sex, age and key populations	6.0	IHME, 2019 *(2)*
	3.3.2 Tuberculosis incidence per 100 000 population	107.7 (age standardized, new cases)	IHME, 2019 *(2)*
	3.3.3 Malaria incidence per 1000 population	0	IHME, 2019 *(2)*
	3.3.4 Hepatitis B incidence per 100 000 population	2320	IHME, 2019 *(2)*
	3.3.5 Number of people requiring interventions against neglected tropical diseases	13.6%	IHME, 2019 *(2)*

Target	SDG indicator	Tajikistan	
		Indicator	**Source**
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 disease, cancer, diabetes or chronic respiratory disease	34.0 per 100 000 (age standardized)	IHME, 2019 *(2)*
	3.4.2 Suicide mortality rate (deaths from self harm)	5.6 deaths per100 000	IHME, 2019 *(2)*
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 aftercare services) for substance use disorders	No precise quantitative coverage data available; data on the absolute numbers of patients with addiction problems treated can be obtained from the specialized health services for drug addiction treatment	
	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	Estimated 0.9 litres per capita (no exact data because consumption of home-produced alcohol is hard to evaluate) Clinical reports from health centres treating hepatic diseases report a trend to decline of alcohol-related liver damage (possibly linked to religious practices relating to the use of alcohol)	
3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents	**3.6.1** Death rate due to road traffic injuries	21 per 100 000 (2017 national average; unpublished disaggregated data indicate higher rates for urban areas)	WHO, 2019 *(3)*
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	52.5% (2017)	IHME, 2019 *(2)*
	3.7.2 Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1000 women in that age group	27.5 live births per 1000 women (age 10–19) 24 abortions per 1000 live births (age under-20)	IHME, 2019 *(2)*

Target	SDG indicator	Tajikistan	
		Indicator	**Source**
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 based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Tracer: measles vaccination 98%	WHO, 2019 *(4)*
	3.8.2 Number of people covered by health insurance or a public health system per 1000 population	UHC service coverage index (proxy indicator): 60.6%	IHME, 2019 *(2)*
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	81.1 per 100 000	IHME, 2019 *(2)*
	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)	15.3	IHME, 2019 *(2)*
	3.9.3 Mortality rate attributed to unintentional poisoning	0.7 per 100 000	IHME, 2019 *(2)*
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 persons aged 15 years and older	9.6%	IHME, 2019 *(2)*
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.	No quantitative indicator available; vaccine availability covered by international donor programmes (see text)	
	3.b.2 Total net official development assistance to medical research and basic health sectors	N/A	
3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States	**3.c.1** Health worker density and distribution	7.6 per 1000 (2017)	IHME, 2019 *(2)*

Target	SDG indicator	Tajikistan	
		Indicator	**Source**
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 (IHR) capacity and health emergency preparedness	Capacity in IHR and Health Emergency Preparedness being built through WHO Emergency Preparedness program	WHO, 2020 *(5)*
SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all			
4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	**4.2.1** Proportion of children under-5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex	Indicator not available; however, 0.8% of children not involved in primary school (2017)	WHO Regional Office for Europe, 2020 *(6)*
SDG 5. Achieve gender equality and empower all women and girls			
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	24.1% (sexual 1.4%; psychological 13.3%; physical 18.7%)	Statistical Agency under the President of the Republic of Tajikistan
	5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence	0	IHME, 2019 *(2)*
5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	**5.3.1** Proportion of women aged 20–24 years who were married or in a union before age 15 and before age 18	0.1% before age 15; 8.7% before age 18	Asian Development Bank, 2016 *(7)*
	5.3.2 Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age	N/A	
SDG 6. Ensure availability and sustainable management of water and sanitation for all			
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	23.6% (risk-weighted prevalence of using unsafe water)	IHME, 2019 *(2)*

Target	SDG indicator	Tajikistan	
		Indicator	**Source**
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	63% (risk-weighted prevalence of using unsafe sanitation)	IHME, 2019 *(2)*
6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	**6.3.1** Proportion of wastewater safely treated **6.3.2** Proportion of bodies of water with good ambient water quality	N/A	
SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all			
8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms	**8.7.1** Proportion and number of children aged 5–17 years engaged in child labour, by sex and age	N/A; however, 22.6% reported in 2013 survey	International Labour Organization, 2014 *(8)*
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	773.9 all-cause disability-adjusted life-years attributable to occupational risks per 100 000	IHME, 2019 *(2)*
	8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	N/A	
Goal 10. Reduce inequality within and among countries			
10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	**10.2.1** Proportion of people living below 50 per cent of median income, by age, sex and persons with disabilities	4.8% of population live below the poverty line (US$ 1.90 per day)	UNDP, 2019 *(9)*

Target	SDG indicator	Tajikistan	
		Indicator	**Source**
10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard	**10.3.1** Proportion of the population reporting having personally felt discriminated against or harassed within the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law	N/A	
SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable			
11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improve road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	**11.2.1** Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities	N/A	
11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	**11.5.1** Number of deaths, missing persons and persons affected by disaster per 100,000 people	N/A; however, 13 deaths in natural disasters in 2017	Our World in Data, 2020 *(10)*
	11.5.2 Direct disaster economic loss in relation to global GDP, including disaster damage to critical infrastructure and disruption of basic servicesa	N/A	
SDG 12. Ensure sustainable consumption and production patterns			
12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	**12.4.1** Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement	N/A	
	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment	N/A	

Target	SDG indicator	Tajikistan	
		Indicator	**Source**
SDG 13. Take urgent action to combat climate change and its impacts			
13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	**13.1.1** Number of countries with national and local disaster risk reduction strategies	N/A	
	13.1.2 Number of deaths, missing persons and persons affected by disaster per 100 000 people	0.14 (2017)	Our World in Data, 2020 *(11)*
SDG 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels			
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	3	IHME, 2019 *(2)*
	16.1.2 Conflict-related deaths per 100 000 population, by sex, age and cause	0 (2017)	IHME, 2019 *(2)*
	16.1.3 Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months	Physical violence (16.1.3a): 6.7% Sexual violence (16.1.3c): 1.2%	IHME, 2019 *(2)*
	16.1.4 Proportion of population that feel safe walking alone around the area they live	N/A	
16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children	**16.2.1** Proportion of children aged 1-17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month	Not available. Used instead: Percentage of children aged 2–14 who according to self-reports by caregivers, experienced any violent discipline at home in the past month 78% (2005)	Our World in Data, 2020 *(12)*
	16.2.2 Number of victims of human trafficking per 100 000 population, by sex, age and form of exploitation	Male, 2; female, 4	Our World in Data, 2020 *(13)*
	16.2.3 Proportion of young women and men aged 1829 years who experienced sexual violence by age 18	1.5%	IHME, 2019 *(2)*

Note: N/A: not available.

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