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Armenia
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This edition of the Health Systems in Action Insight for Armenia was written by Saro Tsaturyan and Giada Scarpetti.

The Health Systems in Action series

The Health Systems in Action Insights series supports Member States in the WHO European Region that are not in the European Union. The Insights for each country are intended to:

- provide core information and data on health systems succinctly and accessibly
- outline the country health system context in which WHO’s European Programme of Work is set
- flag key concerns, progress and challenges health system by health system
- build a baseline for comparisons, so that Member States can see how their health systems develop over time and in relation to other countries.

The series is co-produced by the WHO Regional Office for Europe and the European Observatory on Health Systems and Policies. It draws on the knowledge and understanding of the WHO Country Offices and of the Division of Country Health Policies and Systems (CPS), the Barcelona Office for Health Systems Financing and other WHO/Europe technical programmes; as well as the Health Systems in Transition series and the work of the European Observatory on Health Systems and Policies.

The Insights follow a common template that provides detailed guidance and allows comparison across countries. The series is publicly available on the websites of the WHO Regional Office for Europe and the European Observatory on Health Systems and Policies (eurohealthobservatory.who.int).
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This edition of the Health Systems in Action Insight for Armenia was written by Saro Tsaturyan and Giada Scarpetti.
HEALTH SYSTEMS IN ACTION: ARMENIA

Key points

- Although Armenia’s health system provides a relatively comprehensive Basic Benefits Package, it is underfunded because of the low public budget for health.

- There are high levels of out-of-pocket payments, which has repercussions for financial protection and accessibility, especially for vulnerable groups.

- Since 2019, there has been a steady increase in coverage of services, due to an increase in the health budget.

- Armenia is taking coordinated efforts toward achieving Universal Health Coverage. The emphasis of the work is on expanding the Basic Benefits Package.

- Armenia suffers from a shortage of nurses, although the number of doctors is above the WHO European Region average. A disproportionately large share of the health workforce is concentrated in the capital city Yerevan, and the Ministry of Health is implementing policies to address the shortage of staff in regional health facilities.

- The implementation of a nationwide electronic health information system called ARMED is aimed at improving accountability, access and patient empowerment.

- About 93% of all deaths in Armenia are due to noncommunicable diseases.

- The main risk factors contributing to mortality are high blood pressure, tobacco smoking and unhealthy diet.

- Recent reforms have aimed at addressing the rising burden of noncommunicable diseases, especially through screening and tobacco control programmes.

- Routine childhood vaccination rates remain high and infant and maternal mortality rates have been progressively declining.

- Despite the overall reduction in the incidence of infectious diseases, Armenia faces challenges in the containment of tuberculosis, especially due to the rise of multidrug-resistant tuberculosis cases.

- The COVID-19 pandemic and armed conflict have resulted in excess mortality in 2020–2021 that far exceeded the average of the WHO European Region.

- Armenia has comparatively low antibiotic usage rates, and the country had progressed in tackling antimicrobial resistance until 2020, when the consumption of antibiotics sharply increased because of the COVID-19 pandemic.

This report looks at the action Armenia is taking to strengthen its health system; to achieve the Sustainable Development Goals; to address the priorities of the European Programme of Work; and to ensure that no one is left behind.
1 ORGANIZING THE HEALTH SYSTEM

Armenia has a decentralized health system, with the Ministry of Health acting as the single payer for publicly funded health services

Since the mid-1990s, Armenia has undertaken several key health reforms, including the decentralization of health service provision to regional and local governments, partial privatization and the establishment in 1997 of the State Health Agency (SHA), which was intended to lay the foundations for the introduction of a national social health insurance system. Initially, the SHA was an independent public body in charge of purchasing all publicly funded outpatient and inpatient medical services in the country. It was directly subordinated to the government until 2001, when it was incorporated into the Ministry of Health. Currently, the SHA is part of the Ministry of Health and prepares the contracts with providers, processes the reporting and disbursement of funds from the budget and conducts audits. The Ministry of Health is responsible for the development and implementation of national health policies and regulations, including licensing of health care providers. Through the SHA, the Ministry of Health acts as the sole purchaser and single payer for medical services covered under the Basic Benefits Package (BBP).

The Government of Armenia is currently considering policy options to further improve financial protection and the quality of care toward achieving Universal Health Coverage (UHC). These include a more robust and sustained increase in public spending on health, implementing quality management mechanisms across all levels of the health system and strengthening the strategic purchasing functions of the SHA. As of 2022, voluntary health insurance is estimated to cover around 3.5% of the population, mainly through employer-subsidized schemes.

Despite numerous attempts over the last three decades to adopt a national health policy document, Armenia still does not have an approved Health Sector Strategy. However, there are a number of strategies and programmatic documents approved by the government, related to different health topics, such as tuberculosis (TB), HIV/AIDS and maternal and child health.

The basic benefits package is extensive but is underfunded due to limited public resources available for the health sector

The BBP includes several health care programmes that cover the entire population, such as primary care services, emergency care, maternal and child care and the treatment of cancer, HIV/AIDS, TB and other infectious diseases. The BBP also identifies socially vulnerable and specific categories of the population, such as people with disabilities, children under 18 years, pregnant women, those eligible for the Family Benefit Programme, as well as the military, civil servants, their family members, and some other categories, for whom most hospital services are also covered by the public budget (with certain exceptions, such as cosmetic surgery). The BBP is based on targeted state health programmes, which are prepared by the Ministry of Health and approved each year by the National Assembly as part of the government’s state budget proposal. The specifics of the BBP and the provider-payment mechanisms are approved by government Decree. Some BBP services have relatively better financial coverage, with remuneration rates reflecting the actual cost of service delivery. However, many budget programmes are still underfunded, due to limited public resources made available for the health sector, leading to high out-of-pocket (OOP) payments as well as informal payments to cover the gap. The cost of outpatient pharmaceuticals is covered fully or partially only for limited categories of patients, either belonging to socially vulnerable groups or with certain chronic diseases or conditions (for example, diabetes). A gatekeeping function in primary care exists but is limited to referral for hospital care within the BBP.

Most of the health care delivery system is public, but the private sector plays an important role in the delivery of specialized hospital care

Currently, around 70% of the health system infrastructure and human resources are in the public sector, including most of the regional health infrastructure. The private sector includes several multi-profile and specialized hospitals in the capital city Yerevan, and almost all the dental clinics and pharmacies in the country. Private health centres play a key role in providing tertiary and technology-based specialized care. The Ministry of Health directly manages only a small number of health care facilities delivering specialized care, whereas regional and local health authorities manage most public facilities, including the regional hospitals, urban polyclinics and rural primary care centres.

2 FINANCING AND ENSURING FINANCIAL PROTECTION

Public spending on health is very low and has stagnated over the past two decades

Armenia’s health expenditure per capita (adjusted for purchasing power) was US$ 1,616 in 2019, higher than the average of upper-middle-income countries in the WHO European Region (US$ 1,338), but much lower than the US$ 3,226 average in the WHO European
The share of public sources in total health spending was only 12.4% in 2019, voluntary health insurance schemes accounted for 1.1%, with the rest of health spending coming from private sources and external funding. According to the latest National Health Accounts data, the share of public spending in 2020 increased for the first time in recent years, reaching 19.3%, while the share of private spending decreased to 79.6%, and the share of external funding more than doubled (from 0.4% to 1.1%) as the result of measures related to the COVID-19 pandemic.

Total health spending in Armenia as a share of gross domestic product (GDP) (11.3%) was higher in 2019 than in most countries of the region, but public spending as a share of GDP did not even reach 2% between 2000 and 2019 and, at 1.4% in 2019, remained one of the lowest in the WHO European Region, far below the average of 3.4% for upper middle-income countries and the average of the WHO European Region (5%) (Fig. 2).

Out-of-pocket spending on health in Armenia is the highest in the WHO European Region

As a share of total health spending (84.8% in 2019), OOP expenditure was the highest in the WHO European Region, far above the regional average of 28.7% and the average of upper middle-income countries (44.1%) (Fig. 3). This results in low financial protection for patients and negatively affects the quality and affordability of medical care, especially for poor and socially vulnerable groups. Payments for outpatient medicines make up 39% of OOP spending, the rest comprising formal co-payments for services under the BBP, direct payments for services not covered by the BBP and informal payments including gratuities.

Health spending only accounts for a small share of total government spending

Public funding for the health sector is generated through general taxation. Despite fiscal challenges, in absolute terms, the health budget has increased significantly over the last years [from 83.2 billion Armenian drams (AMD) in 2017 to 122.7 billion AMD in 2021, excluding COVID-related additional funds]. However, the share of the government’s budget that is devoted to health has been relatively low, ranging from 5.5% to 6.2% in the period 2014–2019. Since the start of the COVID-19 pandemic, it reached 7–7.5% in 2020–2021, due to additional funding required for COVID-19 response measures. According to the government’s medium-term expenditure framework, budget allocations for the health sector in 2022–2024 are planned at approximately the same level as for 2020–2021, excluding COVID-related additional funding. The health budget execution rate is usually high (95–98% on average).

Armenia has moved to programme-based budgeting in the health sector since 2004, and the largest part of the...
budget expenditure is devoted to purchasing medical services under BBP programmes and activities. Although disease prevention and primary health care are formal priority areas in national health policies, the structure of the health budget is still dominated by inpatient care. In 2021, funding for inpatient care accounted for more than 55% of the health budget, followed by primary care services (24%), public health services (8%, including COVID-19 response measures) and other programmes.

**Provider payment mechanisms lack incentives for quality improvement and favour inpatient services over primary care**

Primary care services are funded on a per capita basis, according to the number of people enrolled with each primary care provider. Patients are free to choose their provider, but only within their region of residence. A supplementary performance-based financing (PBF) scheme has been in place since 2010 to incentivize primary care providers to improve their performance and the quality of their services. However, the PBF scheme has only partially accomplished its goal, because of the overall low public financing and due to the additional administrative work to apply for the PBF scheme.

Hospital services are mainly paid for on a case basis, using a mix of average case tariffs and fee-for-service. This means that inpatient care providers have incentives to maximize their output, as more discharged patients mean more revenues. The only cost-containment mechanism that the Ministry of Health implements is the global annual cap for facility budgets under the BBP, which, however, can be revised during the year as needed. Despite some episodic efforts in the past, Armenia has still not implemented a DRG-based cost structure for hospital services, so the average tariffs are usually highly aggregated and often do not reflect the actual cost of service provision. This problem contributes to the high level of OOP payments, because the gap between the remuneration rate under the BBP and the actual cost of the service is usually covered through informal payments.

To address this issue, official co-payments were introduced in 2011 for certain categories of BBP services, with socially vulnerable categories of BBP beneficiaries being exempted from co-payments. Since 2019, the scope and rate of co-payments have been revised periodically, because an increase in the health budget has resulted in more services being covered publicly, with no need for co-payments.

Armenia lacks a comprehensive system of quality assurance, despite some efforts by the Ministry of Health over recent years to implement measures such as quality indicators or quality control boards at facility level. The Ministry of Health has recently approved the strategy to improve quality of care, aimed at establishing a quality management system in the country, expanding the use of quality-of-care indicators at different levels of the health system and strengthening data collection and analytical capabilities, as well as implementing clinical practice guidelines and other quality improvement tools.
Armenia has reorganized its health infrastructure over the last decades.

Between 1990 and 2020, Armenia reduced the total number of hospital beds by 58% (from 30,482 to 12,708), as the country was facing serious challenges in funding and maintaining the extensive health infrastructure inherited after the collapse of the Soviet Union (Fig. 4). During the same period the number of hospitals was reduced by 32% (from 180 to 122). All rural hospitals inherited from the Soviet system were closed, and a few of them were transformed into health centres with a small number of day-care beds. Most general profile secondary level hospitals in the 10 regions were reorganized into medical centres by merging with local maternity hospitals and outpatient polyclinics. The privatization of public facilities in the health sector was implemented on a limited scale up to 2008 and mainly involved Yerevan-based hospitals. However, the private health sector continued to expand through the establishment of new facilities by private investment. However, the hospital sector of the country is still dominated by the public sector, which accounted for around two thirds of inpatient facilities and hospital beds, and 59% of hospitalized patients in 2020. The capital city, Yerevan, with 37% of the total population of Armenia, hosts 44% of the hospitals and 65% of the hospital beds of the country. The rationalization of the hospital infrastructure was supported by health financing reforms, in particular the shift from input-based to case-based funding for inpatient care in the mid-1990s, which eliminated the incentive for maintaining a large number of hospital beds.

The disproportionately high concentration of health workers in the capital impedes access to quality health care in the rest of the country.

Medical education in Armenia is provided by one public institution (Yerevan State Medical University) and several private institutions. Over the 5-year period of 2016–2020, around 1,300 medical doctors graduated on average per year, with more than 61% of them graduating from Yerevan State Medical University. The number of nurses per 100,000 population in Armenia was well below the WHO European Region’s average (545 compared to 915) in 2015, whereas the number of physicians (440 per 100,000 population) in 2017 was above the WHO European Region’s average (382) (Fig. 5).

Fig. 5
The ratio of nurses per population in Armenia is much lower than on average in the WHO European Region.

Note: For Armenia: data for nurses are from 2015, data for doctors are from 2017; for the WHO European Region: data are from 2019; for countries, data are for 2020 or latest available year.

Source: WHO, 2022b.
The overconcentration of doctors in the capital city Yerevan and their subsequent shortage in the regions remains the most significant challenge in terms of the availability of health care resources in Armenia. With around 37% of the total population, Yerevan had over 74% of all medical doctors in 2020, which results in a ratio of physicians per population around five times higher in the capital city compared with the rest of the country. Although this can partially be explained by the concentration of most tertiary-level, specialized hospital services in Yerevan, the main reasons for this imbalance are lower pay in the regions and poor living and social conditions compared with the capital city. The problem is widely recognized by the authorities, and the Ministry of Health is implementing policies to fill the existing gaps in regional health facilities, including providing a limited number of publicly subsidized postgraduate medical education opportunities for health professionals who are willing to work in the regions for some time after graduation. Some progress has been made in recent years, but the problem is still not fully addressed. According to Ministry of Health data, in 2020 there was a total of 284 vacant positions for medical doctors in regional health facilities. The main medical specialties in high demand in the regions are primary care doctors (including family physicians, therapists and paediatricians) and anaesthesiologists. The distribution of nurses between the capital city and the regions shows similar discrepancies, but the situation is less critical. In 2020, 53% of all nurses were employed by Yerevan-based health facilities, so the ratio of nurses per population in the capital was 2.1 times higher than in the regions.

Access to health services has improved, but financial barriers remain, especially for people on lower incomes

Armenia experienced a drastic decline in health service utilization from the early 1990s due to health system underfunding, the costs for patients and poor quality of care. Utilization started to improve in the mid-2000s thanks to economic growth and increased health sector financing. Outpatient contacts per person and year declined from 6.9 in 1990 to 1.8 in 2001, and then increased to 4.1 in 2019 (WHO Regional Office for Europe, 2022). Inpatient discharges per 100 population in 1990 were 14.7, compared with 13.9 in 1990 and 5.8 in 2001 (WHO Regional Office for Europe, 2022). Both indicators are below the 2014 averages for the WHO European Region (7.6 outpatient contacts per person and year and 17.9 inpatient discharges per 100 population) and the European Union (7.6 and 17.4, respectively).

Data from the annual Integrated Living Conditions Survey indicate that there is adequate physical access to health services, but that financial accessibility remains a major issue, especially for poorer groups of the population. Financial barriers not only include informal payments for health services, but also OOP payments for outpatient medicines. In 2020, 32.6% of surveyed respondents categorized as “extremely poor” indicated “lack of finance” as the main reason for not seeking primary care, compared with 19.6% of the “poor” and 7.9% of the “non-poor” (ARMSTAT 2021).

Box 1
Implementation of eHealth systems aims to improve the transparency and effectiveness of health service delivery

The digitalization of the health sector is considered a priority by the government, which approved the concept of implementing an integrated electronic information system in the health sector in 2010. It builds on existing efforts of health information systems development, which were triggered in the late 1990s by health financing reforms and the establishment of the SHA. The electronic health information system of Armenia (ARMED) was launched in 2017. It is run by a private company on a concession contract with the government (referred to as National eHealth Operator, or NEO), and currently operates in around 500 health care facilities, six private insurance companies and the SHA. All health facilities that are contracted by the Ministry of Health for the delivery of BBP services are connected to ARMED and pay a service fee to NEO. They include practically all hospitals in the country and all primary care facilities that provide services to the enrolled population (facilities without a BBP contract are not legally required to be connected to ARMED). ARMED is an online system that can also be accessed by individual patients, as well as by other public and private users. The system has different modules and functions; however, it is still mainly used for reporting and reimbursement of publicly funded services covered under the BBP. Health facilities can also input the data for non-BBP cases into the ARMED system, which is rarely done because of a lack of financial incentives and legal regulations. In February 2021, the Ministry of Health approved a 3-year action plan for further development of the eHealth system in Armenia, including full-scale implementation of electronic prescription and electronic referral modules, as well as disease registries. ARMED is connected with the population registry, which allows a real-time check of patients’ personal data. However, for better functionality it needs further integration with other electronic government systems, such as the civil registration and vital statistics database of the Ministry of Justice and the social status registries of the Ministry of Labour and Social Affairs.
Tertiary specialized hospital care (such as open-heart surgery) and provision of certain technology-based diagnostic procedures (for example, computed tomography or magnetic resonance imaging) are still mainly concentrated in the capital city, Yerevan, although there have been some improvements in their regional distribution in recent years. As the result of limited public resources, capital investment in regional health infrastructure was until recently funded mainly from external sources. Since 1999, more than 170 primary care facilities and around 20 regional hospitals have been built (or renovated) and equipped with support from the World Bank and other donor-funded projects. The government programme for 2021–2026 plans to further improve the health infrastructure in the regions by renovating 30 health centres and providing them with equipment, mainly through budgetary funding.

The development of electronic health information systems in the country aims to improve access to and quality of services through the implementation of telemedicine, e-Referral and e-Prescription tools, as well as mobile applications that proved to be especially useful during the COVID-19 pandemic (Box 1).

Armenia maintains high coverage rates for routine childhood vaccinations

Since gaining independence in 1991, Armenia has been heavily dependent on external donors (mainly UNICEF and GAVI) for the procurement of vaccines. The government has steadily increased budgetary allocations for vaccine procurement, from 190 million AMD in 2010 (0.3% of the health budget) to 3.5 billion AMD (3.1% of the health budget) in 2021. Currently, the country is fully funding its National Immunization Programme from domestic resources. Immunization coverage rates for routine childhood vaccinations remain high, with 95% of infants receiving the first dose of the vaccine against measles, mumps and rubella in 2019, and 96% receiving the second (compared with 91% in the WHO European Region). Routine childhood vaccinations are free of charge and provided at birth in maternity hospitals and subsequently by primary care providers.

The UHC service coverage index, measuring access to essential services, increased from 46 (out of 100) in 2000 to 69 in 2019, although this was still below the average for the WHO European Region (Fig. 6). The increase in the UHC service coverage index is the result of advancements in reproductive, maternal, newborn and child health; infectious diseases; noncommunicable diseases; and service capacity and access among the general and the most disadvantaged populations.

Despite improvements in the detection and treatment of HIV and TB, serious challenges remain

The incidence of TB has been more than halved since 2009 as a result of targeted policies to improve access to services (Box 2), from 48 per 100 000 population in 2009 to 21 per 100 000 population in 2019. This was below the average for the WHO European Region (23 per 100 000), but higher than the EU average (9 per 100 000). Armenia is among the 19 high-priority countries for TB prevention and care in the WHO European Region, and the increase in the share of multidrug-resistant TB cases among newly detected TB cases in recent years is of particular concern (from 14% in 2008 to 16% in 2019, according to data from the National Centre of Pulmonology). The estimated effective treatment coverage rate has been relatively stable during the last decade (Fig. 7).

There were 15.1 new HIV infections per 100 000 population in 2019, which was above the EU average of 5 but slightly below the average of the WHO European Region of 15.4. The treatment of HIV/AIDS is covered under the BBP. The percentage of people living with HIV who knew their status was 67%, among which 72% were on antiretroviral treatment, and 83% of those on antiretroviral treatment had achieved viral suppression (UNAIDS, 2022). As such, Armenia has still some way to go to achieve the UNAIDS targets of 95:95:95 (Fig. 8).
in 2019 (WHO Regional Office for Europe, 2022) (Fig. 9). Although this was below the average for the WHO European Region (78.3 years in 2017), it was the highest among the Commonwealth of Independent States (CIS) countries. Female life expectancy was 79.9 years, compared with male life expectancy of 73.3 years. This gender gap of 6.6 years was slightly higher than the average in the WHO European Region (6.3 years, 2017).

National data on life expectancy at birth differ somewhat from those reported in WHO databases, but also indicate an improvement, from 72.9 years in 2000 to 76.5 in 2019 (National Institute of Health, 2021).

4 IMPROVING THE HEALTH OF THE POPULATION

Life expectancy in Armenia has increased but remains below the average of the WHO European Region

Life expectancy in Armenia has slightly improved since 2000, increasing from 75.1 years to 76.7 years in 2019.

The COVID-19 pandemic and armed conflict have resulted in excess mortality

As in most other countries in Europe, the COVID-19 pandemic is believed to have affected overall mortality rates since 2020. Preliminary estimates of excess mortality indicate rates far exceeding the average of the WHO European Region (Fig. 10).

However, it should be noted that the peak of excess mortality (in October–December 2020) overlapped with the armed conflict in Nagorno-Karabakh (September–November 2020). The number of deaths due to external causes increased between 2019 and 2020 by at least 2 750, compared with 3 545 deaths due to COVID-19, and there were also more deaths because of circulatory (3 045 more deaths in 2020 than in 2019) and respiratory system (846 additional deaths) diseases (National Institute of Health, 2021).

Box 2
A people-centred approach has improved TB care and patient outcomes

Tuberculosis services (both outpatient and inpatient) are fully covered by the BBP in Armenia. Before the 2013–2014 TB care reforms, there were 72 outpatient and 9 inpatient TB facilities. Hospitalization rates were high, but most hospitalized TB patients did not meet the WHO criteria for hospitalization, undermining the potential role of outpatient facilities in diagnosing, treating and preventing TB. The Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund) was providing all the necessary TB medicines at the time.

Starting in 2013, the TB infrastructure was overhauled by the Ministry of Health, accompanied by new admission and discharge criteria and the revision of financing mechanisms. The reforms were based on WHO recommendations for moving towards a people-centred model of care with more emphasis on outpatient and community-based services. This resulted in the reduction of the number of outpatient TB facilities in Yerevan from 21 to 9 and the closing down of several regional TB inpatient facilities, due to low workload and poor quality of care, with concentration of all inpatient care at the National Pulmonology Centre. New payment mechanisms for hospital TB services and performance-based indicators related to early detection of TB for primary care providers were introduced in 2014.

Between 2014 and 2021, the reforms resulted in substantial (around three-fold) reductions in the number of TB hospital beds and hospitalizations, as well as a decrease in the average length of inpatient treatment of TB patients by 1.7 times. The Global Fund still helps with improving TB service delivery models and partially funds drug procurement, but currently 100% of first-line and around 30% of second-line TB medicines are funded from the national budget. The share of outpatient TB services increased to 35% of total budget funding for TB services in 2020.

Sources: National Tuberculosis Programme, National Centre of Pulmonology, State Health Agency, National Institute of Health.
**Fig. 8**
Armenia falls behind UNAIDS targets for the HIV treatment cascade

The UNAIDS 95 : 95 : 95 vision calls by 2025 for:

- **95%** people living with HIV who know their status
- **95%** people who know their status who are on ART
- **95%** people on ART who achieve viral suppression

By 2020 Armenia had achieved:

- **67%** people living with HIV who know their status
- **72%** people who know their status who are on ART
- **83%** people on ART who achieve viral suppression

**Notes:** ART: antiretroviral therapy; UNAIDS: Joint United Nations Programme on HIV/AIDS.

**Source:** UNAIDS, 2022.

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**Fig. 9**
Life expectancy in Armenia is higher than in other CIS countries

**Notes:** Data are for 2019 or latest available year (shown in brackets). No data for 2000 for Türkiye and Bosnia and Herzegovina; data for Georgia for 2000 not shown, as only marginally lower than in 2019. CIS: Commonwealth of Independent States; SEE: South-Eastern European countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, North Macedonia, Republic of Moldova, Romania, Serbia).

**Source:** WHO Regional Office for Europe, 2022.
There has been major progress in reducing infant and maternal mortality rates

Maternal and child health is one of the main government priorities in the health sector. The implementation of several national strategies aimed at decreasing infant and maternal mortality resulted in significant improvements over the last two decades. According to WHO estimates, the infant mortality rate per 1,000 live births in Armenia has fallen by more than 60% between 2000 and 2019, from 27 to 10.5 per 1,000 live births. The most recent national data on infant mortality suggest that in 2020 it was 7.4 (National Institute of Health, 2021). Both sources indicate dramatic improvements in infant survival, but the national rate remains above the average for the WHO European Region (7 per 1,000 live births in 2019).

According to UN estimates, maternal mortality has fallen from 43 per 100,000 live births in 2000 to 26 per 100,000 live births in 2019, which was still more than twice the average of the WHO European Region (12.7 per 100,000 live births in 2017). As a result of low absolute numbers of births and maternal deaths during childbirth in Armenia, national data on maternal mortality show major fluctuations from year to year (8 in 2017, 21.9 in 2018, 36.1 in 2019 and 19.3 in 2020), but the Ministry of Health triannual moving average of 25.7 per 100,000 live births for 2018–2020 is comparable to UN estimates.
The overall mortality rate in Armenia is the lowest among CIS countries

Armenia’s total age-standardized mortality rate of 783 per 100 000 population in 2019 was the lowest in all CIS countries and compared with a CIS average of 1 012 per 100 000 population in 2015 (WHO Regional Office for Europe, 2022). However, it was higher than the averages of the WHO European Region (690 per 100 000 population in 2017) and the EU (546 per 100 000 population in 2017). Overall mortality among children aged 0–14 years follows a similar pattern: with a total mortality rate of 66 per 100 000, Armenia does better than any other CIS country except the Russian Federation.

Noncommunicable diseases are the leading causes of death in Armenia

Noncommunicable diseases account for an estimated 93% of all deaths in Armenia, higher than the global average of 71% (WHO, 2018). The latest figures, from 2016, show that people in Armenia have a 22% chance of dying prematurely (between 30 and 69 years of age) from one of the four main noncommunicable diseases (cardiovascular diseases, diabetes, chronic respiratory diseases and cancer), with a significantly higher probability for men (31%) than women (15%).

Nearly 82% of all deaths in Armenia in 2019 were attributed to circulatory system diseases, cancer and respiratory diseases. Diseases of the circulatory system accounted for 412 age-standardized deaths per 100 000 population, or almost 53% of the total, compared with 287 per 100 000 population in the WHO European Region (2017) and 175 per 100 000 population in the EU (2017) (WHO Regional Office for Europe, 2022). Ischaemic heart disease has declined in recent years but remains the single leading cause of mortality in the country (Fig. 11). Cancer was the second leading cause of death in 2019, with 166 age-standardized deaths per 100 000 population (21%), followed by respiratory diseases (8%) and diabetes mellitus (2%) (WHO, 2022b).

Mortality rates from respiratory disease and cancer increased in Armenia by 34% and 31% over the period of 2000 to 2019, but they declined by 25% and 17%, respectively, in the WHO European Region between 2000 and 2017. At the same time, mortality from diabetes mellitus fell by more than 60% in Armenia, while it increased in the WHO European Region by 6%. A 2019 WHO report estimated that economic losses from noncommunicable diseases (including direct and indirect costs) make up 362.7 billion AMD, equivalent to 6.5% of GDP in 2017 (WHO Regional Office for Europe, 2019).
High blood pressure, poor diets and smoking are major risk factors

Unhealthy lifestyles are major risk factors contributing to mortality in Armenia, including dietary risks (high consumption of sugar, salt and fat) and smoking (Fig. 12).

More than half of the adult population (54.4%) was overweight in 2016, and 20.2% was obese. Both overweight and obesity levels among adults are lower than the averages of the WHO European Region (58.7% and 23.3%, respectively), but have shown increasing trends since 2000, with women more likely than men to be obese. Levels of physical activity (22.6% in 2016) are below the average of the WHO European Region (29.3%), but higher than the CIS average of 18.6%.

Smoking is a major behavioral risk factor, especially for males. Total smoking prevalence among those aged 15 years and over, at 25.5% in 2020, was higher than the averages for the EU (24.7%), the WHO European Region (25%), and the CIS (23.7%). The enforcement of the new law on tobacco control is expected to contribute to reducing this rate (Box 3). Although the smoking prevalence among males has declined from 61.7% in 2000 to 49.4% in 2020, it remains higher than the prevalence of male smoking in the WHO European Region (32%) and in CIS countries (37.6%) in 2020. The smoking prevalence among females in Armenia is much lower, at 1.5% in 2020, compared with a WHO European Regional average of 17.8% and a CIS average of 9.7%.

Alcohol consumption, at 3.8 litres per capita in 2019, is comparatively low, compared with an average in the WHO European Region of 7.8 and a CIS average of 5.8.

Box 3
Policy efforts aim to tackle the growing burden of noncommunicable diseases through implementation of screening programmes and tighter tobacco control policies

The Armenian government is focusing on the early detection and prevention of noncommunicable diseases through screening programmes and implementing public health policies targeting smoking.

Mass screening programmes were launched with support from the World Bank in 2015 for early detection of high blood pressure and diabetes among the population aged 35 to 68 years, and for cervical cancer among women aged 30–60 years. By the end of 2021, around 1.8 million people were examined for high blood pressure. The screening programmes are included in primary care services under the BBP and starting from 2022 they will be funded from the public budget. A pilot screening programme for early detection of breast cancer started in 2021 in three regions of Armenia with the help of a mobile mammography unit. Around 7 000 women aged 50–69 years were examined during the first year of the programme. Currently, the Ministry of Health is considering launching the next mass screening programme, targeting colon cancer.

The new tobacco control law was approved by the National Assembly of Armenia in February 2020, which further strengthened the regulations on advertisement, sales and consumption of tobacco products and their substitutes, including banning smoking in public areas as well as in bars and restaurants (both indoor and outdoor).

Source: Health Projects Implementation Unit, Ministry of Health.

Poverty levels have declined dramatically but remain a challenge

Although the proportion of the population living below the national poverty line has more than halved from its peak of 53.5% in 2004 to 23.5% in 2018, it remains one of the highest in the WHO European Region (see Country data summary). Poverty levels in Armenia are above the averages for the EU (17%), the CIS (11%) and the WHO European Region (14.9%). In addition to the impact that poverty has on access to health services, dietary risks and smoking, it also likely contributes to exposure to low temperatures and indoor air pollution, which are estimated to account for sizeable shares of deaths (Fig. 12).

According to data from the Integrated Living Conditions Survey, 95.5% of all households had access to safely managed drinking-water services in 2020 (99.7% in urban areas versus 89.6% in rural areas), an increase from 83.8% in 2000 (ARMSTAT, 2021).

5 SPOTLIGHT ON ANTIMICROBIAL RESISTANCE

Armenia has one of the lowest rates of antibiotic consumption in Europe

Armenia has relatively low rates of antibiotic consumption among the countries of the WHO European Region. Armenia participates in relevant networks set up by the WHO Regional Office for Europe (the Antimicrobial Medicines Consumption Network (AMC) and the Central Asian and European Surveillance of Antimicrobial Resistance (CAESAR) Network) and monitors AMC using import records provided by the Scientific Centre of Drug and Medical Technology Expertise of the Ministry of Health.

Before the COVID-19 pandemic, Armenia had been making steady progress in tackling antimicrobial resistance (AMR). In 2018, Armenia had already achieved the WHO target that by 2023, 60% of all antibiotics consumed should come from the “Access” category, the group of antibiotics with the lowest risk of resulting in resistance (Fig. 13). However, in 2020 the use of antibiotics in Armenia increased significantly, with overall consumption exceeding that of 2011, the year of peak consumption since 2002.
Fig. 13
Overall consumption of antibacterials in Armenia in 2018 was among the lowest in the WHO European Region

Notes: Consumption of antibacterials in 2018. DDD: daily defined dose. Access, Watch and Reserve (AWaRe) classification of antibiotics as follows: Access: First and second-choice antibiotics that should be widely available in all countries; Watch: Antibiotics that only should be used for a specific, limited number of indications; Reserve: Last-resort antibiotics for cases where other antibiotics have failed or for infections of multi-resistant bacteria; Unclassified: Antibiotics which are not yet classified.

Source: European Centre for Disease Prevention and Control, WHO Regional Office for Europe.

Fig. 14
Armenia has a comparatively low share of bloodstream infections due to MRSA

Notes: Percentage of bloodstream infections due to methicillin-resistant Staphylococcus aureus (MRSA) among patients with symptoms of bloodstream infections who have growth of S. aureus in tested blood samples. Data refer to 2019.

Source: European Centre for Disease Prevention and Control, World Health Organization Regional Office for Europe.
Rates of antimicrobial resistance are lower in Armenia than the EU/EEA average

The rate of bloodstream infections due to methicillin-resistant Staphylococcus aureus in Armenia is lower than the EU/EEA average but is still high compared to the AMR prevalence found in northern Europe (Fig. 14). As there are very limited data available from Armenia to date, this information should be interpreted with caution.

Armenia has made some progress in combating AMR, but data collection and surveillance systems need further strengthening

Armenia has been fighting AMR for almost a decade. The Government of Armenia authorized a national strategy for AMR surveillance and prevention, as well as the National Action Plan on Antimicrobial Resistance 2015–2020, based on WHO recommendations from 2012. In response to the challenges of the COVID-19 pandemic, the Ministry of Health developed clinical guidelines for primary health care providers in 2020, with support from WHO, on the management and treatment of a variety of common infections, including pneumonia, sore throat, urinary tract infections, ear infections in children, and respiratory infections like COVID-19.

Based on the most recent TrACSS survey (2020–2021) data, a multi-sectoral coordination committee on AMR has been established with government leadership, and a nationwide, government-supported AMR awareness campaign is in place, targeting all or the majority of priority stakeholder groups (including human and animal health, food production, etc.). AMR is covered in some pre-service and in-service training or other continuing professional development for health workers. At the same time, although some AMR data are collected in Armenia, no standardized approach is in place, nor is there a legal framework for a national AMR reference laboratory. Also, national coordination and/or quality management are lacking. Armenia is currently developing a new national AMR action plan from 2023 onwards.

A new multi-sectoral approach against AMR is being developed based on the One Health concept

Armenia is now working on a new multi-sectoral strategy for AMR surveillance, prevention and control, as well as a revised action plan for the years 2023–2027. The “One Health” concept will be used in this strategy, which will also include the animal health, education and environmental sectors. Importantly, the new strategy will be implemented across sectors, as will the development of tools and methods for monitoring and evaluating the planned One Health initiatives.

6 EUROPEAN PROGRAMME OF WORK (EPW)

Moving towards universal health coverage

Armenia is making efforts to move towards UHC through increased public funding for health and expanded coverage. WHO is supporting the country in these efforts by providing technical expertise and evidence-based strategies to improve affordability and equity in access to care. The work on UHC is focusing on improving the quality and comprehensiveness of primary care, including the introduction of guidelines around the treatment of common infections and COVID-19, with a focus on the rational use of antibiotics. WHO also supports primary health care reform and the country’s efforts to end the TB, HIV and hepatitis epidemics, and use multisectoral cooperation on antimicrobial resistance under a One Health approach.

Protecting against health emergencies

Armenia aims to strengthen its health system’s resilience to health emergencies through the establishment of the Public Health Emergency Operation Centre, which will be part of the Public Health Emergency Operations Centre Network formed by WHO in 2012. WHO helps to improve Armenia’s surveillance system, including through developing mechanisms to detect and isolate positive cases at the point of entry, and improving the quality and efficiency of the laboratory system based on lessons learned from the COVID-19 pandemic. WHO supports the National Emergency Medical Team in the Global Classification process, with the aim of achieving the status of a globally classified organization with a high quality of care.

Promoting health and well-being

WHO supports Armenia in its efforts to prevent and control noncommunicable diseases and promote healthy lifestyles through multisectoral action. This includes the development and implementation of a tobacco control policy in line with the WHO Framework Convention on Tobacco Control. Mental health is one of the flagship initiatives of the European Programme of Work and is recognized by the Government of Armenia as a high priority for the country. WHO is also helping the country in its efforts to improve mental health and psychosocial support services. WHO also provides continuous support to improve sexual, reproductive, maternal, newborn, child and adolescent health and to promote a life-course approach in the health agenda.
## COUNTRY DATA SUMMARY

<table>
<thead>
<tr>
<th></th>
<th>Armenia</th>
<th>WHO European Region</th>
<th>EU</th>
</tr>
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<tbody>
<tr>
<td>Life expectancy at birth,</td>
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<td>78.3</td>
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<tr>
<td>Estimated maternal mortality</td>
<td>26</td>
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<tr>
<td>per 100 000 live births</td>
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<tr>
<td>Estimated infant mortality</td>
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<td>3.4</td>
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<tr>
<td>per 1 000 live births</td>
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<tr>
<td>Population size, in millions</td>
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<td>512</td>
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<tr>
<td>(2020)</td>
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<tr>
<td>GDP per capita, PPP$</td>
<td>13 284</td>
<td>35 340</td>
<td>44 421</td>
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<td>(2020)</td>
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<tr>
<td>Poverty rate at national</td>
<td>23.5</td>
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<td>poverty lines (2018)</td>
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**Notes:** EU: the 28 EU Member States until 2020; GDP: gross domestic product; PPP: purchasing power parity; SEE: South-Eastern Europe.

**Source:** WHO Regional Office for Europe, 2022.

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### References


WHO Regional Office for Europe

WHO is the authority responsible for public health within the United Nations system. The WHO Regional Office for Europe (WHO/Europe) covers 53 countries, from the Atlantic to the Pacific oceans.

To support countries, WHO/Europe seeks to deliver a new vision for health, building a pan-European culture of health, where health and well-being goals guide public and private decision-making, and everyone can make healthy choices. WHO/Europe aims to inspire and support all its Member States to improve the health of their populations at all ages. WHO/Europe does this by providing a roadmap for the Region’s future to better health; ensuring health security in the face of emergencies and other threats to health; empowering people and increasing health behaviour insights; supporting health transformation at all levels of health systems; and by leveraging strategic partnerships for better health.

European Programme of Work ‘United Action for Better Health in Europe’

The European Programme of Work (EPW) sets out a vision of how the WHO Regional Office for Europe can better support countries in our region in meeting citizens’ expectations about health.

The social, political, economic and health landscape in the WHO European Region is changing. United action for better health is the new vision that aims to support countries in these changing times. “United”, because partnership is an ethical duty and essential for success, and “action” because countries have stressed their wish to see WHO move from the “what” to the “how”, exchanging knowledge to solve real problems. The WHO European Region’s solidarity is a precious asset to be nurtured and preserved and, through the EPW, WHO/Europe supports countries as they work together to serve their citizens, learning from their challenges and successes.

The European Observatory on Health Systems and Policies

The European Observatory on Health Systems and Policies supports and promotes evidence-based health policy-making so that countries can take more informed decisions to improve the health of their populations. It brings together a wide range of policy-makers, academics and practitioners, drawing on their knowledge and experience to offer comprehensive and rigorous analysis of health systems in Europe. The Observatory is a partnership hosted by WHO/Europe. Partners include the governments of Austria, Belgium, Finland, Ireland, Norway, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the Veneto Region of Italy (with Agenas); the European Commission; the French National Union of Health Insurance Funds (UNCAM), the Health Foundation; the London School of Economics and Political Science (LSE) and the London School of Hygiene & Tropical Medicine (LSHTM). The Observatory is based in Brussels with hubs in London (at LSE and LSHTM) and at the Berlin University of Technology.