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Vulnerability Profile Armenia

Assessment of SARS-CoV-2 Pandemic Vulnerabilities

Academy of the Disaster Research Unit (ADRU)
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Abstract

The SARS-CoV-2 pandemic has created unprecedented challenges for all society sectors, including healthcare systems, economy, education, political systems, and everyday activities. In every country, however, there are specific patterns of vulnerabilities derived by various social, economic and political and institutional conditions and processes, which result in unequal ways in which people and communities are affected by multidimensional impacts of the SARS-CoV-2 pandemic. As part of the research project *CoronaSys – Addressing the corona pandemic in Armenia through systemic risk management*, which was conducted by the Academy of Disaster Research Unit (ADRU), we carried out a descriptive secondary assessment to identify key vulnerabilities in the context of the SARS-CoV-2 pandemic in Armenia. Throughout a comprehensive literature review, we identified five broader aspects that are most relevant to assess vulnerabilities in the context of the pandemics multifaceted impacts. These aspects include: 1) demographic factors, 2) socioeconomic conditions, 3) political conditions, 4) public health, and 5) healthcare systems. Based on the descriptive secondary analysis of most relevant indicators and associated statistics, and available information, this report includes issues ranging from increasing poverty rate, political instability, to the high rate of non-communicable diseases, food insecurity and unequal distribution of health workforce. This working report presents the key findings of the assessment and highlights the main areas and groups requiring special attention for a more effective pandemic response in Armenia. It is a preliminary assessment aiming to provide a sound understanding of vulnerabilities to complex and multiple impacts of the SARS-CoV-2 pandemic in Armenia, which can be used as a basis for further studies and research.

Keywords: SARS-CoV-2 pandemic, vulnerability, COVID-19, health, pandemic response, inequality, poverty, social exclusion, Armenia, pandemic impacts

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Acronyms

ADRU.....	Academy of the Disaster Research Unit
ARMSTAT.....	Statistical Committee of Republic of Armenia
CHE.....	Current Health Expenditure
CFSVA	Comprehensive Food Security, Vulnerability Analysis
GHO.....	The Global Health Observatory
GII.....	Gender Inequality Index
GISAH.....	WHO Global Information System on Alcohol and Health
HRW	Human Rights Watch
ILCS.....	Integrated Living Conditions Survey
ILO.....	International Labour Organization
IHR.....	International Health Regulations
LGBT.....	Lesbian, Gay, Bisexual, Transgender
NCD	Non-communicable disease
OOPs.....	Out-of-Pocket Payments
PHC.....	Primary Health Care
SEIA	Socio-Economic Impact Assessment
SPAR	State Party Self-Assessment Annual Reporting Tool
UHC.....	Universal Health Coverage
UN.....	United Nations
UNDRR.....	United Nations Office for Disaster Risk Reduction
UNECE.....	United Nations Economic Commissions for Europe
UNDP.....	United Nations Development Programme
WHO.....	World Health Organization
JMP.....	Joint Monitoring Programme for Water Supply, Sanitation and Hygiene

Executive summary

This report presents the findings of a descriptive secondary assessment vulnerabilities in the context of the complex and multidimensional impacts of SARS-CoV-2 pandemic in Armenia and highlights main areas and groups that requires special attention in the pandemic response. It is a preliminary assessment, developed as part of the research project *CoronaSys – Addressing the corona pandemic in Armenia through systemic risk management*, conducted by the Academy of Disaster Research Unit (ADRU). The primary aim of this assessment is to provide a sound understanding of vulnerabilities in the context of the pandemics multifaceted impacts.

Armenia reported its first imported confirmed case of COVID-19 on March 1, 2020, and local transmission has been registered since 11 March. At the time of writing this report, the pandemic continues to impact all sectors of society. This assessment applies a multifaceted lens to observe key vulnerabilities arising from underlying societal, economic, political, as well as public health and healthcare system conditions in Armenia. Based on a comprehensive literature review, we identified five broader aspects that are most relevant to assess vulnerabilities in the context of a pandemic such as SARS-CoV-2 and its multifaceted impacts. These aspects include: 1) demographic factors, 2) socioeconomic conditions, 3) political conditions, 4) public health, and 5) healthcare systems. Each aspect includes sub-categories that address aspects or areas of vulnerability in the context of pandemic. Using the available data (e.g. from the World Health Organization, the World Bank, and the Statistical Committee of the Republic of Armenia) and a set of most relevant indicators, the team assessed vulnerabilities within the five selected areas. Alongside the statistical data, the information and evidence obtained from the literature review were used to enrich the assessment with a context-specific understanding of the situation in the country. In the report development phase, the team continued to review the latest publications and modified the data and information based on the latest updates.

This preliminary assessment aiming to acquire a sound understanding of vulnerabilities in the context of complex and multifaceted impacts of SARS-CoV-2 in Armenia can be used as a basis for further studies and research. The key findings are highlighted below.

Demographic factors

Population trends

- **The Armenian population is declining and ageing.** Armenia is facing a population decline, which is combined with the growing share of population ageing. Around one in ten Armenian people is aged 65 and above.¹ Given that the risk of COVID-19 severe illness and fatality rises sharply with age, Armenia's ageing population implies that a relatively high proportion of the population is potentially at risk for COVID-19. Alongside the health-related risks, older adults are particularly vulnerable to the psycho-social and economic consequences of the pandemic, such as financial insecurities and isolation.

¹ (World Bank 2019m)

Urbanisation

- **Despite the shrinking trend, the country's urban population is still higher than the global rate.** Around two-thirds of the country's population live in urban areas; more than half of the total population is concentrated in the capital city of Yerevan.² Around 1 in 10 of the urban population lives in urban slums.³ People living in slums and other informal settlements are particularly vulnerable to COVID-19 transmission and infection due to the substandard and overcrowded living conditions.

Household size and composition

- **Many Armenian people live in large and extended family households.** Living in extended families or large households enables many people to share living costs, and thus it can be a primary source of care and support in times of hardship. However, people living in large and extended family households might be at increased risk of virus transmission due to overcrowding and unavoidable close contacts. Thus, optimal strategies will be required for supporting people who have limited options for home-isolation and reducing household contacts.

Socio-economic conditions

Economic factors

- **Armenia's promising economic growth in previous years appears to be affected by the pandemic.** Pandemic mitigation programmes have raised government spending. At the same time, the lower revenue collection and predicted shrinking GDP collection might lead to a state budget deficit in Armenia.

Income distribution and poverty

- **Income inequality is increasing in Armenia.** The Gini coefficient highlights the significant inequality in income distribution within the Armenian population⁴, which could be intensified by the economic impacts of the pandemic.
- **Around one in four Armenians lives below the poverty line.** In 2019, the poverty rate was at 26.4%, and 1.4% of the total population was in food (extreme) poverty in Armenia.⁵ Rural regions have a greater number of poor households than urban areas: more than one in three people live in poverty in rural areas. The increasing poverty is associated with adverse health outcomes among vulnerable poor families, directly affecting poor households' capacity to seek health services and assistance.
- **A growing number of Armenians are experiencing homelessness.** In the context of the SARS-CoV-2 pandemic, Armenian people experiencing extreme poverty and homelessness are

² (World Bank 2019r)

³ (World Bank 2018d)

⁴ (ARMSTAT 2020a)

⁵ (ARMSTAT 2020a)

particularly vulnerable to the transmission of the virus due to the lack of access to shelter, hygiene, and sanitation services.

Work and employment

- **The unemployment rate, especially youth unemployment, is currently high in Armenia.** The high unemployment rate is a concerning issue in Armenia. The 2020 unemployment data shows that around 34% of adults aged 15-24 are unemployed.⁶ The economic effects of the pandemic are likely to aggravate the current situation.
- **Around one in three Armenians works in the informal non-agricultural sectors.** Informal employment is usually associated with the lack of entitlement to social security schemes and unemployment benefits. As a result, informal workers are particularly vulnerable to the pandemic's adverse economic impacts, such as increasing poverty and unemployment.
- **Remittances resulting from labour migration are a significant source of income for many Armenian households.** Pandemic border restrictions and economic disruptions can threaten the livelihood of the remittance-dependent families.

Transportation

- **Armenia's transportation sector shows a relatively low logistic performance and road connectivity capacity.** Armenia's score is below the global average in the Logistic Performance Index⁷ and acquires a lower Road Connectivity Index ranking.⁸ During the pandemic, the inadequate capacity of transport infrastructure can influence health care access and delivery of essential goods and services.

Digital technologies and communication

- **Although most of the Armenian population uses the internet, there is a significant digital divide between regions, gender, age and socio-economic groups.** As online technologies are becoming prevalent in maintaining social activities and communication during the global pandemic, the existing digital inequalities can intensify social exclusion. In this situation, the government's over-reliance on digital technologies such as contact tracing apps or online channels of risk communication can create further challenges to access essential information and warnings for the population with limited digital and virtual network accessibility such as the elderly, rural communities, women, less-educated people, and lower-income households.

Gender issues

- **Armenian women are more exposed to financial insecurities due to the pre-existing gender gap and inequalities.** Armenian women have low participation in the labour market. Traditional gender roles and patriarchy, family structure, age, and economic status contribute

⁶ (World Bank 2020f)

⁷ (World Bank 2018a)

⁸ (Schwab 2019)

to the existing gender gap in employment and working hours. Thus, they can be more vulnerable to economic adversities such as unemployment, income loss, and financial stress.

- **The pandemic is likely to exacerbate the burden of unpaid caregiving on Armenian women.** Armenian women typically spend comparatively more time than men in unpaid domestic work such as household chores, childcare, sick, elderly, and disabled family members. During the pandemic, women are at risk of psychological and health stress due to the additional caregiving responsibilities.
- **Survivors of domestic violence are facing challenges to seeking protection in Armenia.** Despite recent efforts, the country still lacks a comprehensive legal framework that ensures the protection of domestic violence survivors, which make them particularly vulnerable to the increasing risk of domestic violence in times of the pandemic lockdown.

Education

- **Despite the country's high literacy and school enrolment rate, social inequality in access to educational opportunities remains a key issue.** Urban-rural disparities and socio-economic background and disabilities shape students' educational pathways in Armenia. The pandemic's disruptive impacts on the educational system can increase existing education inequalities and deprivation in the country. In addition, remote learning through online platforms is not a feasible option for all Armenian students and learners due to existing digital inequalities.

Migration and displacement

- **Financial insecurities and housing problems are among the key challenges for migrants in Armenia.** Many migrants living in Armenia face difficulties obtaining financial security and sustainable housing. Socio-economic disruptions caused by pandemics can exacerbate these long-lasting problems for the migrant population.
- **The recent war over the Nagorno-Karabakh region has resulted in the displacement of thousands of people.** Displaced persons and refugees living in overcrowded settings are at higher risk of infection due to the limitation of essential hygiene services. The lack of adequate primary health care services creates further health risks among displaced people who are in dire need of health care.

Social capital

- **Institutional trust is generally low in Armenia, and people rely more on informal networks and interpersonal trust.** In the absence of the high level of institutional trust, relying on community networks and interpersonal relationships is a common mechanism for Armenian individuals and families in times of hardship and crisis, such as a pandemic.

Political conditions

Governance

- **Armenia is dealing with political instability.** The country is experiencing a political transition toward democratic governance. However, political instability remains a key issue which can influence the governance effectiveness in times of the pandemic.
- **Despite recent progress, corruption and the lack of transparency remain key concerns in Armenia.** In the pandemic, corruption and non-transparent public operations can influence public services and effective response.

State of democracy

- **The political transition toward democracy is an undergoing process in Armenian society.** Pandemic restrictions can trigger concentration of power and anti-democratic and non-transparent procedures of decision-making, affecting the country's transition to democracy.

Freedoms and human rights

- **Despite media diversity, independent journalism is yet to be fully achieved in Armenia.** Government controls impose challenges for Armenian journalists, which can be exacerbated during the pandemic.
- **LGBT people, persons with disabilities, women, and older people face multiple forms of discrimination and social exclusion in Armenia.** Structural exclusion and discrimination contributing to the series of problems and risks such as poverty and the lack of access to essential health care services render marginalised and disadvantaged groups particularly vulnerable to the health and socioeconomic impacts of the SARS-CoV-2 pandemic.

Presence of conflicts

- **The recent armed conflict over the Nagorno-Karabakh region creates additional complexities for managing the pandemic, making the country more fragile and prone to failure.** The conflict over disputed Nagorno-Karabakh between Armenia and Azerbaijan has escalated further into an armed conflict between the two countries, creating extra pressures on the country's institutions, particularly on the healthcare system, as the country is faced with handling the conflict and the SARS-CoV-2 pandemic at the same time.

Public health

Life expectancy and mortality

- **There is a considerable gender difference in life expectancy in Armenia.** Armenian women can expect to live over seven years longer than men. The potential impact of the excess mortality of COVID-19 on decreasing life expectancy could exacerbate the existing gender gap in the population's life expectancy.
- **The adult male mortality rate is significantly higher than adult female mortality in Armenia.** High male adult mortality could indicate the population's mortality pattern in general and the risk of case fatality of COVID-19 in particular. Of course, conflict fatalities need to be accounted for as well.
- **Compared to the European region, Armenia has a relatively high maternal mortality rate and mortality of children under five years of age.** During the global pandemic, maternal and under-5 child deaths are at risk of increasing due to the disruption of health care services and the potential impact on food security and other measures for saving maternal and child lives.

Non-Communicable Diseases and key risk factors

- **Non-communicable diseases are among the main public health challenges in Armenia.** The non-communicable diseases account for 93% of deaths in Armenia.⁹ The non-communicable disease profiles of countries can indicate the risk and vulnerability of its population to the severe progression of and death due to the COVID-19 infection.
- **One in five Armenian people suffers from obesity.**¹⁰ Obesity is one of the risk factors that account for the increased disease burden in Armenia and is considered a risk factor contributing to COVID-19 severe illness.
- **More than half of Armenian men aged over 15 use tobacco.**¹¹ Tobacco smoking increases the risk of NCD diseases, including cardiovascular and circulatory diseases, and can be associated with severe COVID-19.
- **Although the total alcohol consumption level is relatively low in Armenia, there is a significant difference in consumption across gender.** Alcohol consumption is associated with multiple forms of diseases and compromises the body's immune system, making it more vulnerable to infectious diseases such as COVID-19.
- **The air quality in Armenia is moderately unsafe.** Exposure to ambient air pollution increases the risk of respiratory diseases and chronic lung inflammation and can pose a risk factor for COVID-19 infection and mortality.

⁹ (World Bank 2016a)

¹⁰ (WHO 2017)

¹¹ (WHO 2020n)

Communicable and vaccine-preventable diseases

- **Armenia's incidence of Tuberculosis prevalence remains among the highest in Europe.** TB and COVID-19 are both infectious diseases that attack the lungs. Although the experience on COVID-19 infections in TB patients remains limited, it can be anticipated that TB patients infected by COVID-19 have poorer health outcomes.
- **Compared to the global average, Armenia has a lower HIV prevalence, but the antiretroviral therapy coverage is under the global average.** Although the prevalence rate of HIV is relatively low in Armenia, the significant issues are maintaining essential services and addressing affected populations' needs. During the pandemic, patients are at increased vulnerability due to disruptions of HIV service rooms and special HIV counselling services.
- **Children's vaccination coverage has improved in Armenia, but there are regional differences in timely vaccination.** Armenian rural children are more likely to be vaccinated receive a timely vaccination compared to children in urban areas. The internal migration patterns and associated poor health care access are likely to explain the lower timely vaccination in urban Armenia.¹²

Water, sanitation, and hygiene services

- **Around 1 in 7 Armenian households lacks access to safely managed drinking water.**¹³ In the pandemic, the lack of access to safely managed drinking water from an improved source accessible on-premises can affect households' wellbeing and health.
- **Around 1 in 20 Armenian households lacks access to basic sanitation facilities.**¹⁴ The lack of basic sanitation facilities forces people to use the shared facilities with other users, thus increasing their risk of infection with the SARS-CoV-2 virus.
- **Around 1 in 20 Armenian households lacks a handwashing facility.**¹⁵ Since poor hygiene is one of the main routes of transmission of the SARS-CoV-2 virus, households that lack hygiene facilities are less equipped to protect themselves from the infection.

Food security and nutrition

- **Around 1 in 7 Armenians are food-insecure, and approximately 1 in 20 of the population is undernourished.**¹⁶ The combined effects of COVID-19 and food security vulnerability can raise the health risks and worsen existing food insecurity, poverty and inequalities.
- **Unhealthy dietary habits and child malnutrition remain key concerns in Armenia.** Armenia has shown limited progress in increasing the consumption of diversified and nutritious foods. Different forms of malnutrition, including overweight, anaemia, and stunting, affect the health

¹² (UNICEF Armenia 2018a)

¹³ (WHO/UNICEF JMP 2017)

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ (WFP 2019)

of Armenian children. The shift in consumer demands toward cheaper and less nutritious foods brought on by the pandemic can exacerbate the malnutrition within the population.

Healthcare system

Physical and human resources

- **Compared to averages in Europe and Central Asia, there is a lower hospital bed capacity in Armenia.** Since the country's independence from the Soviet Union, there has been an overall decline in Armenia's hospital bed capacity. As is the case for many other countries, hospital capacity and medical equipment shortages are major concerns as COVID-19 cases spike in Armenia. The armed conflict between Armenia and Azerbaijan has resulted in further pressures on the country's healthcare system, as it is forced to deal with the pandemic and war casualties at the same time.
- **Despite relatively high number of health workers human in Armenia, the uneven geographical distribution of medical workers contributes to a shortage of regional and rural healthcare workforces.** The uneven distribution and concentration of health workforce in larger cities, especially in Yerevan, have resulted in a shortage of professional health workforce in other regions, including in rural areas, and can pose significant challenges for dealing with the pandemic in those areas.

Health security core capacities

- **Armenia faces inadequate laboratory capacity.** The lower laboratory capacity may pose challenges for laboratory support and urgent needs to boost testing capacity for early detection and containment of the COVID-19 outbreak.

Health Financing

- **Household Out-of-Pocket Payments remain the largest sources of health financing in Armenia.** The high proportion of household out of pocket payments suggests inadequate protection for households, which may be exacerbated in the wake of COVID-19. Simultaneously, a low share of public health expenditure poses challenges to the Universal Health Coverage in Armenia.

Mental health care services

- **Mental health services mainly focus on inpatient care in Armenia, whereas the number of outpatient treatment facilities are relatively low.** During the pandemic, shifting to home-based health care and remote community services are potential strategies for maintaining mental health care. The feasibility of these adaptation strategies is currently limited in Armenia's centralised and hospital-based mental healthcare system. Shifting to home-based and remote community services mainly depends on capacity of community-based mental health care and availability of human resources, which are currently limited in Armenia.

Long-term care

- **Family and informal caregiving are not adequately supported.** In Armenia, long-term care mainly relies on the informal setting within families. However, families need the external support and financial assistance, which are currently limited in the country. In the context of COVID-19, the inadequate support for informal long-term caregiving and the lack of accessible health care services may exacerbate health risks, financial burdens, and, thus, the vulnerability of the patients in need of long-term care and their families.

Health care services in prisons

- **Despite improvements in these areas, poor equipment, lack of medication, and limited staff have remained key issues regarding health care services in the country's prisons.** The containment of the virus in prisons is likely to fail if strong infection prevention measures, adequate testing, treatment, and medical care and services are not carried out in prisons and other similar settings.

1. Introduction

The SARS-CoV-2 pandemic has created unprecedented challenges for all society sectors, including healthcare, economic, education and political systems, as well as everyday activities. In every country, however, there are specific patterns of vulnerabilities derived by various social, economic and political and institutional conditions and processes, which result in unequal ways in which people and communities are affected by the SARS-CoV-2 pandemic in its multiple dimension. Growing evidence shows that disadvantaged socioeconomic groups, who are already suffering from the unequal distribution of health care or economic resources, can be disproportionately affected by the pandemic's impact (Bambra et al. 2020; Mukumbang, Ambe, and Adebisi 2020; Patel et al. 2020). For example, the COVID-19 outbreak can lead to a higher risk of infection and poorer health outcomes among those groups, such as refugees or migrants, who barely have access to essential health care services (Mukumbang, Ambe, and Adebisi 2020; Patel et al. 2020). Furthermore, economically or for other reasons (like language barriers or cultural and religious reasons) marginalized people, such as people from cultural or religious minority groups may not be informed like the majority about pandemic-related risks, containment-measures or options to receive vaccination. Social groups experiencing discrimination and marginalization (such as LGBT individuals or people with disabilities) tend to stay in isolated milieus leading into an increased risk of being affected, not only by the virus itself but perhaps even more by the multiple “side-effects”. Hence, discursive exclusion, which is generated by structural forms of power and social, cultural, and economic capital distribution (Voss 2008; Voss and Fuk 2015) has to be assessed as one major factor regarding vulnerability within the pandemic. Alongside COVID-19’s direct (virologic) impacts on public health, pandemic response and control measures such as lockdowns and quarantines have escalated risks and vulnerabilities in many aspects, ranging from increased risk of unemployment and income loss to a growing rate of domestic gender-based violence and mental health issues, significantly affecting vulnerable groups. Since the SARS-CoV-2 pandemic impacts are tied to underlying vulnerabilities, it is essential to

Armenia reported its first imported confirmed case of COVID-19 on March 1, 2020, and local transmission has been registered since 11 March. On March 16, the government declared a state of emergency and went into lockdown (The Government of the Republic of Armenia 2020). Travel and public gatherings were restricted, schools were closed, and emergency was extended until 11 September (COVID-19 Health System Response Monitor 2020; OECD 2020). At the time of writing this report, the pandemic continues to impact all sectors of the country.

identify these specific and highly contextual vulnerabilities. To this end, as part of the research project *CoronaSys – Addressing the corona pandemic in Armenia through systemic risk management*, conducted by the Academy of Disaster Research Unit (ADRU), the research team performed a descriptive secondary assessment of vulnerabilities in the context of SARS-CoV-2 pandemic within Armenia to identify the main areas and groups that require targeted attention in pandemic response. The purpose of this assessment, however, is not to draw the full picture of the multifold dimensions of vulnerabilities. Its purpose is to have a clearer understanding of the current state of analysis, which seems to be necessary to then go more in depth into the whole complexity of vulnerabilities against the pandemics multifold effects. It is a preliminary assessment which is just a very first step into a new field of research. Having this said, and well knowing about the limitations of this descriptive secondary-assessment, this assessment already provides multifaceted insights into vulnerabilities to the highly dynamic and complex impacts of the SARS-CoV-2 pandemic. Using the available data and a set of most

relevant indicators, the research team explores major vulnerabilities in context of complex impacts of the pandemic within Armenia. Alongside the statistical data, the research team observes a broad range of relevant information and evidence to enrich the assessment with a context-specific understanding of Armenia's situation.

This report outlines the results of the assessment. The following chapter details the approach and methodology applied in the vulnerability assessment. Chapter three presents the key findings of the assessment and the concluding chapter highlights the identified main areas and groups that require targeted attention for a more effective and inclusive pandemic response and recovery.

2. Approach and methodology

The Disaster Research Unit at Freie Universität Berlin defines Vulnerability as being a consequence of the unequal distribution of entitlements in the societal organization of everyday life. In consequence, Vulnerability manifests itself as unequally distributed likelihood to be affected by hazards, determined mainly by the accessibility of resources on the one and the social position of a person or group within the structured social space and its powerful discourses on the other (e.g. Voss 2008).

Concerning infectious disease outbreaks and pandemics, the concept of vulnerability can be applied to three levels: drivers and mechanisms of emergence, the dissemination of infections, and the social responses to control them (Confalonieri, Wilson, and Najjar 2006). Therefore, pandemic vulnerability assessments has to take into account the characteristics of societies that generate the drivers and mechanisms of its emergence and expose certain segments of the population to the effects of disease outbreaks, as well as the overall societal consequences of measures to mitigate its containment. It should also include the conditions that affect the capacity of individuals, communities, or systems to respond to a diseases outbreak and the effects of respective policies in a timely and effective way (Confalonieri, Wilson, and Najjar 2006). In a given society, the impacts of disastrous events such as the SARS-CoV-2 pandemic emerge from underlying societal, economic, political, and institutional conditions and factors, shaping vulnerability and resilience patterns. At the same time, these patterns of vulnerabilities and resilience are revealed in interaction with the pandemic effects (Gaynor and Wilson 2020; Kelman 2020). In this sense, to understand how the pandemic affects individuals, groups, or societies, it is essential to observe and identify underlying factors and conditions shaping vulnerabilities to the pandemic as *a complex social process*.

With the aim of identifying COVID-19 vulnerabilities within Armenia and through a multifaceted lens, this assessment observed specific vulnerabilities arising from demographic, socio-economic, political, and health conditions in Armenia by using available data for a descriptive assessment.

The team applied the following methodological steps:

- **Literature review**

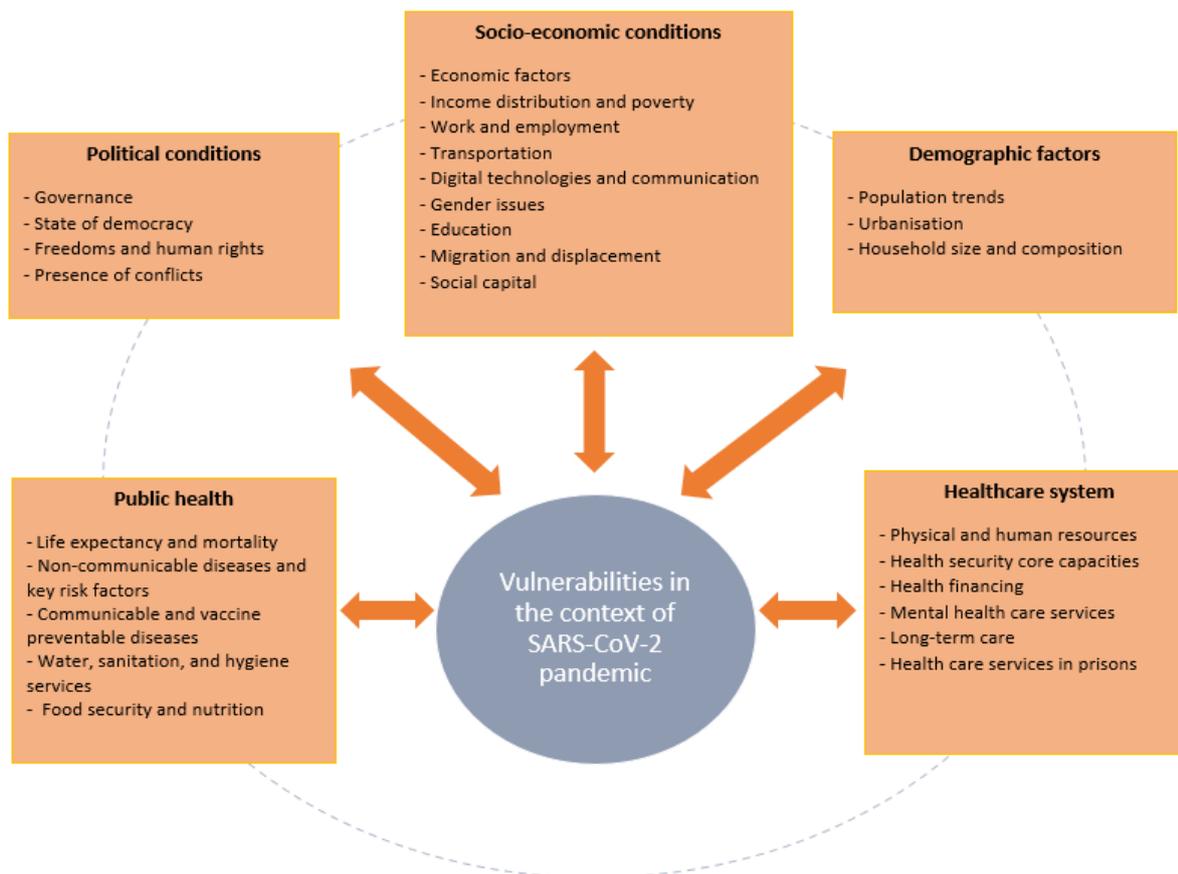
The primary methodological step was to conduct a comprehensive literature review with the following objectives:

- To develop a comprehensive literature database consisting of a variety of scholarly research, international studies, reports and articles focusing on vulnerability and infectious disease in general and the SARS-CoV-2 pandemic in particular
- To identify the most relevant concepts, aspects, and indicators mentioned within these studies
- To utilise information and evidence for a better understanding of the situation in the country

The priority was given to 1) relevant scholarship, studies, applied reports on vulnerability to infectious diseases; 2) recent publications on vulnerability in the context of the SARS-CoV-2 pandemic and 3) the impacts of the pandemic and emerging vulnerabilities in Armenia.

Based on the literature reviews, the research team identified five broader aspects relevant to the COVID-19 vulnerability assessment. Each aspect consists of a set of thematic categories addressing vulnerabilities in the pandemic context. The following figure shows the major aspects and the selected categories.

Figure 1: Aspects associated with vulnerability to the SARS-CoV-2 pandemic



In terms of selecting the indicators, the research team reviewed and used various relevant studies and references. The “INFORM COVID-19 Risk Index: Methodology and results” (Poljanšek et al. 2020), “Identifying Future Disease Hot Spots: Infectious Disease Vulnerability Index” (Moore et al. 2016), and 2018 Global Reference List of 100 Core Health Indicators (plus health-related SDGs) (WHO 2018a), were among the most relevant literature consulted for the identification and selection of key indicators related to vulnerability to disease outbreaks.

- **Data collection and analysis**

The team used secondary data to assess the indicators. Furthermore, relevant information and evidence were collected through the course of the literature review. Data collection was predominantly carried out between August 2020 and October 2020. The data was collected from the available sources, which include:

- Secondary data from global databases (e.g. WHO Global Health Observatory data, UN institutes, the World Bank, ILO), and Armenian institutes (e.g. ARMSTAT)
- Information and qualitative evidence obtained from the review of the variety of relevant publications, research, studies, news articles, and reports

The assessment methodology was based on the descriptive analysis of selected indicators and was carried out using available data and statistics. In the case of availability of a global or a regional calculated average¹⁷, it was compared with Armenia's level to assess the country's situation. Further, the information and evidence obtained from the literature review were utilised to enrich the assessment with a better understanding of the situation in the country.

The definitions of the selected indicators, and the details of data providers are presented in Appendix 1.

- **Report development**

The research team developed the detailed report of the assessment between October 2020-January 2021. During the development of the report, the team continued to monitor changing events and review recent publications and data. Using statistical charts, tables, and available information, the report presents the key findings of the assessment based on five broader aspects, including demographic factors, socio-economic conditions, political conditions, public health, and the healthcare system. Alongside the charts and tables, info boxes highlight the significance of the selected aspects to the vulnerability in the context of COVID-19. The following chapters present the key findings of the vulnerability assessment within Armenia.

¹⁷ The calculated average was a weighted average provided by the databases.

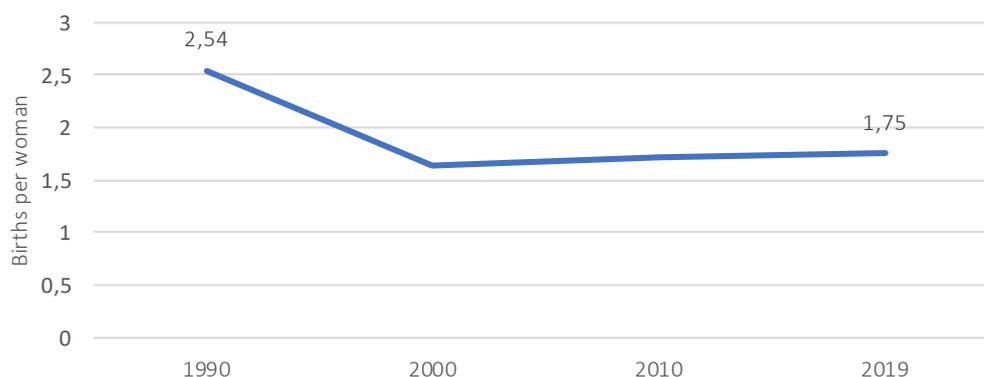
3. Key findings

3.1 Demographic factors

3.1.1 Population trends

The Armenian population is declining and ageing. Since independence from the Soviet Union, Armenia has faced a declining population: From 3,538,771 in 1990 to 2,957,731 in 2019. The country experienced a decreasing fertility rate from 2.54 in 1990 to 1.75 in 2019 (World Bank 2019a; United Nations 2020d) (Figure 2.). The sharp population decline in the early 1990s can be explained by the combination of economic crisis following the collapse of the Soviet Union and the Karabakh war, leading to increased mortality and a rising degree of emigration (Grigoryan 2020). Demographic changes in fertility, mortality, and immigration of ethnic Armenians from the diaspora have caused slight population growth in recent years (ibid, 2020) (0.2% of the annual rate of population changes in 2019) (World Bank 2019n). However, long-term UN projections show that the total population will have declined by 2050, and the country will experience a negative average annual rate in population (United Nations 2020d).

Figure 2: Fertility rate in Armenia 1990-2019



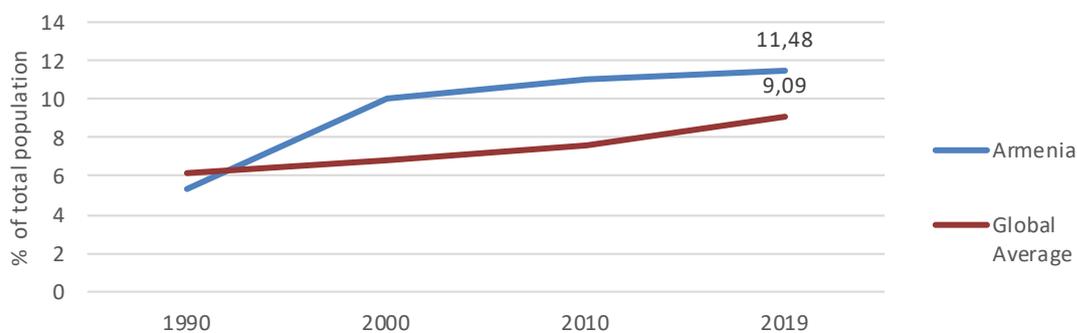
Source: World Bank, based on United Nations, World Population Prospects, 2019 Revision.

Alongside population decline, Armenia's population is also ageing as a result of increasing life expectancy, changes in reproduction, and a high level of emigration (UNECE 2017). Data referring to 2019 shows that 11.48% of the Armenian people are aged 65 and above, which is significantly higher than the global rate of 9.09% (World Bank 2019m; United Nations 2020d) (figure3). The share of the elderly population is projected to increase to 21.5% in 2050 (United Nations 2020d). The evidence shows that the risk of COVID-19 morbidity and mortality rises with age. This is of particular relevance in Armenia, with an ageing population. Alongside the direct health outcomes, COVID-19 affects older people's daily routines, the care and support they receive, and their social connectivity (WHO 2020m).

Box1. COVID-19 and ageing population

Growing evidence shows that the risk of COVID-19 severe illness and death rise sharply with age due to pre-existing health conditions and declining immune function, which is often prevalent in old age. This substantially affects the number of people at risk from the COVID-19 in countries with a high ageing population (United Nations 2020a; Benksim, AitAddi, and Cerkaoui 2020; Crimmins 2020).

Figure 3: Population ages 65 and above (% of total population) (1990-2019)



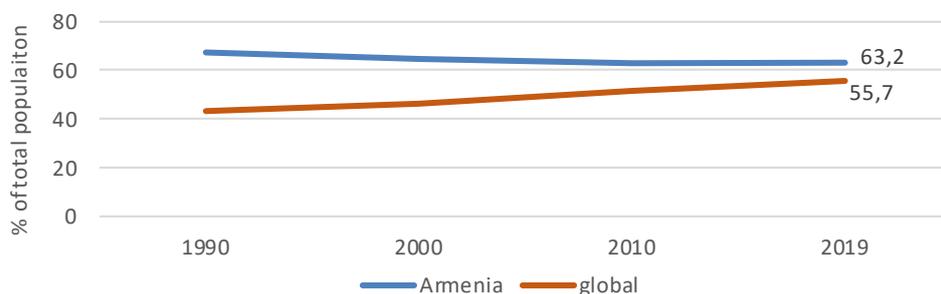
Source: World Bank staff estimates based on age/sex distributions of United Nations Population Divisions World Population Prospects: 2019 Revision.

3.1.2 Urbanisation

Despite the shrinking trend, the country's urban population is still higher than the global rate.

Armenia's population density decreased from 124.2 in 1990 to 103.6 people per sq km of land area in 2018 (World Bank 2018c). The country also experienced a decline in the rate of urban population from 67.69% of the total population in 1990 to 63.2% in 2019. Despite the declining trend, Armenia's urban population is still higher than the global rate (55.7%) (World Bank 2019r) (Figure 4). The capital city of Yerevan has the largest share of the population. Just over 57% of the country's total population lives in Yerevan (1.075 million) (Asian Development Bank 2019). Based on 2018 data, 9% of the total Armenian urban population lives in slums. Densely urban slums and informal settlements are emerging hotspots for coronavirus transmission (World Bank 2020b). Basic preventive measures, such as social distancing, are likely impossible for slum dwellers due to substandard and overcrowded living conditions. Furthermore, the lack of adequate sanitation and hygiene services restrict the ability to maintain personal hygiene during the pandemic.

Figure 4: Urban population (% of the total population) (1990-2019)

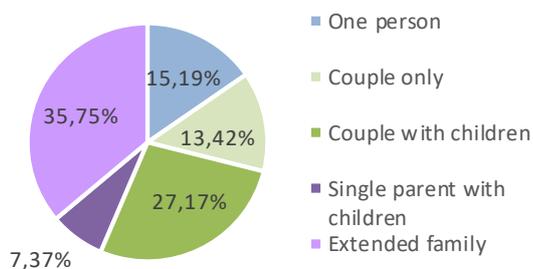


Source: World Bank, based on United Nations Population Division, World Urbanization Prospects.

3.1.3 Household size and composition

Many Armenians live in large and extended family households. In 2016, the average size of Armenian households was 3.5 members per household, and 16.34% of households had more than six members (United Nations 2019a). In 2016, extended families comprised the greatest share of the total households in Armenia (35.7%) (United Nations 2019a) (Figure 5). An extended family household includes one or more family members outside of the nuclear family, and no members who are not related to each other.

Figure 5: Distribution of households by type in Armenia



Source: United Nations, Department of Economics and Social Affairs, Population Division, database on household size and comparisons (data refer to 2016).

Box2. The risk of household transmission of COVID-19 within extended families and large households

There is growing evidence that shows the critical risk of household transmission of SARS-Cov-2 within a household. The cumulative risk of household contacts from an infected person is substantial during the peak of viral shedding (Grijalva et al. 2020; Lei et al. 2020). While self-isolation and home-quarantines are necessary measures to prevent transmission of the virus, following these measures may be challenging for household members from large or extended families.

Armenian families are often the major caregivers to those who need long-term care, including older persons. In addition, living in extended family or large households enables people to share apartments and costs of living. Therefore, it can be an effective way to cope with economic precarity and vulnerability (Lupieri 2014). However, people living in larger and extended family households might be at increased risk of virus transmission via overcrowding and unavoidable close contacts. Optimal strategies will be required for supporting people who have limited options for home-isolation and reducing household contacts.

3.2 Socio-economic conditions

3.2.1 Economic factors

Armenia's promising economic growth in previous years appears to be affected by the pandemic.

Overall economic conditions of a country reflect the amount and quality of its resources to prepare for and respond to pandemics such as COVID-19 (Moore et al. 2016). The Gross Domestic Product (GDP) in Armenia was worth 13.6 Billion US Dollars in 2019. Although Armenia's GDP per capita was lower than the global average (USD4,622 compared to USD11,435) (World Bank 2019c), the annual growth GDP per capita was 7.4% in Armenia, which was significantly higher than the estimated world average rate of 1.27% (World Bank 2019d). The annual inflation rate of consumer price was also lower than the world average (1.4% compared to 2.3%) (World Bank 2019g). According to the World Bank, robust growth in the past three years, which has continued in the first two months of 2020 (of more than 9% year-on-year [y-o-y]), has been declining since March due to the restrictions imposed as the pandemic spread and registered a 5.7%y-o-y contraction for the first half of the year (World Bank 2020e). Table 1 shows the country's key economic figures in 2019.

Table 1: Armenia's key economic indicators

Economic indicators	Armenia	World
GDP per capita (Current US \$)	USD 4,622	USD 11,435
GDP per capita growth (annual %)	7.4%	1.27%
Inflation and consumer price (annual %)	1.4%	2.3%

Source: World Bank (Data refer to 2019).

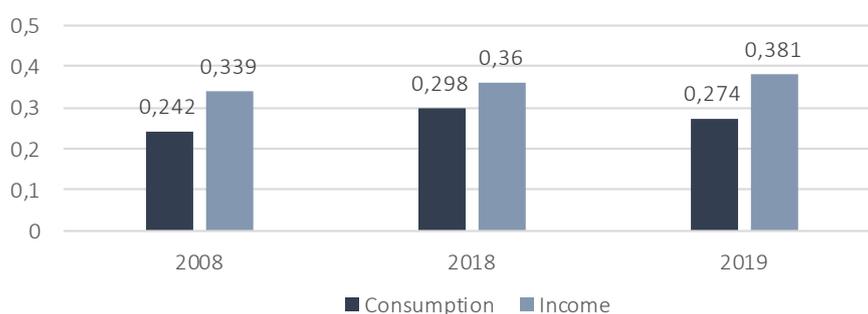
To mitigate the pandemic's socio-economic effects, the Armenian government has launched a series of support packages and measures (World Bank 2020e). With an estimated cost of 2.3% of GDP (World Bank 2020e), these support programmes include co-financing, refinancing and subsidies for SMEs and agriculture and one-time assistance for individuals employed in those sectors most strongly affected, including tourism, sport, and transportation (Nista 2020). In October 2020, IMF predicted that Armenia's GDP could face a -4.5% change in real GDP (IMF 2020). With lower revenue collection and a gloomy forecast for GDP growth, the current spending will increase the state budget deficit from an

originally planned 2.3% of GDP to 5.4%, resulting in greater public debt to above 60% of GDP (World Bank 2020e)

3.2.2 Income distribution and poverty

Income inequality is increasing in Armenia. The 2019 Gini coefficient indicates the greater inequality in income distribution from 0.36 in 2018 to 0.381 in 2019. At the same time, consumption inequality was decreasing from 0.298 in 2018 to 0.274 in 2019 (ARMSTAT 2020a, 3) (Figure 6). In other words, the polarisation of the population in Armenia is deeper in terms of income distribution than of aggregate consumption inequality.

Figure 6: Gini coefficient in terms of consumption and income in Armenia



Source: ARMSTAT

Around one in four Armenians lives below the poverty line.

In 2019, the average poverty line was USD 91.7 per adult in Armenia. The poverty line in terms of value of goods (food and non-food) and services that meet the needs of the minimum level of living standards (ARMSTAT 2020a) in Armenia is calculated in four categories, which is shown in Table 2.

Box3. The SARS-CoV-2 pandemic and extreme global poverty

It is estimated that an additional 88 million people will be pushed into extreme poverty this year, with the total rising to as many as 150 million by 2021, depending on the severity of the economic downturn (World Bank 2020a).

Table 2: The poverty line in Armenia, 2019

Poverty lines	Per adult equivalent, per month (USD)
Food or extreme poverty line	49.4
Lower poverty line	79.2
Average poverty line	91.7
Upper poverty line	110.3

Source: ARMSTAT, ILC, 2019.

According to the 2019 poverty measurement in Armenia, which follows the costs of basic needs approach (CBN)¹⁸, the poverty rate in Armenia relative to the average poverty line was 26.4% of the population, and 1.4% of the total population was in food (extreme) poverty (Table 3) (ARMSTAT 2020a). Poor households are identified as those whose consumption value is insufficient to afford the value of a basic need basket (ibid,2020). The poverty severity, which is used to measure the consumption inequality among the poor, was 3.4% in 2019. It indicates that some poor people are further away from the poverty line in terms of consumption, while others are much closer to it (ARMSTAT 2020a). According to the 2019 data, rural regions have a greater share of poor households than urban areas (ibid, 2020). Poverty is associated with adverse health outcomes among vulnerable poor families as it can directly affect the resources of poor families to seek health services and assistance. The UNDP's Socio-Economic Impact Assessment (SEIA) in Armenian communities shows that 37% of women and half of the single retirees will have to stop seeking health services if the pandemic continues to affect their income (UNDP 2020). Simultaneously, the economic impacts of the pandemic can exacerbate existing poverty among poor households, causing many more Armenians to fall into poverty (ILO 2020c).

Table 3: The poverty rate in Armenia (%), 2019

Region	Extremely poor	Poor	Poverty severity
Urban	1.1	22.2	2.7
Yerevan	1.1	14.1	1.7
Other urban areas	1.1	31.1	3.9
Rural	2	33.2	4.4
Total	1.4	26.4	3.4

Source: ARMSTAT; ILCS 2019.

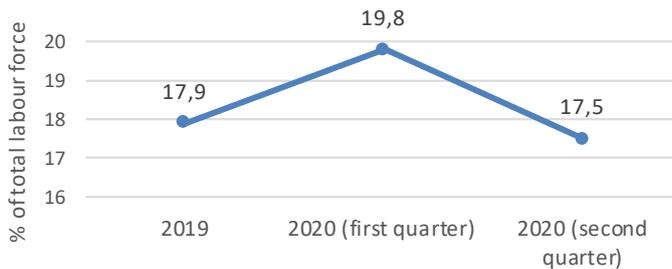
A growing number of Armenians are experiencing homelessness. According to an unofficial estimation, around a thousand homeless people need shelter and accommodation in Yerevan (Yeranosyan 2018). There is inadequate public aid assistance provided directly to homeless people, and most of the sources of support come from charitable organisations (ibid, 2018). Since the government has no specific homeless registration system, they also suffer from invisibility and exclusion (Hetq 2014; Yeranosyan 2018). In the context of the SARS-CoV-2 pandemic, Armenian people experiencing homelessness are particularly vulnerable to the transmission of the virus due to lack of access to shelter, hygiene, and sanitation services.

¹⁸ The basic notion behind the CBN is to quantify the monetary value of a consumption basket, as established by the Integrated Living Conditions Survey (ILCS), that meets basic food and non-food needs of households. This monetary value is called a "poverty line" . (ARMSTAT 2020a)

3.2.3 Work and employment

The unemployment rate, especially youth unemployment, is high in Armenia. In 2019, the unemployment rate is 17.9% (ARMSTAT 2020c). During the first quarter of 2020, the unemployment rate was 19.8%, showing the rise in the unemployed population from 17.9 in 2019, and then it decreased in the second quarter of 2020, reaching 17.5% (ARMSTAT 2020c) (Figure7).

Figure 7: Changes in the unemployment rate during 2019-2020



Source: ARMSTAT, based on ILO standard definition, 2020.

In 2020, the country's unemployment rate among 15-24 year olds was significantly higher than the world average (34% compared to 15.5%) (World Bank 2020f). UNDP's SEIA of the COVID-19 in Armenian Communities shows that during the SARS-CoV-2 pandemic, youth and women were at risk of unemployment: "Every third young employed person (aged 18 to 24) reported having lost their job since the outbreak COVID-19. About 39% of employed young men and 23% of young, employed women respondents recently lost jobs or requested to take a leave" (UNDP 2020, 45).

Around one in three Armenians works in the informal non-agricultural sector. Informal economy accounted for a considerable percentage of the country's non-agricultural employment, with around 34% in 2018 (World Bank 2020c). Informal employees are considered to have informal jobs if their employment arrangements are not subject to national labour legislation, income taxation, and entitlement to social protection schemes or unemployment benefits (Husmanns et al. 2004). Therefore, informal workers are particularly vulnerable to adverse economic COVID-19 impacts, such as increasing poverty and unemployment. In addition, informal workers might be excluded from state mitigation programmes and social protection schemes, due to the exclusion from social security schemes.

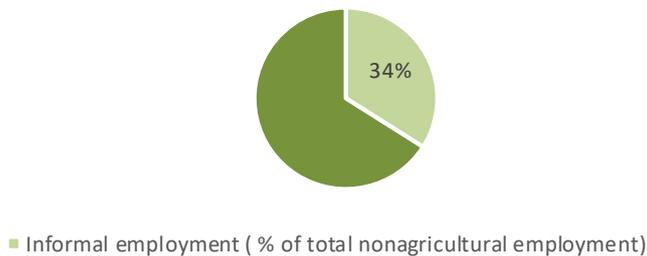
Box4. The impacts of the pandemic on work and employment

Alongside growing concerns about the health of workers and their families, the pandemic and its subsequent economic shocks impact the world of work across three key dimensions: 1) quantity of work (both employment and unemployment), 2) quality of work (e.g. wages and access to social protection) and 3) effects on specific groups who are most vulnerable to the adverse labour market outcomes including unemployed and informal workers, family and own-account workers, and those who work in the rural economy (ILO 2020d, 3).

Box5. The impacts of the pandemic on the informal sector of work

During the pandemic, informal workers, particularly undeclared workers, are likely at higher risk of infection due to limited access to social security mechanisms such as sick or paid leave. Their low productivity and low saving rate make them particularly vulnerable to the adverse economic impacts of lockdowns and restriction measures as they cannot rely on income replacement or savings (ILO 2020a).

Figure 8: The percentage of informal employment in Armenia



Source: World Bank, based on data from ILO, ILOSTAT database, 2018

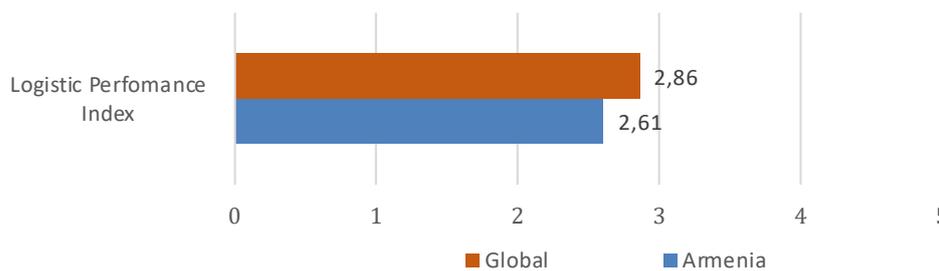
Remittances resulting from labour migration are a significant source of income for many Armenian households. Migrant workers are particularly vulnerable to the impacts of the SARS-CoV-2 pandemic, which restricts their ability to access the place of work in destination countries and return to their families (ILO 2020b). International migration has been an integral part of employment options for Armenians. The high unemployment and differential wage between Armenia and destination countries, including Russia, motivate youth to migrate (Honorati, Yi, and Choi 2020). Remittances resulting from migration are essential financial sources for families of migrants and play a vital role in the Armenian economy (UNDP 2020). In 2019, personal remittances comprising personal transfers and compensation of employees accounted for 11.2% of GDP in Armenia (World Bank 2019I). Russia is the main destination for 95% of Armenian temporary labour migrants (Honorati, Yi, and Choi 2020). Labour migrants appear to have been disproportionately affected by travel restrictions and mandatory closure of borders during the period when most seasonal labour migrants usually leave (between early March and June). A decrease in labour migration could result in lower remittance inflow and cause a sudden income loss that may threaten the livelihood of remittance-dependent families (ibid 2020).

3.2.4 Transportation

Armenia's transportation sector shows a relatively low logistic performance and road connectivity capacity. The SARS-CoV-2 pandemic has caused unprecedented disruptions in logistics systems and transportation of goods, services, and population mobility and severely impact households, businesses, and government services (Falk et al. 2020). The scope of disruptions and adverse impacts is associated with the quality of the country's transport infrastructure. Logistic Performance Index (LPI) is a measurement of the quality of transport infrastructure and helps countries to identify challenges and opportunities they face in trade performance (World Bank 2018a)¹⁹. The LPI is measured between 1-5, and the higher value indicates better logistic performance. In 2018, Armenia's LPI was 2.61, slightly below the global average (2.86) (World Bank 2018a) (Figure 9), and the country was ranked 92 among 160 countries.

¹⁹LPI reflects perceptions of a country's logistics based on series of indicators such as transport-related infrastructure and quality of logistics services and frequency with shipments (World Bank 2018a).

Figure 9: Logistics Performance Index (LPI)



Source: World Bank, 2018.

The Road Connectivity Index is another key indicator of transport infrastructure, showing the average speed and straightness of a driving itinerary connecting the ten or more largest cities within a country (Schwab 2019). Road connectivity can influence health care access and delivery during a pandemic. According to the global competitiveness report of 2019 published by the World Economic Forum, Armenia was ranked 114 among 140 countries with a score of 58.6/100, which shows a relatively low road connectivity capacity in Armenia (Schwab 2019).

Shortages in freight transport services and public transport appear to impact people's daily lives, especially those who live in far rural communities. According to UNDP's SEIA report, Armenia's freight transport services have been affected by COVID-19 disruptions and supply-side shock, resulting in demand-side shock (UNDP 2020) and significantly affect the provision of essential goods, services, and medical equipment. The UNDP's SEIA report also shows the impact of the SARS-CoV-2 pandemic on the country's public transport services. Both intra and inter-community transport services have been exposed to disruptions, affecting the communities' daily activities in the regions, especially in far rural communities and special services (UNDP 2020)

3.2.5 Digital technologies and communication

Although a large portion of Armenia's population uses the internet, there is a significant digital divide between regions, gender, age, and socio-economic groups. In 2019, the share of individuals using the internet was 64.7% of the Armenian population. There were also 121 mobile cellular subscriptions and 15 fixed telephone subscriptions per 100 people (World Bank 2019f; 2019j; 2019b). There are, however, multiple levels of the digital divide in Armenia. Findings of research studies conducted by Pearce and Rica shows that gender, age, education, income, and the area of living contribute to the digital divide in Armenian society: Internet users are more likely male, younger, more educated with a higher level of English language proficiency, from high-income households and live in urban areas (K. E. Pearce and Rice 2013; 2017).

Box6. The role of digital technologies in the wake of the pandemic

During the lockdowns and quarantines, digital technologies become a critical enabler of communication and regular life continuity (Katz 2020). More people have relied on the use of digital tools as many activities have become virtual. Telework, COVID-19 warning apps, telemedicine, online payment, entertainment, and remote learning have become necessary to continuing everyday activities in many parts of the world (Beaunoyer, Dupéré, and Guitton 2020).

Table 4: Access to telecommunication infrastructure in Armenia, 2019

Telecommunication Infrastructure	
Individuals using the internet (% population)	64.7%
Mobile cellular subscriptions (per 100 people)	122
Fixed telephone subscriptions (per 100 people)	15

Source: World Bank

The current digital inequality is mainly characterised by unequal access to technological devices, networks, and the difference in digital literacy level in Armenia (Beaunoyer, Dupéré, and Guitton 2020; K. E. Pearce and Rice 2017). As online technologies are becoming central to maintaining social activities and connectivity during the global pandemic, the existing digital inequalities can worsen social exclusion, putting the socio-economically disadvantaged groups at risk of deprivation from essential services and exacerbating health and socio-economic vulnerabilities to the impacts of COVID-19. For example, limited access to updated digital technologies and lack of ICT infrastructure prevented many children in rural and urban areas from participating in online classes (UNDP 2020) (see section 3.2.5.). In this situation, the government's over-reliance on digital technologies such as contact tracing apps or online channels of risk communication can create further challenges to accessing essential information and warnings for specific segments of the population with limited digital and virtual network accessibility like the elderly, rural communities, women, less educated people, and lower-income households.

3.2.6 Gender issues

Armenian women are more exposed to COVID-19 financial insecurities due to the pre-existing gender gap and inequalities. According to the 2019 UNDP's Human development report, with a score of 0.259, Armenia occupies the 57th position out of 162 countries in the Gender Inequality Index²⁰ (GII) (UNDP 2019). Table 5 shows that female participation in the labour market was at 49.6%, significantly lower than male labour force participation (69%). In Armenia, social norms based on traditional gender roles and patriarchy, family structure, age, and economic status contribute to the existing gender gap in employment

Box7. Gendered dimensions of vulnerability to the pandemic's adversity

In times of the pandemic, women play a vital role as front-line responders, professionals, community volunteers, and informal caregivers. At the same time, they are at increased risk of infection, loss of livelihood, and violence and abuse (United Nations 2020e). Global data shows that confirmed COVID-19 cases among female health workers and personal care workers are two or three times higher than those observed among their male counterparts (ibid, 2020b).

²⁰ "UNDP's Gender Inequality Index measures gender inequalities in three important aspects of human development: reproductive health, measured by maternal mortality ratio and adolescent birth rates; empowerment, measured by proportion of parliamentary seats occupied by females and proportion of adult females and males aged 25 years and older with at least some secondary education; and economic status, expressed as labour market participation and measured by labour force participation rate of female and male populations aged 15 years and older" (UNDP, 2019).

and working hours (UN WOMEN and ARMSTAT 2020), which can be exacerbated by the economic impacts of the pandemic.

Table 5: Gender Inequality Index (GII)

	GII value	GII rank	Maternal mortality ratio	Adolescent birth rate	Share of seats in parliament (%)	Population with at least some secondary education (%)		Labour force participation rate (%)	
						Female	Male	Female	Male
Armenia	0.259	57	25	21.5	18.1	96.9	97.6	49.6	69.9
Europe and Central Asia	0.276	-	25	27.8	21.2	78.1	85.8	45.2	70.1

Source: UNDP, 2019 Human Development Report.

The pandemic is likely to exacerbate the burden of unpaid caregiving on Armenian women. The SARS-CoV-2 pandemic has highlighted the critical role of care work predominantly performed by women as frontline health workers or informal caregivers in families worldwide (Dugarova, 2020.). Armenian women typically spend comparatively more time than men in unpaid domestic work such as household chores and care of sick, elderly, and disabled family members and children (UN WOMEN and ARMSTAT 2020). Moreover, they are primary providers of informal care, since few nursing home facilities or public services for people in need of long term care and state support are available in Armenia (Richardson 2013) (see Section 4.3.5). During the pandemic, women are at risk of psychological and health stress due to the additional caregiving responsibilities.

Survivors of domestic violence are facing challenges to seek protection in Armenia.

The latest available data referring to 2016 shows that around 3.5% of Armenian women between 15-49 years old have experienced physical and/or sexual violence by an intimate partner (WHO 2020h). Despite recent efforts, the country still lacks a comprehensive legal framework that ensures the protection of domestic violence survivors (HRW 2018; Katsova 2020). Furthermore, the limited public awareness and information about domestic and gender-based abuse in Armenian society contribute to further barriers to help-seeking for survivors, which results in underreporting (UNDP 2020). According to Armenian Civil Society Organizations (CSOs) and Human Rights Defenders office, domestic violence cases increased in Armenia during the quarantine. In March, cases increased by 30%, followed by a 50% increase in June (Khulyan 2020; UNDP 2020). Financial insecurity and loss of income, as well as psychological impacts of self-isolation contribute to increasing domestic abuse risk in Armenia (Khulyan 2020; UNDP 2020).

Box 8. The COVID-19 outbreak and shadow pandemic of domestic violence

Since the outbreak started, citizens have been asked to stay home to reduce the risk of infections. Confinement and isolation during lockdowns, along with increased financial insecurity, may exacerbate existing domestic abuse and intimate partner violence or cause it to occur for the first time. Women and girls with disabilities are particularly vulnerable due to the nature of disabilities as well as more dependence on caregivers during quarantine (UN WOMEN 2020)

3.2.7 Education

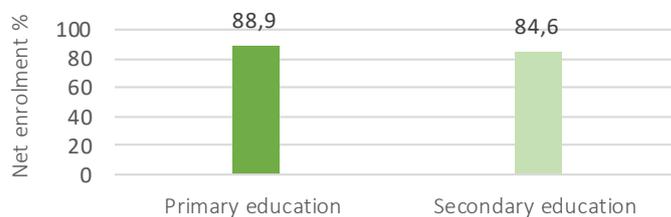
Despite the country's high literacy and school enrolment rate, the social inequality in access to educational opportunities remains a key issue.

According to 2019 data, the official rate of children of age enrolled in primary and secondary schools was 88.9% and 84.6% (UNESCO 2020a) (Figure 10). Simultaneously, the gross enrolment rate in tertiary education²¹ was 51.5% (ibid 2020). Despite the 99.7% literacy rate among Armenian people aged 15 and above (World Bank 2020d), social inequalities in access to educational opportunities remain a main concern. Urban-rural disparities and socioeconomic background shape students' educational pathways in Armenia (Caro and He 2018). Alongside regional and socio-economic disparities in access to educational opportunities, children with disabilities, especially those with psycho-social disabilities, face barriers to accessing education (UNICEF Armenia 2018a). The pandemic impacts on the educational system can exacerbate existing education inequalities and deprivation in the country. In a state of lockdown and school closure, despite state and community efforts to transition to digital service modalities, digital inequalities appear to have contributed to restricting disadvantaged groups from remote education (UNDP 2020) (see section 3.2.5.).

Box 9. Global unprecedented impacts of the pandemic on education

Closures of schools and other learning spaces have affected 94% of the world's student population, up to 99% in low and lower-middle-income countries (United Nations 2020c, 2). The disruption of the education system is also exacerbating pre-existing exclusion and risk of school drop-out by reducing the opportunities for many vulnerable groups of children, youth, and adult learners, particularly those from socio-economically disadvantaged households, rural communities, learners with disabilities, and migrant and minority groups (ibid,2020). The impacts of COVID-19 on the education system extend far beyond the direct disruptions, ranging from reduced physical activity and contact to increased exposure of vulnerable children to violent abuse.

Figure 10: School enrolment in Armenia, 2019



Source: UNESCO, country data, 2019.

²¹ Gross enrolment ratio is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of the education shown. Tertiary education, whether to an advanced research qualification or not, normally requires, as a minimum condition of admission, the successful completion of education at secondary level.

3.2.8 Migration and displacement

Financial insecurities and housing problems are among the key challenges for migrants in Armenia.

2019 data shows that the international migration stock is 6.4 % of the total population in Armenia (United Nations 2019b)²². Conflicts between Azerbaijan and Armenia over the disputed Nagorno Karabakh region have resulted in the displacement and migration of many people over decades. During the Syria war, Armenia demonstrated an international burden-sharing approach toward about 22,000 persons displaced from Syria seeking protection in Armenia during 2012-2018; an estimated 15,000 Syrians continue to remain and seek protection in Armenia (UNHCR 2020).

In Armenia, as much as elsewhere globally, migratory populations and displaced persons are among the groups most vulnerable to the pandemic's health and socio-economic impacts. Many migrants living in Armenia face difficulties obtaining financial security and sustainable housing (Ghazaryan 2020). Socio-economic disruptions caused by pandemics can exacerbate these long-lasting problems for the migrant population. In response to the pandemic's socio-economic consequences, the Armenian government has undertaken specific measures to support people living under the legal refugee status. In this regard, people under "refugee legal status" have access to all social programmes and aid initiated by the government (Ghazaryan 2020).

Table 6: The migratory and refugee population in Armenia, 2019

Migratory and refugee population	
International migration stock (% of population)	6.4%
Refugee population by country or territory of asylum (total number)	18 000

Source: United Nations, Department of Economics and social affairs, Population division.

The recent armed conflict over the Nagorno-Karabakh region has resulted in the displacement of thousands of persons and creates health risks.

In recent armed conflicts between Armenia and Azerbaijan, around 75 000 people have been displaced, 90% of whom are women and children (ReliefWeb 2020). An assessment carried out by Project HOPE shows that the recent war resulted in the displacement of thousands of people who have taken refuge in transitional settlements across Armenia. The newly displaced people and refugees suffer severe health conditions and inadequate access to health care services (Project Hope 2020). The assessment shows that health issues, including the threat of COVID-19, are the primary concerns for displaced populations (35% of respondents), followed by financial problems (22% of respondents). The SARS-CoV-2 pandemic and substantial arrivals of affected people from Nagorno-Karabakh regions have significantly stretched the capacities of the healthcare system. As a result, primary health care services such as reproductive health care for pregnant women or essential medication for chronic patients are not easily available (ibid, 2020). At

²² From 1988-1991, Armenia received more than 360 thousand refugees from Azerbaijan, not only of Armenian nationality but also of minority nationalities living in the territory of Azerbaijan (Yeganyan 2013).

the same time, refugees living in over-crowded settings are at higher risk of infection due to the limitation of essential hygiene services and lower social distancing.

3.2.9 Social capital

Institutional trust is generally low in Armenia, and people rely more on informal networks and interpersonal trust. Armenian society is characterised by a low level of trust in institutions and high reliance on informal networks (Paturyan 2011; K. Pearce 2010; K. E. Pearce and Rice 2017). According to the 2020 Legatum prosperity index (Legatum Prosperity Index 2020), Armenia is ranked 74th among 167 nations in the social capital pillar (Table 7). In the pandemic, a higher level of trust in institutions can promote public compliance with pandemic measures. Interpersonal trust is equally crucial for dealing with the effects of the pandemic (Esaïsson et al., 2020). Trust in fellow citizens and social cohesion will facilitate collective behaviours in times of crisis and disaster. In the absence of trustworthy institutions, Armenians rely more on social networks and each other to obtain support and resources in times of hardship such as SARS-CoV-2 pandemic (Aliyev 2015; K. Pearce 2010; K. E. Pearce and Rice 2013; UNDP 2020).

Box10. The pandemic and the significance of social capital

Growing evidence shows that social capital affects public responses to pandemics (Bartscher et al. 2020; Ding et al. 2020; Parks 2020; Wu 2020). Social capital, and its components, including trust, social networks, personal and family relationships, civic and social participation are constructed through the dynamic of power and socio-cultural processes. Social capital becomes a resource acquired by individuals or groups through the possession of institutionalised relationships of mutual acquaintance and recognition and is linked to the possession of durable networks and relationships (Bourdieu and Wacquant 1992). A higher level of trust in institutions can promote compliance with the measures and restrictions in the pandemic. In the form of networks, social capital can also help to mobilise resources and capacities and increase societal resilience to the impacts of the pandemic (Wu 2020).

Table 7: Armenia's social capital profile, based on the 2020 Legatum Prosperity Index

	Score	Rank/167 nations
Social Capital	52.2	74
Personal and family relationships	69	90
Social networks	74.6	47
Interpersonal trust	41.3	58
Institutional trust	47.9	89
Civic and social participation	26.5	144

Source: Armenia's country profile, 2020 Legatum Prosperity Index

3.3 Political conditions

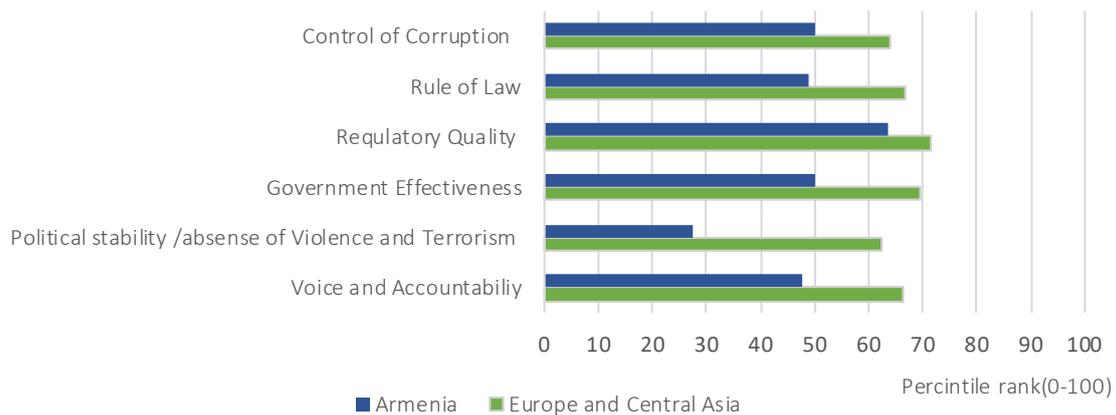
3.3.1 Governance

Armenia is dealing with political instability. In Armenia, the recent shift from a semi-presidential system to a parliamentary system and political movements known as the “Velvet revolution” in April 2018 have raised possibilities for a peaceful transition toward democracy (Denly, Findley, and Wellhausen 2019). However, political stability remains a challenge (Schrapel 2020). According to the 2019 Worldwide Governance Indicators (WGI)²³ and compared to Europe and Central Asia, Armenia has a significantly lower percentile rank²⁴ in all the key governance indicators, especially in political stability and absence of violence (World Bank 2019s) (Figure 11).

Box11. Governance and the pandemic response

Pandemic response is the ultimate test for governance and political culture principles to work effectively to control the outbreak and reduce vulnerabilities within a population (Kunicova 2020; UNDP 2020). Political stability and legitimacy, government effectiveness, transparency, and rules of law are among key governance indicators conditioning the nature of the response to the pandemic (Moore et al. 2016) and influencing resilience and vulnerability within a society.

Figure 11: Armenia's lower ranking in Worldwide Governance Indicators compared to Europe and Central Asia



Source: World Bank, *Worldwide Governance Indicators, 2019*

Despite recent progress, corruption and lack of transparency remain key issues in Armenia. According to 2019 Corruption Perception Index published by Transparency International, Armenia has received a score of 42, improved by seven points since last year. Following the revolution in 2018 and the formation of a new parliament and active civil society, the country has made promising anti-

²³ The Worldwide Governance Indicators (WGI) project reports individual governance indicators for over 200 countries and territories over the period 1996–2019, for six dimensions of governance including Voice and Accountabilities, political stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption (World Bank 2019s)

²⁴ Percentile rank (0-100) indicates rank of country among all countries around the world, with 0 corresponding to lowest rank and 100 to highest rank (World Bank 2019s)

corruption policy progress. However, non-transparent and unaccountable public operations currently impose impediments in fighting corruption in the country (Schrapel 2020; Transparency International 2020). In the wake of the SARS-CoV-2 pandemic and during the state of emergency, the concentration of power and significant resources tasked with addressing the impact of the pandemic can create opportunities for corruption. At the same time, corruption prevention and enforcement mechanisms are likely to be suspended due to the COVID-19 disruptions (World Justice Project 2020). Pervasive corruption, monopoly, and low horizontal accountability characterise the quality of public service provision in Armenia (Denly, Findley, and Wellhausen 2019; Stefes and Paturyan 2016). In a pandemic situation, corruption and non-transparency can affect public services and coordinated response (OECD 2020).

3.3.2 State of democracy

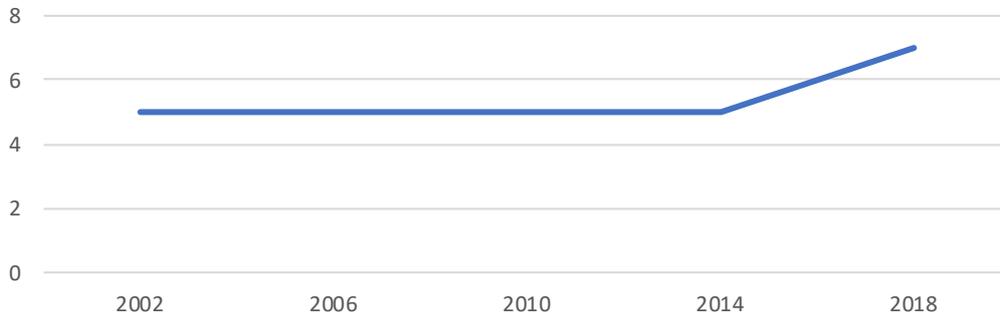
The political transition toward democracy is an ongoing process in Armenian society, which can be affected by the pandemic.

Since the Velvet revolution in 2018, civil society organisations have been actively engaged in mobilizing and organising the protests and movements targeting the structure of anti-corruption reforms and democratic political change. According to the Polity IV project dataset, in 2018, the level of institutionalised democracy has increased for the first time since 2002 (Center for Systemic Peace 2018) (Figure 12). In societies like Armenia, where a political transition toward more democratic practices is in progress, the pandemic poses severe challenges for democratic transitions (Youngs and Panchulidze 2020). While the emergency measures are not inherently undemocratic, in younger democracies, COVID-19 restrictions can trigger concentration of power and anti-democratic and non-transparent procedures of decision making. Due to absence or limited capacity of democratic institutions that facilitate participation in decision-making, marginalised and disadvantaged persons who are already suffering from structural exclusion and inequalities can be further affected by the consequences of policies and decisions neglecting their needs and interests.

Box 12. COVID-19 and dynamics of power

The pandemic response is a feature of public administration capability and a proper balance of power between state and non-state actors, including citizens, elites, and civil society. Structural forms of power and capital distribution characterised by discursive factors resulting in a privileged position to those groups with a higher volume of capital and resources. They have a special participative capacity to define and influence the political agenda and construct the conditions that grant them the best results, while the specific needs of already marginalised groups remain unheard (Voss 2008; Voss and Fuk 2015). In the wake of the pandemic, democratic principles and institutions play a critical role to ensure all social groups are actively engaged and included in response to the pandemic.

Figure 12: Institutionalised democracy in Armenia



Source: Polity IV project dataset prepared by the Center for Systemic Peace (data refer to 2018).

3.3.3 Freedoms and human rights

Despite media diversity, independent journalism is yet to be fully achieved. According to the World Press Freedom Index, published by Reporters Without Borders, Armenia is 61th among 180 countries (Reporters Without Borders 2020). Despite a significant level of media pluralism and relatively little censorship, there is concern about increasing harassment of journalists, as they are being subjected to defamation suits with prison terms (European Forum for Democracy and Solidarity 2020; Reporters Without Borders 2020). The SARS-CoV-2 pandemic may have long-term impacts on access to information and press freedom worldwide (UNESCO 2020b). In Armenia, there is evidence of increased governmental control on media and journalist activities during the state of emergency under the pretence of battling misinformation (Organization for Security and Co-operation in Europe 2020), leading to restrictions on press freedom and the rights of people to seek and receive information.

Box 13. The relevance of human-rights-inspired approaches to the pandemic response

The respect to fundamental rights to freedom, such as media freedom, access to critical information and non-discrimination human principles such as respect to human dignity are key pillars for an effective and inclusive response to COVID-19 (HRW 2020; United Nations 2020a). Human-rights-inspired approaches to COVID-19 response put people centre-stage and provide a solid ground for a more equitable response to ensure the availability, and accessibility of acceptability of health care and social protection for every segment of society (Colombo 2020; Sekalala et al. 2020; United Nations 2020a).

The LGBT community, disabled persons, women and the elderly face multiple forms of discrimination and social exclusion in Armenia.

- Violence and discrimination based on sexual orientation and gender identity are serious problems in Armenia. In Armenian society, **LGBT individuals** face many issues, including social discrimination and homophobia, stigmatisation, domestic violence, and a lack of legal protection of LGBT rights (HRW 2019; Society Without Violence NGO 2016).

- Despite some community-based initiatives to support people with disabilities, existing legislation allows for discrimination and deprivation of legal capacity for **persons with disabilities**. As a result, they remain excluded and neglected in many decision-making and policy-making mechanisms (HRW 2019).
- While the country is steadily advancing in regard to **women's rights**, the existing gender-based inequality and prevailing traditional gender role stereotypes limit the active participation of Armenian women in social and economic spheres (Asian Development Bank 2015) (see section 3.2.6.). The absence of comprehensive legal protection against gender-based and domestic violence also poses severe challenges for women who seek protection and support (Mijatović 2019).
- Although the country is experiencing **population ageing**, comprehensive social protection is largely inadequate (Mijatović 2019), putting older people at further risk of poverty and social exclusion.

All of the above-mentioned forms of structural discrimination and social exclusion contribute to the series of problems and risks, such as poverty and lack of access to essential health care services, that make marginalised and disadvantaged groups particularly vulnerable to the health and socio-economic impacts of the SARS-CoV-2 pandemic.

3.3.4 Presence of conflicts

Recent armed conflict over the Nagorno-Karabakh region creates additional complexities in managing the pandemic, making the country more fragile and vulnerable to failure. According to the 2020 annual report of the “Fragile State Index,”²⁵ which assesses a state's fragility and vulnerability to collapse or conflict, Armenia is ranked 108 among 178 countries and remains on the warning zone list (The Fund For Peace 2020). The long-simmering Nagorno-Karabakh conflict and tense relationship with Turkey have had deleterious effects and remained a constant strain on the country's economy and foreign policy, and its stability. In September 2020, the conflict over the disputed region Nagorno-Karabakh between Armenia and Azerbaijan escalated even further into an armed conflict, which created extra pressures on the state and institutions and may potentially make them more prone to failure.

The SARS-CoV-2 pandemic presents a specific array of challenges for countries exposed to or affected by acute conflicts (The Fund For Peace 2019). While Armenia has been severely affected by COVID-19 induced health and socio-economic impacts, the region's armed conflict has diverted already scarce resources away from the task of containing the COVID-19 outbreak. The healthcare system has been dangerously overwhelmed by dealing with COVID-19, war casualties and displaced persons, who are in dire need of health services (Aslanian 2020; Kazaryan et al. 2020; Project Hope 2020). Simultaneously, the widespread destruction which led to the displacement of people has made it

²⁵ The Fragile State Index (FSI) by the Fund for Peace (FFP) is an annual ranking of 178 countries based on the different pressures they face that impact their levels of fragility. Based on comprehensive social science methodology, three primary streams of data — quantitative, qualitative, and expert validation — are triangulated and subjected to critical review to gain final scores for the FSI. Scores are apportioned for every country based on twelve key political, social and economic indicators and over 100 sub-indicators that are the result of years of expert social science research (The Fund For Peace 2020).

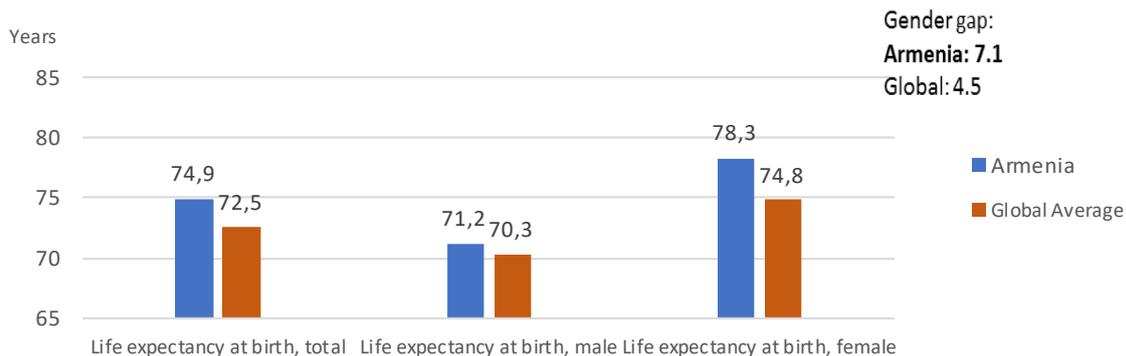
virtually impossible to track and control the spread of coronavirus on the ground (Kazaryan et al. 2020) (see section 3.2.8.).

3.4 Public health

3.4.1 Life expectancy and mortality

There is a considerable gender difference in life expectancy in Armenia. Life expectancy at birth reflects the overall health status and mortality level of a population and summarises the mortality pattern across all age groups in a given year (WHO 2019c). Figure 13 shows that the average life expectancy at birth in Armenia was 74.9, with a substantial gender gap, by which women can expect to live over seven years longer than men (71.2 compared to 78.3 years) (World Bank 2019h). As Figure 13 shows, this gender gap in life expectancy is higher than the global average (4.5 years). Multiple studies suggest that the excess mortality caused by the SARS-CoV-2 pandemic can negatively impact life expectancy (Ghislandi et al., 2020; Marois et al., 2020; Trias-Llimos et al. 2020.). Besides, data reveals gender disparities for COVID-19 mortality: While more women are infected, men are more likely to die from COVID-19 than women (Jin et al. 2020; Sobotka et al. 2020). In this sense, the potential impact of the excess mortality of COVID-19 on decreasing life expectancy could exacerbate the existing gender gap in life expectancy in Armenia.

Figure 13: Life expectancy at birth

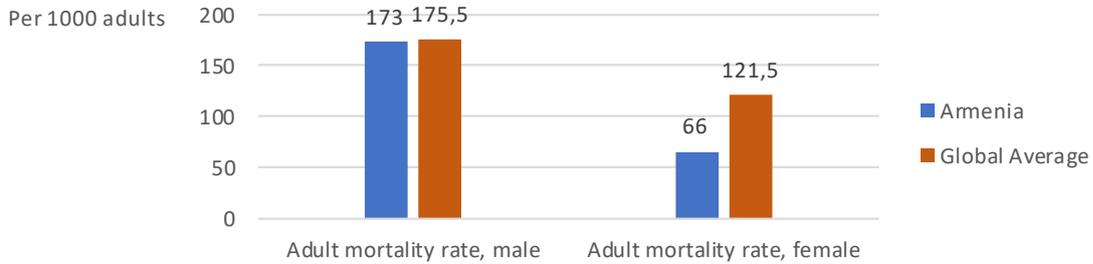


Source: World Bank, based on multiple databases (data refer to 2018).

The adult male mortality rate is significantly higher than adult female mortality in Armenia. Adult mortality rate (probability of death between 15 and 60 years per 1000 population) is an important indicator for a comprehensive assessment of a population's mortality pattern in general and the risk of case fatality of COVID-19 in particular (WHO 2018b). According to data for 2018, female mortality was, with a rate of 66 per 1000 people, considerably lower than the global average (121.5 per 1000 people). The male mortality rate was, with a rate of 173 per 1000 population, slightly lower than the global average (175.5) (World Bank 2019j) (Figure 14). The gender differences in adult mortality rates are rooted in multiple biological, socio-economic, and psychological causes such as biological differences, immune system response, as well as hormones and differentiated diseases pattern among

sexes. It is also linked to differences in behavioural patterns between men and women and perceptions in seeking and complying with medical treatment (Dobson 2006; Oksuzyan et al. 2008).

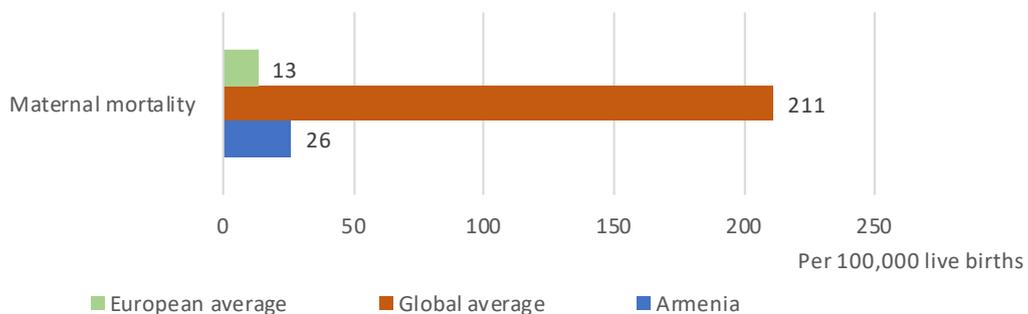
Figure 14: Adult mortality rate



Source: World Bank, based on 1) United Nations Population Division. World Population Prospects: 2019 Revision. 2) University of California, Berkeley, and Max Planck Institute for Demographic Research. The Human Mortality Database (data refer to 2018).

Compared to the European region, Armenia has a relatively high maternal mortality rate and mortality of children under five years of age. The maternal mortality rate, which refers to deaths due to complications from pregnancy or childbirth (UNICEF 2017), is a significant indicator of women's status and the presence and efficacy of primary health care and infrastructure (Poljanšek et al. 2020). In 2017, the maternal mortality rate was 26 per 100,000 live births in Armenia, which is considerably lower than the global average (globally 211 per 100,000 live births). However, it was relatively high compared to the European average (with 13 per 100,000 live births) (WHO 2019d) (Figure 15).

Figure 15: Maternal mortality rate in Armenia

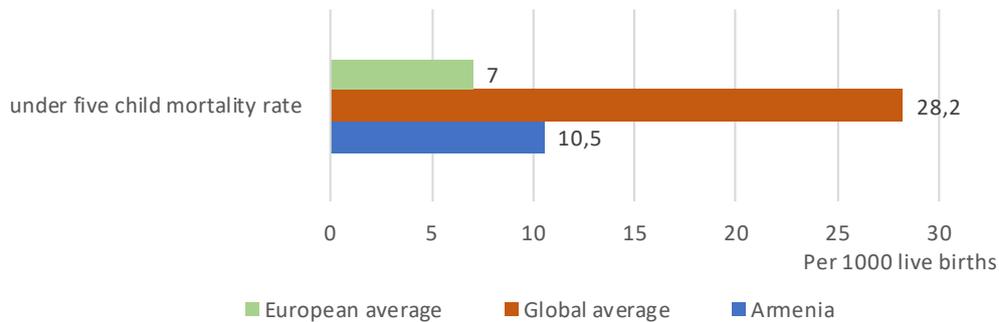


Source: WHO, GHO data (data refer to 2017).

Mortality of children under five years of age, showing children's general health conditions, was considerably lower in Armenia than the global average in 2019 (10.5 compared to global 28.2 per 1000 live births globally) (World Bank 2019k). However, it was significantly higher than the European average (7 per 1000 live births) (Figure 16). During the global pandemic, maternal and under-5 child

deaths are at risk of increasing due to the disruption of health care services and the potential impact of the pandemic on food security (Menendez et al. 2020; Robertson et al. 2020).

Figure 16: Under-five child mortality in Armenia, 2019



Source: World Bank, based on UN Inter-Agency Group for Child Mortality Estimation (data refer to 2019).

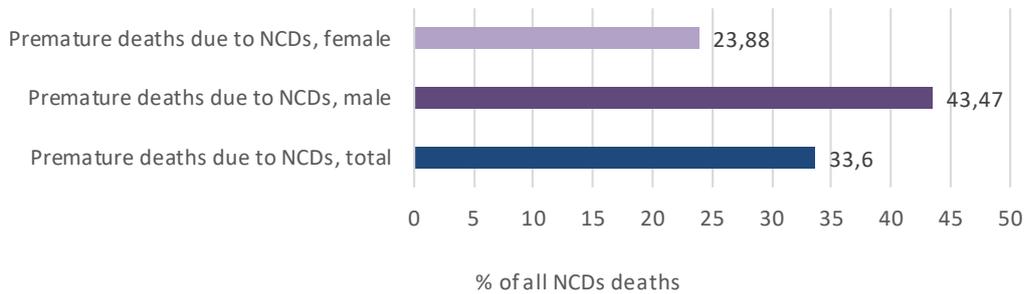
3.4.2 Non-communicable diseases and key risk factors

Non-communicable diseases are among the main public health challenges in Armenia. Non-communicable diseases (NCDs) are estimated to account for 93% of deaths in Armenia (World Bank 2016a). The age-standardised premature mortality rate from the four major NCDs (cardiovascular, diabetes, cancer, and chronic respiratory) was 470 per 100,000 population in 2015 and above the WHO European Region average of 380 per 100,000 people (WHO, Regional Office for Europe 2016b). In 2016, deaths due to NCDs among adults aged below 70 accounted for 33.6% of NCD deaths among all ages (WHO 2018e). In addition, there is a significant gender difference in the percentage of NCD deaths under 70, with 43.47% among males aged under 70 compared to 23.88% of NCD deaths among females aged under 70 (Figure 17). Cardiovascular diseases are the leading cause of premature mortality in the country, with 44% proportional mortality, followed by cancer with 28% in 2016 (WHO 2018c). High underlying NCDs can contribute to an increased risk of severe COVID-19 within the population. Efforts to handle COVID-19 have also disrupted the regular care often required by patients with NCDs, resulting in growing vulnerability and risk of disease complications among patients (The Lancet 2020).

Box 14. NCDs and the risk of severity of COVID-19 disease

It is evident that COVID-19 can lead to severe disease and case fatality in those with underlying health conditions or comorbidities (CDC, 2020; Ejaz et al., 2020; Gold et al., 2020; S, 2020; Sanyaolu et al., 2020). Non-communicable diseases (NCDs) such as diabetes, cancers, cardiovascular diseases or chronic respiratory diseases, are among the underlying medical conditions that can lead to the progression of COVID-19 in infected patients. In this sense, the NCD profiles of countries can be an indication of risk and vulnerability of their population to the severe progression and death due to the COVID-19 infection. Risk factors such as tobacco smoking, harmful use of alcohol, and excessive use of salt and physical inactivity increase the risk of NCDs. Furthermore, underlying socio-economic determinants such as poverty and poor living conditions, social exclusion, urban design contribute to increasing incidences of NCDs in societies (Farrington et al. 2019, 2).

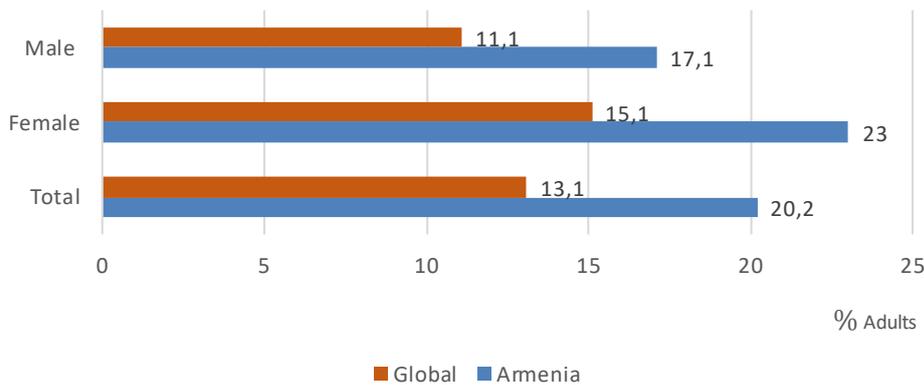
Figure 17: NCD deaths under 70 in Armenia



Source: GHO data, WHO (data refer to 2016).

One in five Armenian adults suffers from obesity. In 2016, the prevalence of obesity among Armenian adults was at 20.2% and considerably higher than the global average (13%) (WHO 2017) (Figure 21). Obesity is one of the risk factors that account for the increased NCDs burden in Armenia. In the context of COVID-19, multiple studies and evidence show the association between obesity and progressions or increased mortality of COVID-19 (Goossens et al. 2020; Lockhart and O’Rahilly 2020).

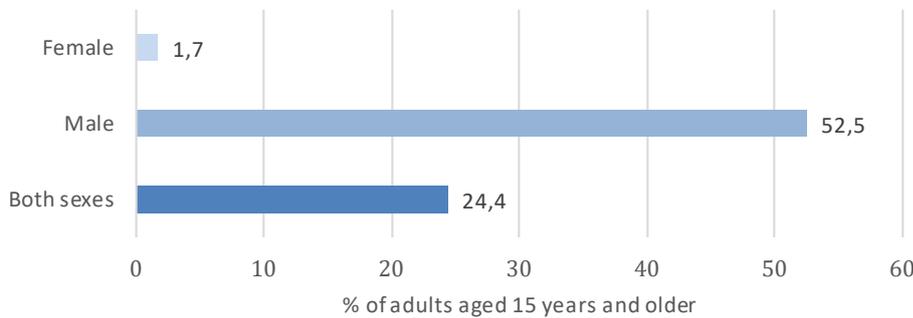
Figure 18: The prevalence of obesity in Armenia in comparison with the global average, BMI ≥30 (age-standardised estimate)



Source: GHO data, WHO (data refer to 2016).

More than half of Armenian men aged over 15 use tobacco. In 2018, the prevalence of tobacco use among Armenian adults aged over 15 was 26.7% with a significant difference between men and women. While 52.5% of men reported smoking tobacco, the rate of tobacco use among women was only 1.7% (WHO 2020n) (Figure 22). Tobacco smoking increases the risk of NCD diseases, such as chronic respiratory diseases which can be associated with developing severe COVID-19 (Fr 2020; Vardavas and Nikitara 2020).

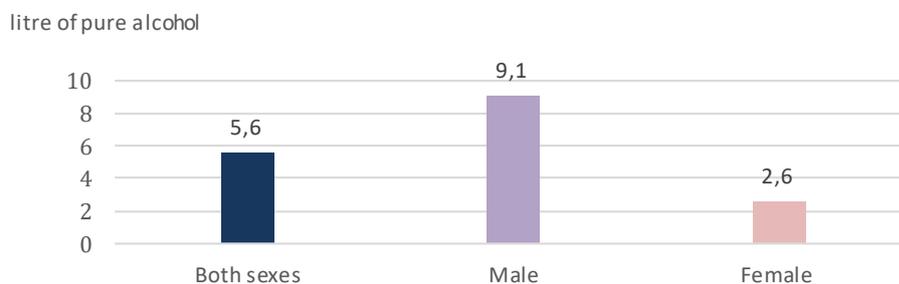
Figure 19: The prevalence of tobacco use in Armenia (age-standardised rate)



Source: GHO data, WHO (data refer to 2018)

Although the total alcohol consumption level is relatively low in Armenia, there is a significant gender difference in the consumption. According to WHO Global Information System in Alcohol and Health (GISAH), in the period 2016-2018, the total alcohol consumption per capita was 5.6 litres in Armenia and lower than the global average (6.4 litres of alcohol) (GISAH 2016). The consumption level was 9.1 litres of alcohol among Armenian men and considerably higher than the consumption level among women (2.6 litres of alcohol) (Figure 23). Harmful use of alcohol is associated with multiple forms of diseases, including cancers, pancreatitis, diabetes, cirrhosis, and ischaemic heart disease (Farrington et al., 2019), making a person more vulnerable to COVID-19. In particular, as alcohol compromises the body's immune system, it can increase the risk of being infected by the virus and of poor health outcomes (World Health Organization, General Office for Europe 2020).

Figure 20: Alcohol consumption in Armenia, 2016-2018



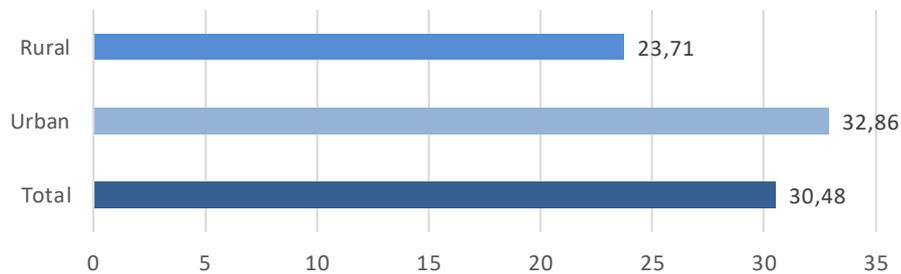
Note: Alcohol, total per capita (15+ years) consumption (in litres of pure alcohol)

Source: WHO, Global Information System in Alcohol and Health (GISAH).

The air quality in Armenia is moderately unsafe. Exposure to ambient air pollution, which increases the risk of respiratory diseases and chronic lung inflammation (Chen et al. 2007; Xie et al. 2019), can pose as a risk factor for COVID-19 infection and mortality (Azuma et al. 2020; Coker et al. 2020; Hoang and Tran 2020; Y et al. 2020). In 2016, Armenia's annual mean concentration of fine particle matter

(PM_{2.5}) was 30.48 µg/m³ in total, with 32.86 in urban areas and 23.71 in rural areas (WHO 2020a) (Figure 24), which was higher than WHO recommended maximum of 10 µg/m³ (WHO 2018g).

Figure 21: Annual mean PM_{2.5} concentration in Armenia

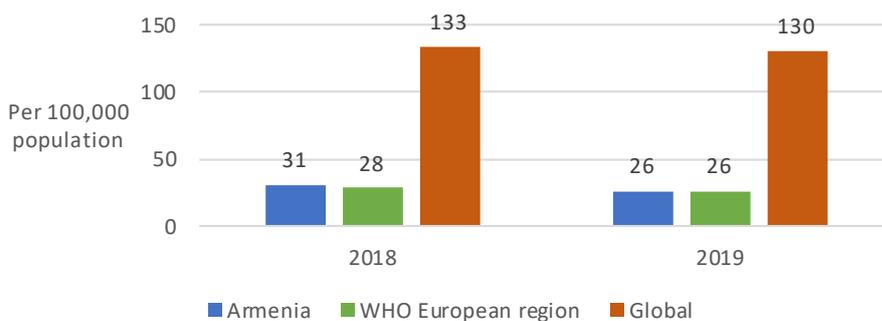


Source: GHO data, WHO (data refer to 2016).

3.4.3 Communicable and vaccine-preventable diseases

Despite achievements, Armenia's incidence of Tuberculosis prevalence remains among the highest in Europe. Tuberculosis (TB) and COVID-19 are both infectious diseases that attack the lungs. Although experience on COVID-19 infections in TB patients remains limited, it can be anticipated that TB patients infected with COVID-19 have poorer health outcomes, especially if the essential treatment is interrupted due to the pandemic (WHO 2020e). Armenia has managed to reduce the numbers of TB incidence and decrease mortality in recent years. However, it remains one of the 18 countries in WHO European regions with the highest infection rate of TB and multidrug Resistant TB (WHO, Regional Office for Europe 2018). In 2018, the country's TB incidence was higher than the European average (31 compared to 26 per 100,000 population). In 2019, the estimated incidence of Tuberculosis (TB) was 26 per 100,000 people in Armenia (WHO 2020q) and as high as the WHO European region (26 per 100,000 population) (Figure 18).

Figure 22: Incidence of Tuberculosis, 2018 and 2019

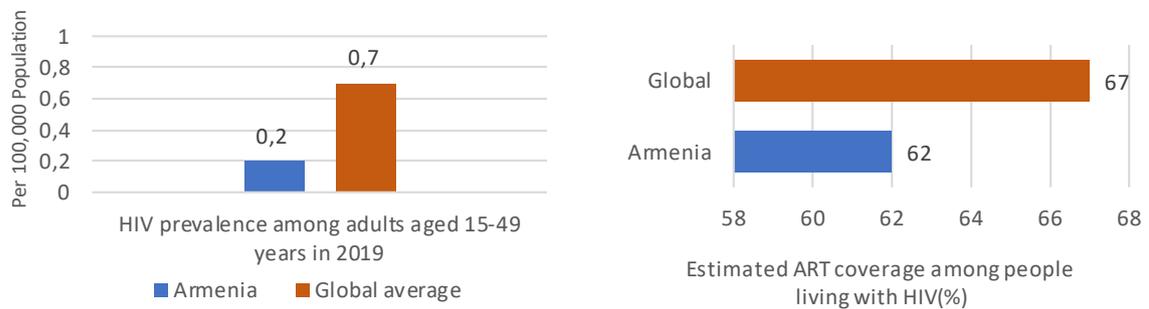


Source: GHO data, WHO.

Compared to the global average, Armenia has a lower HIV prevalence, but estimated antiretroviral therapy coverage is under the global average. As of 2019, an estimated 3,500 people live with HIV in

Armenia (WHO 2020d): The prevalence is 0.2% among adults aged between 15-49. Compared to the WHO global average, the country demonstrates a relatively low prevalence of HIV/AIDS (0.7%) (WHO 2020o) (Figure 19). The HIV epidemic significantly affects people who inject drugs, sex workers, LGBT+ communities, and migrant workers (Avedian 2018). Although the prevalence of HIV is relatively low in Armenia, the crucial issues are maintaining essential services and addressing key populations' needs. In Armenia, less than 100 people are estimated to die from HIV/AIDS in 2019 (WHO 2020k). However, the estimation shows that compared to the global average, the coverage of antiretroviral therapy (ART) that can suppress the virus and prevent its spread to others is relatively low in Armenia (62% compared to 67% globally) (WHO 2020c) (Figure 19). In the wake of the pandemic, the increased risk of stock-out of antiretroviral (ART) drugs and service disruptions severely impacts people living with HIV/AIDS worldwide (UNAIDS 2020b). In Armenia, the affected population appears to be at increased vulnerability to disruptions of HIV service rooms and special HIV counselling services (UNAIDS 2020a).

Figure 23: HIV prevalence among adults and estimated ART coverage among people living with HIV, 2019



Source: GHO data, WHO, HIV/AIDS Data and Statistics (data refer to 2019)

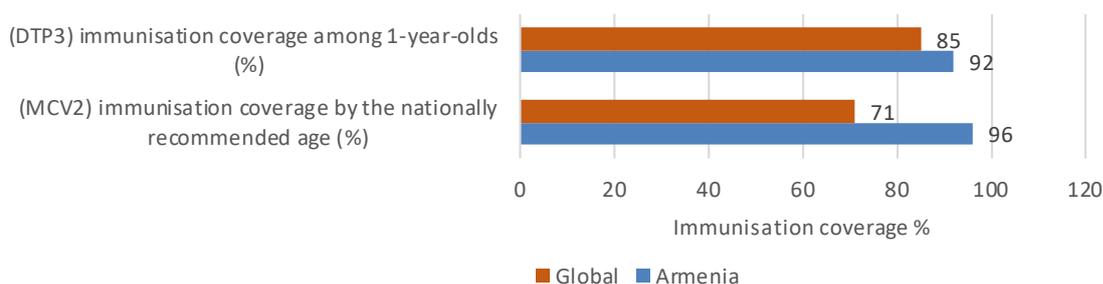
Child vaccination coverage has improved in Armenia, but there are regional differences in timely vaccination.

In Armenia, preventive services, including immunisation programmes, are provided under Primary Health Care (PHC) services, and co-payment is not required for child immunisation (Lavado et al., 2018). Vaccination coverage and vaccination timing have improved over the past few years in Armenia (Schweitzer et al., 2015). In 2019, the Measles-containing-vaccine second-dose (MCV2) vaccination coverage was 96%, which was significantly higher than the global average (71% of children) (WHO 2020i). In 2019, the coverage of Diphtheria tetanus toxoid and pertussis (DTP3) was also higher than the global average (92% compared to 86% of 1-year-olds) (WHO 2020b) (Figure 20). Despite a relatively high vaccination coverage, there are regional differences in timely vaccination: children in rural Armenia have higher vaccination rates than those in the cities. Children of 2-3 years of age living in urban areas received only 86% of the necessary vaccinations in 2017, while children living in rural areas received 93%. The internal migration patterns and poor healthcare access are likely to explain the lower timely vaccination in urban Armenia (UNICEF Armenia 2018b).

Box 15. The impacts of the pandemic on global immunisation programmes

A survey conducted by UNICEF, WHO, and the Global Alliance for Vaccines and Immunization (Gavi)²⁶ reveals that the SARS-CoV-2 pandemic has caused significant disruptions to the immunisation programmes worldwide (WHO 2020r). Lockdown measures, restrictions on movement, fear of being exposed to the virus, the unavailability of health workers, and a lack of protective equipment have been reported as the main reasons for the disrupted immunisation services in different parts of the world (WHO 2020r). The Global Alliance for Vaccines

Figure 24: Immunisation coverage for (MCV2) and (DTP3)



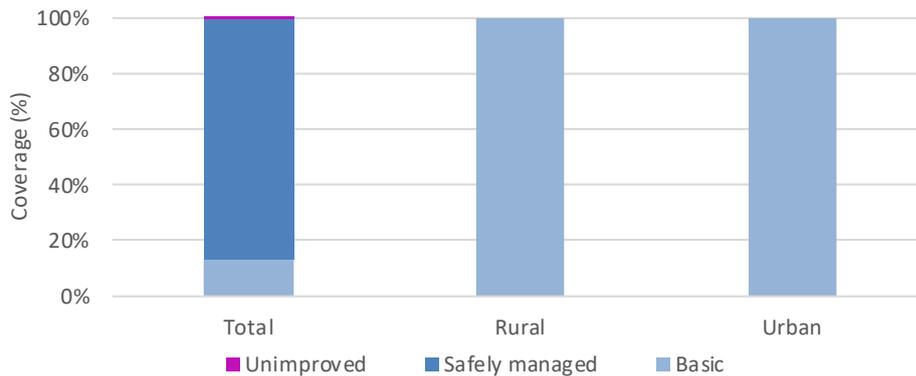
Source: GHO data, WHO (data refer to 2019).

²⁶ Founded in 2000, Gavi is an international organisation, with the goal of increasing access to vaccination in the world's poorest countries.

3.4.4 Water, sanitation and hygiene services

Around 1 in 7 Armenian households lacks access to safely managed drinking water. The 2017 country WHO/UNICEF JMP report shows that 86% of Armenians could use “safely managed” drinking water. At the same time, 13% of the population could only access basic drinking water from an improved water source, for which collection time is not more than 30 minutes for a roundtrip including queuing (WHO/UNICEF JMP 2017)²⁷. There are no significant differences between urban and rural areas for accessing improved water sources (Figure 25). In the pandemic, the lack of access to safely managed drinking water from an improved source accessible on-premises can affect households' wellbeing and health.

Figure 25: Household drinking water levels in Armenia



Source: WHO/UNICEF: JMP data (data refer to 2017).

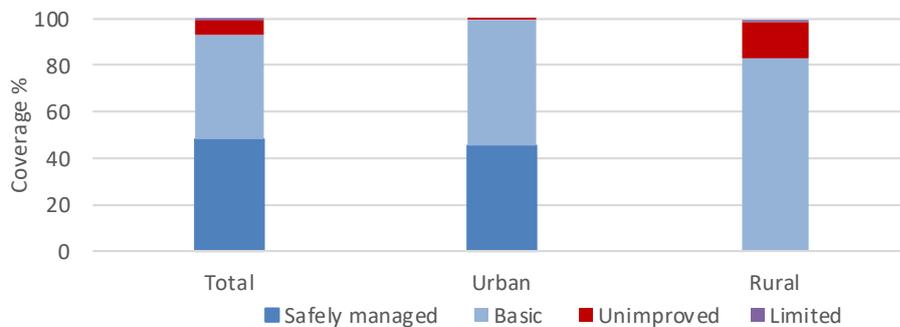
Box 17. The crucial role of water, sanitation and hygiene services in preventing infectious diseases

Alongside social distancing and the use of face masks, regular handwashing with water and soap is recognised and recommended as one of the most important measures in preventing the spread of the COVID-19 disease. The inadequate level of these essential services in many parts of the world contributes to vulnerability to the transmission of the virus. Globally, 3 billion (two out five people in the world) do not have a handwashing facility with soap and water. Furthermore, almost half of the world's schools do not have a handwashing facility with soap and water available to students (WHO/UNICEF JMP 2020).

²⁷ “The WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) has reported country, regional and global estimates of progress on drinking water, sanitation and hygiene (WASH) since 1990. The JMP services use a drinking water ladder to benchmark and compare service levels across countries which include **improved drinking water** sources – those which, by nature of their design and construction, have the potential to deliver safe water. The JMP subdivides the population using improved sources into three groups according to the level of service provided. In order to meet the criteria for a **safely managed drinking water** service, people must use an improved source meeting three criteria: 1) it should be accessible on premises, 2) water should be available when needed, and 3) the water supplied should be free from contamination. If the improved source does not meet any one of these criteria but a round trip to collect water takes 30 minutes or less, then it will be classified as a **basic drinking water service**. If water collection from an improved source exceeds 30 minutes, it will be categorized as a **limited service**. The JMP also differentiates populations using **unimproved sources** such as unprotected wells or springs, and population drinking surface water collected directly from river, dam, lake, stream or irrigation canal” (WHO/UNICEF JMP 2017).

Around 1 in 20 Armenian households lacks access to basic sanitation facilities. JMP data referring to 2017 indicates that 5.6% of Armenian households (15% of rural households) did not have access to improved sanitation facilities (WHO/UNICEF JMP 2017) (figure 26).²⁸ The lack of basic sanitation facilities forces people to share facilities with other users, thus increasing their risk of infection.

Figure 26: Household sanitation facilities levels in Armenia



Source: WHO/UNICEF: JMP (data refer to 2017).

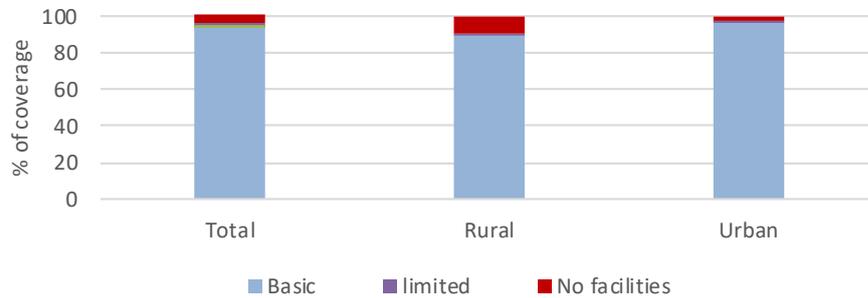
Around 1 in 20 Armenian households does not have a handwashing facility. According to the 2017 data, in total, 94.4% of Armenian households had a basic handwashing facility with soap and water on-premises, whereas 4.8% of the households did not have handwashing facilities. There is a considerable gap between rural and urban households: 9.7% of rural households lacked a handwashing facility. In comparison, 2.04% of the urban household did not have access to basic hygiene facilities (WHO/UNICEF JMP 2017)²⁹ (Figure 27). Since poor hygiene is considered one of the main routes of transmission of the COVID-19 virus, households that lack hygiene facilities are less able to protect themselves from the infection.

²⁸“Improved sanitation facilities are those designed to hygienically separate excreta from human contact. There are three main ways to meet the criteria for having a safely managed sanitation service. People should use improved sanitation facilities which are not shared with other households, and the excreta produced should either be: 1) treated and disposed in situ, 2) stored temporarily and then emptied and transported to treatment off-site, or 3) transported through a sewer with wastewater and then treated off-site.

If the excreta from improved sanitation facilities are not safely managed, then people using those facilities will be classed as having a **basic sanitation** service. People using improved facilities which are shared with other households will be classified as having a **limited** service. The JMP will also continue to monitor the population practicing open defecation which is an explicit focus of SDG target 6.2. These services level classifications can also be visualized using excreta flow diagrams” (WHO/UNICEF JMP 2017).

²⁹ According to the JMP ladder for hygiene: “The presence of a handwashing facility with soap and water on premises has been identified as the priority indicator for global monitoring of hygiene. Households that have a handwashing facility with soap and water available on premises will meet the criteria for a **basic hygiene facility**. Households that have a facility but lack water or soap will be classified as having a **limited facility** and distinguished from households that have no facility at all. In some cultures, ash, soil, sand or other materials are used as handwashing agents, but these are less effective than soap and are therefore counted as limited handwashing facilities” (WHO/UNICEF JMP 2017)

Figure 27: Household handwashing facilities in Armenia



Source: WHO/UNICEF, JMP data (data refer to 2017).

3.4.5 Food security and nutrition

Around 1 in 7 Armenians are food-insecure, and approximately 1 in 20 of the population is undernourished. According to 2019 WFP's Vulnerability Analysis (CFSVA), 15% of the Armenian people are food-insecure and cannot physically or economically access the food they need for an active and healthy lifestyle (WFP 2019)³⁰. Moreover, 6% of Armenians are undernourished as they cannot acquire the nutrition they need to meet their daily needs. Although the agricultural sector has increased the availability of food in Armenia over the last ten years, there remains a lack of diversification and prevalence of low-quality standards (WFP 2019). Food security in Armenia is closely linked to poverty. The regional disparities and uneven socio-economic development, and widening inequalities lead to significant differences in food security, undernourishment, and nutritional factors within the population (WFP 2019).

Box18. Impacts of COVID-19 on food security and nutrition

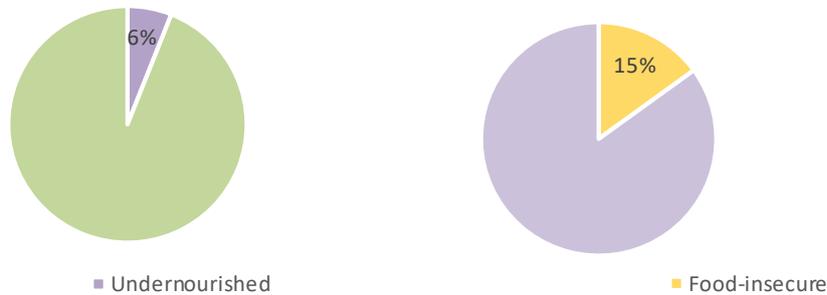
During the SARS-CoV-2 pandemic, the disruption in the domestic food supply chain, food production, and nutrition programmes has increased the primary risk of food insecurity and undernourishment in many countries, especially those already struggling with food security and nutrition problems (World Bank 2020g). COVID-19 is severely impacting access to food and is shifting consumer demands toward cheaper and less nutritious foods (Laborde et al. 2020), which have adverse impacts on public health and increase the risk of undernourishment and inadequate dietary supply among vulnerable groups.

The pandemic appears to have adverse effects on food security among poor households. The recent WFP household food security and vulnerability assessment in Armenia reveals adverse effects on food security due to households' worsened financial situation during the pandemic. Poor and vulnerable households have been impacted the most, particularly in regions with a higher poverty rate. Less than half of the surveyed households received some assistance, either as one-time delivery of food supplies or infrequently over the last several months. The findings of the assessment emphasize that an

³⁰ World Food Programme used ILCs 2016-17 database for calculating food security indicators. The ILCs is carried out each year by the National ARMSTAT.

emergency response is essential to address acute/severe household-level food security targeting the segments of the population that are vulnerable and in need (WFP and British Embassy Yerevan 2020).

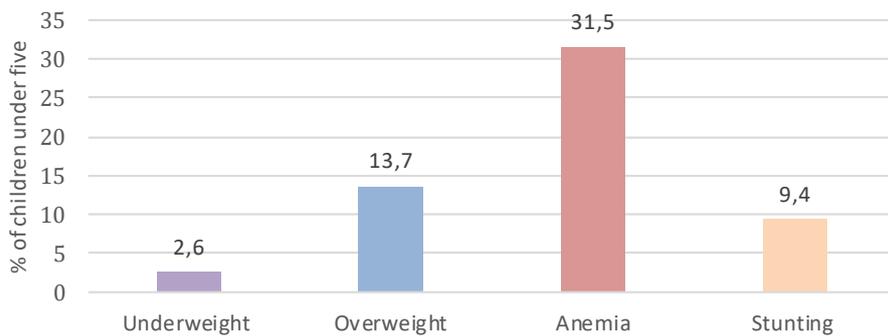
Figure 28: Prevalence of food insecurity and undernourishment in Armenia



Source: WFP (data refer 2017).

Unhealthy dietary habits and child malnutrition remain key concerns in Armenia. According to the recent Global Nutrition Report, Armenia has shown limited progress in increasing consumption of diversified and nutritious foods (Global Nutrition Report 2020). This issue is also affecting children. In 2016, 2.6% of children under five were underweight and 13.7% overweight, while 31.5% of them had anaemia, and 9.4% were stunted³¹ (World Bank 2016b; 2019o; 2019p; 2019q) (Figure 29).

Figure 29: Malnutrition among Armenian children under five



Source: World Bank, based on WHO, UNICEF, Joint Child Malnutrition Estimate (data refer to 2016).

Overall, Armenia's high level of food insecurity and vulnerability can be exacerbated by the disruptive effects of the SARS-CoV-2 pandemic on the food system and household income. These combined

³¹ "Stunting is the impaired growth and development that children experience resulting from poor nutrition, repeated infection, and inadequate psychosocial stimulation. Children are defined as stunted if their height-for-age is more than two standard deviations below the WHO Child Growth Standards median." (WHO 2015).

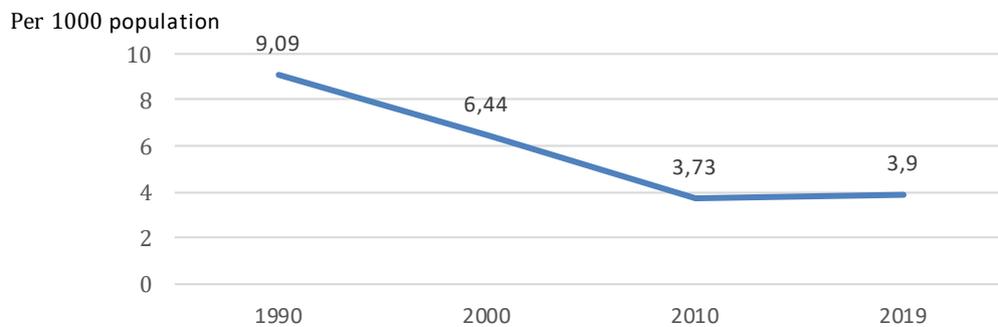
effects of COVID-19 and food security vulnerability can worsen the population's nutrition, the burden of diseases, and existing poverty and inequalities.

3.5 Healthcare system

3.5.1 Physical and human resources

Compared to European and Central Asia, hospital bed capacity is lower in Armenia. Armenia inherited an oversized health system with a specific focus on hospital care (Richardson 2013). Since independence from the Soviet Union, hospitals have reduced existing excess capacity by merging and downsizing hospital bed capacity and eliminating redundant spaces and services (Lavado, Hayrapetyan, and Kharazyan 2018); from 9.09 hospital beds available per 1000 people in 1990 to 4.72 in 2019 (Lavado, Hayrapetyan, and Kharazyan 2018; Richardson 2013) (Figure 30).

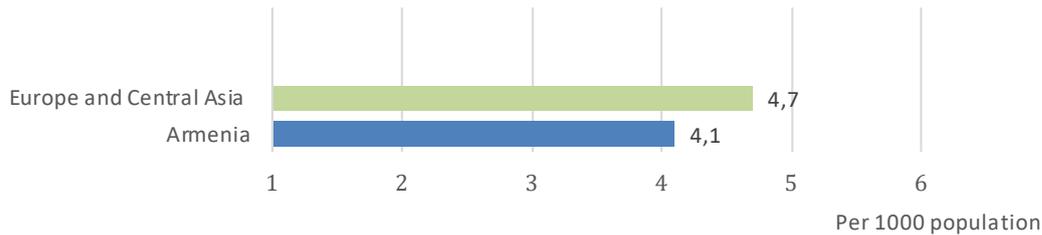
Figure 30: Hospital beds per 1000 people in Armenia 1990-2019



Sources: Data based on (WHO 2020f), (World Bank 2019e) and (ARMSTAT 2020b).

Available data for 2018 shows fewer hospital beds for Armenia (4.1 per 1000 population), compared to Europe and Central Asia average (4.7 per 1000 population) (World Bank 2019e). As of 2019, there are 125 hospitals and 494 primary health care facilities available in Armenia (ARMSTAT 2020b). Alongside the optimisation of excess hospital capacity, many primary care facilities were closed following independence due to a lack of the most basic facilities (Richardson 2013). Starting in the late 1990s, the government began steadily incorporating family medicine into the country's primary health care. Currently, modern medical technologies and supplies are mostly available in Yerevan hospitals and rural PHC facilities have been upgraded and provided with modern medical equipment and supplies (Lavado, Hayrapetyan, and Kharazyan 2018).

Figure 31: The comparison between density of Hospital beds in Armenia and Europe and Central Asia



Source: World Bank, based on WHO data (data refer to 2018).

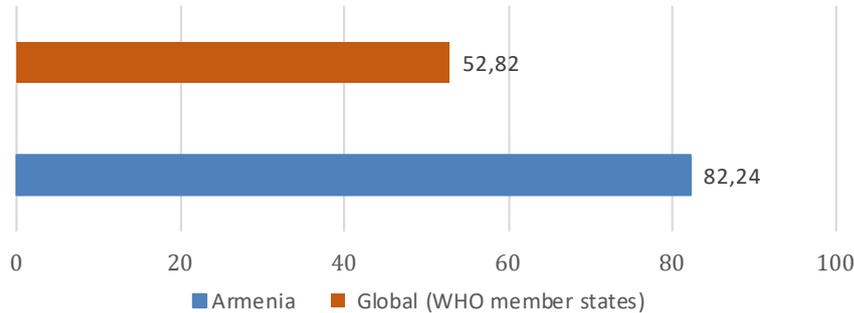
As in many other countries, hospital capacity and medical equipment shortages are key concerns as COVID-19 cases spike in Armenia. In May and early June, when the number of infected patients rapidly increased, the country, like many others, reported a significant shortage of ICU equipment, ventilators, PPE, and laboratory reagents and supplies (COVID-19 Health System Response Monitor 2020). The armed conflict between Armenia and Azerbaijan has resulted in further pressures on the country's health system (see section 3.3.4), due to having to handle the pandemic and war casualties at the same time.

Despite a relatively high number of health care human resources in Armenia, the uneven geographical distribution of medical workers contributes to a shortage of regional and rural healthcare workforces. According to the WHO's latest data available for 2014, the country's density of skilled health professionals, including the total number of physicians, nursing, and midwifery personnel (per 10,000 population) was 82.24, which was significantly higher than the respective WHO global average with 52.82 for the similar year (WHO 2018f) (Figure 32). Since 2000, the density of medical doctors (including generalist and specialist doctors) has increased considerably from 27 to 44.023 per 10,000 population in 2017 (WHO 2020j). The density of nursing and midwifery personnel was 61.07 per 10,000 people in 2017 (Figure 33), while 55% of WHO member states reported having less than 40 members of nursing and midwifery personnel per 10,000 population (WHO 2020l). Furthermore, specialists are mainly available in hospital services, while family doctors are the key health workforce in the primary care units (Richardson 2013).

Box19. Health workforce in the responses to COVID-19

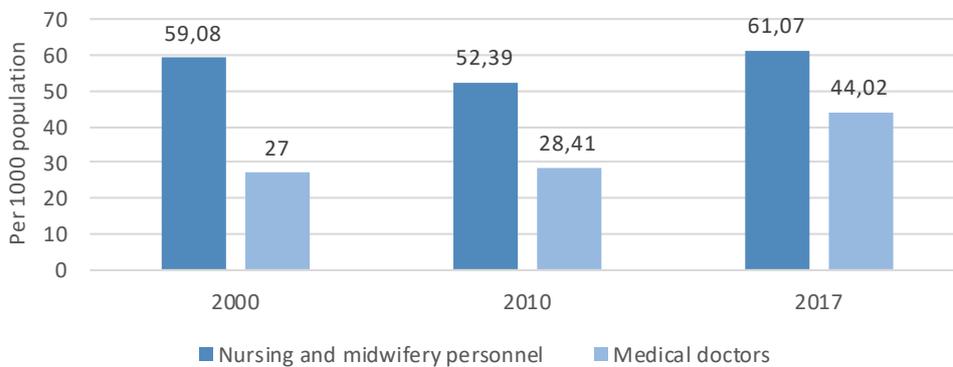
Human resources and the health workforce occupy unique positions in response to the global pandemic. The COVID-19 outbreak has contributed to an unprecedented increase in demands on the health workforce, while at the same time diminishing the human resource capacities of most of the countries (Bourgeault et al. 2020). While health workers are centre-stage in response to the pandemic, they are also most at multiple risks, including increased workload, high risk of contracting infection, fatigue, and psychosocial stress (Gedik 2020).

Figure 32: Skilled health professional density (per 10,000 population)



Source: GHO data, WHO (data refer to 2014).

Figure 33: The density of medical doctors and nursing and midwifery personnel 2000, 2010 and 2017 (per 10,000 population)



Source: WHO, Global Health Workforce Statistics Database.

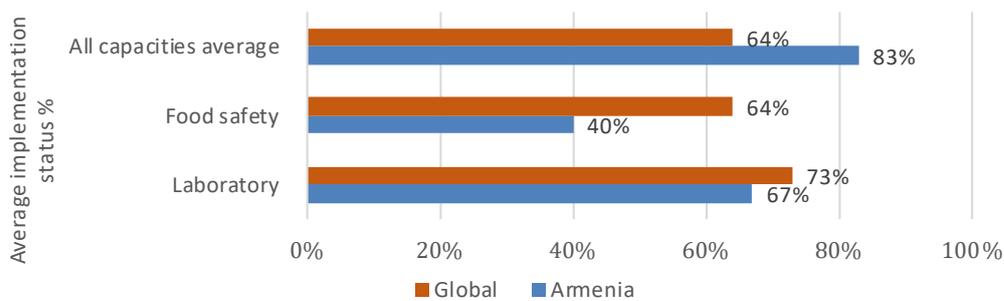
Despite a relatively large health workforce, their uneven distribution and their concentration in Yerevan has resulted in a shortage of professional health workforce in other regions, especially in rural areas (Lavado, Hayrapetyan, and Kharazyan 2018; Richardson 2013). Since the outbreak started, the need for an additional health workforce has been addressed by involving other health specialists, students, and volunteers (COVID-19 Health System Response Monitor 2020). However, the health system faced a shortage of ICU doctors and anaesthesiology specialties due to the increased number of daily cases and hospitalised patients (COVID-19 Health System Response Monitor 2020). The government struggles with the gaps in these specialties, exacerbated by an unequal geographical distribution of medical professionals rather than an actual shortage, imposing significant challenges to managing the pandemics in rural areas.

3.5.2 Health security core capacities

Armenia faces inadequate laboratory capacity. Any response to epidemics requires minimum core capacities for early detection and surveillance of the diseases that can cross state boundaries. In 2019, the country's average core capacity score, which is calculated based on the International Health

Regulations (2005) (IHR)³² SPAR version³³, was 83% and significantly higher than the global average (64%) (WHO 2019b). However, for two of the capacities, the level of achievement in Armenia was lower than the global average: the country had a significantly lower score in food safety (40%), compared to the global average (64%), and the laboratory score was 67%, while the global average was 73% (WHO 2019b) (Figure 34).

Figure 34: The IHR capacity score, 2019



Source: WHO, e-SPAR (data refer to 2019).

Lower laboratory capacity has been reported as a significant issue in the wake of the COVID-19 outbreak in Armenia (COVID-19 Health System Response Monitor 2020). Reliable laboratory services are key parts of every phase of response to infectious disease outbreaks. The lower laboratory capacity may impose challenges for laboratory support and urgent needs to boost testing capacity for early detection and containment of the COVID-19 outbreak. During the pandemic, especially in May and July, the limited laboratory capacity, the lack of quality control, and the higher cost of imported testing kits were among key issues reported by the Armenian Ministry of Health (COVID-19 Health System Response Monitor 2020).

3.5.3 Health financing

Household out-of-pocket payments remains the largest source of health financing in Armenia. In a health emergency such as the SARS-CoV-2 pandemic, adequate public health funding plays an essential role in addressing excess demands on the healthcare system. In 2018, the Current Health Expenditure (CHE) was 10.03% of GDP in Armenia (WHO 2021), whereas 84.3% of CHE was sourced by Out of Pocket Payments (OOPs) (WHO 2018d) (Table 8) and significantly above the global average (with 18.12% of CHE) (World Bank 2018b). In Armenia, OOPs consist of formal co-payment for services under a Basic Benefit Package (BBP), introduced in 1999, to protect the socially vulnerable population from so-called

³² “The revised International Health Regulations (IHR) are a set of legal instruments designed to ensure and improve the capacity of all signatories or States Parties to prevent, detect, assess, notify, and respond to **public health risks** and **acute events**. Under the IHR, States Parties are obliged to develop and maintain minimum core capacities for surveillance and response to any potential public health events of international concern” (WHO 2019b).

³³ “States Parties and the Director-General report to the World Health Assembly on the implementation of the IHR. States Parties use a self-assessment tool for their annual reporting called the State Party Self-Assessment Annual Reporting Tool or SPAR. The SPAR (State Party Self-Assessment Annual Reporting) tool consists of 24 indicators for the 13 IHR capacities needed to detect, assess, notify, report and respond to public health risk and acute events of domestic and international concern” (WHO 2019b).

'socially important' diseases (Lavado, Hayrapetyan, and Kharazyan 2018). The package uses public resources to fund primary health care and emergency services for all Armenian citizens through provider contracts, with a co-payment exemption for poor and vulnerable groups (Lavado, Hayrapetyan, and Kharazyan 2018). It further includes direct payment for services not covered by BBP and informal payment. Insufficient public funds for BBP service provision and exorbitant pharmaceutical prices are considered two main reasons for high Armenia's high OOP (Lavado, Hayrapetyan, and Kharazyan 2018). The high proportion of household OOPs suggest inadequate protection for households, which may be exacerbated in the wake of COVID-19.

Table 8: Health spending in Armenia

Key statistics	
Health spending US\$ per capita (CHE)	1,246
Government health spending %Health spending	12.30%
Out of pocket spending %Health spending	84.30%

Source: WHO, Global Health Expenditure Database (data refer to 2018).

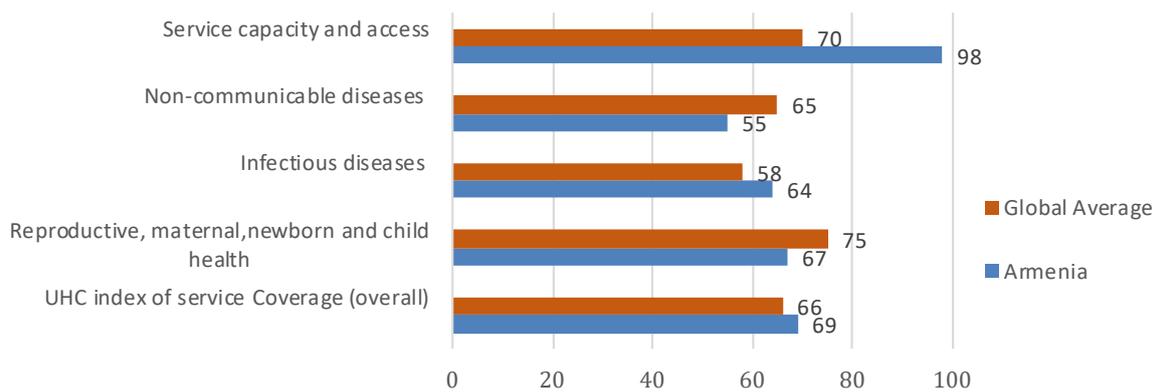
Health service coverage reflects the extent to which people in need can access and receive essential health interventions (WHO 2009). Universal Health Coverage (UHC) plays a vital role in ensuring accessibility of essential service coverage without any financial hardship for all people, particularly for the most vulnerable groups, for whom such a secured level of protection is required (WHO 2019g). Achieving UHC is one of the targets set by world nations and countries with progress towards UHC will make achievements in the other goals (ibid, 2019d). In 2017, Armenia scored 69 out of 100 in the WHO

Box20. Health financing in times of the pandemic

An effective response to the pandemic requires supportive health financing policies and measures. In Armenia, COVID-19 services and essential equipment have been co-financed by the government and a range of private donors and humanitarian aid. When the state of emergency was declared, emergency funds were available for the pandemic response across the country. Besides international humanitarian aid and fundraising activities and private charitable donors, the government established the Humanitarian Fund to finance COVID-19 services, including overtime pay for health workers. At the same time, all COVID-19 related health services are to be free of charge (COVID-19 Health System Response Monitor 2020).

Universal Health Coverage Index of service coverage (UHC)³⁴, slightly above the global average of 66 of 100 (WHO 2020g) (Figure 35). As shown in Figure 35, the country's score for non-communicable diseases was lower than the global average, at 55 compared to 65. A low share of public health expenditure poses challenges to the Universal Health Pathway in Armenia. Adequate public spending is required to address increasing NCDs and high household OOP expenditure and reduce exacerbating vulnerabilities to the complex public health risks such as the SARS-CoV-2 pandemic (Lavado, Hayrapetyan, and Kharazyan 2018).

Figure 35: UHC index of service coverage



Source: GHO data, WHO (data refer to 2017)

³⁴ The WHO Universal Health Coverage Index of service coverage (UHC)³⁴ is an index reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage. The tracer indicators are categorised into four components of service coverage: 1. Reproductive, maternal, newborn and child health 2. Infectious diseases 3. Noncommunicable diseases 4. Service capacity and access (WHO 2019g).

3.5.4 Mental health care services

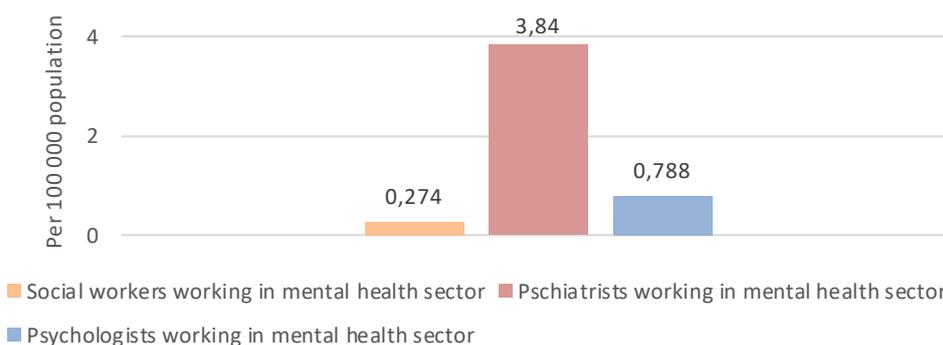
Mental health service mainly focuses on inpatient care in Armenia.

In Armenia, mental health care is mostly reliant on large psychiatric hospitals and institutions (McCarthy et al. 2013; UN in Armenia 2017; Richardson, 2013). In 2016, the rate of social workers working in the mental health sector was 0.274 per 100,000 population, significantly lower than psychiatrists and psychologists working in mental health care (3.84 and 0.78 respectively) (WHO 2019a) (Figure 36). There were 1.371 mental health outpatient facilities per 100,000 people, while only 0.034 mental health day treatment facilities were available per 100,000 population (WHO 2019e) (Figure 37). The relatively low number of outpatients and day treatment facilities, as well as a limited number of trained social workers, restrict community-based and home-based mental health services in Armenia (Richardson 2013). People with psychiatric conditions, particularly those in residential treatment or inpatient facilities, are at increased risk of exposure to COVID-19, not only because of the difficulty in evaluating their medical symptoms but also because of limited space, staff, and resources in many facilities (Benson, Öngür, and Hsu 2020). Shifting to home-based health care and remote community services is considered a potential strategy during the COVID-19 (Moreno et al. 2020; Sharma et al. 2020). However, the feasibility of these adaptation strategies mainly depends on capacity of community-based mental health care and availability of human resources which are currently limited in Armenia's centralised and hospital-based mental healthcare system.

Box21. The role of integrated community-based mental health care in the wake of the pandemic

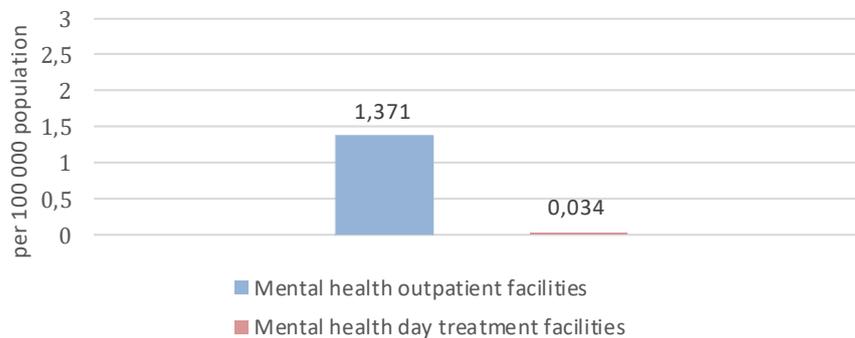
During the pandemic and in the disruption of hospital care services, community-based outpatient mental health care can play a critical role in delivering mental health services in non-special settings (Kola 2020). Community trained social workers and health care providers can help people with the traumatic experiences of losing lives and livelihoods during the pandemic. Moreover, there is an urgent need to provide contained and safe quality care for specific vulnerable groups, including people with pre-existing mental health conditions, or children, migrants, and women who are particularly exposed to abuse and violence (WHO, Regional Office for Europe 2020a).

Figure 36: Mental health workforce in Armenia



Source: GHO data, WHO (data refer to 2016).

Figure 37: Mental health service availability in Armenia, 2016

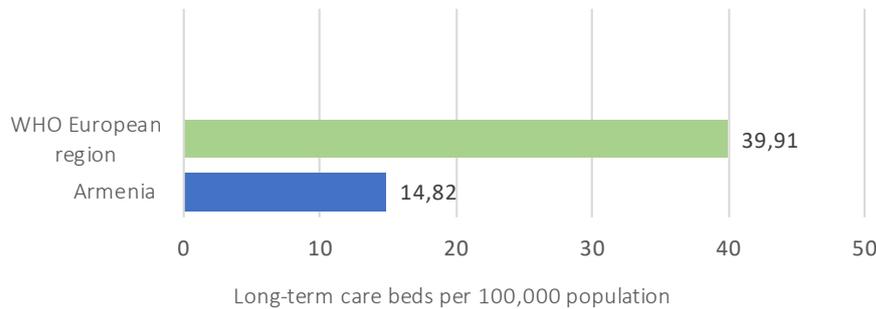


Source: GHO data, WHO (data refer to 2016).

3.5.5 Long-term care

Family and informal caregiving are not adequately supported. Persons in need of long-term care, including elderly people and those with pre-existing health conditions who need long-term assistance, are among the groups particularly vulnerable to the COVID-19 disease. Evidence reveals that more than 40% of COVID-19 related deaths have been associated with long-term care facilities (WHO 2020s). In addition to nursing homes that have experienced an extremely high number of COVID-19 incidence so far, informal care settings, including family caregiving, are facing significant challenges during the pandemic. In Armenia, families are mainly responsible for long-term care as very few nursing home facilities currently exist (Richardson 2013). In 2013, only 14.82 long-term care beds were available in the country per 100,000 population, which was substantially lower than the European average (39.91) (WHO, Regional Office for Europe 2016a). In 2019, around 1,390 people resided in 12 institutions providing 24-hour care services, including retirement homes, care centres and nursing homes - providing 24-hour care services for older people and people with limited abilities and mental health problems in Armenia (Krylova and Gevorgyan 2020). A study on the impacts of COVID-19 on elderly people and caregivers in Armenia highlights the challenges faced by nursing home workers during the pandemic, such as increased psychological stress and difficult working conditions (Krylova and Gevorgyan 2020).

Figure 38: Long-term care beds per 100,000 population



Note: excl. beds in mental health and substance abuse hospitals and beds for rehabilitation

Source: WHO, Regional Office for Europe, European Health Information Gateway (data refer to 2013)

Long-term care mainly relies on the informal setting within families. Informal caregivers' special needs have not been systematically recognised, and home-based service care and special financial assistance are currently inadequate (Richardson 2013). Elderly people in Armenia are entitled to free or subsidised health services only if they are recognised as particularly vulnerable, which limits access to medical services for elderly people who do not fall into this category (Krylova et al. 2020). In the context of COVID-19, the inadequate support for informal long-term caregiving and the lack of accessible health care services may exacerbate health risks, financial burden, and thus, the vulnerability of patients in need of long-term care and their families' assistance.

3.5.6 Health care services in prisons

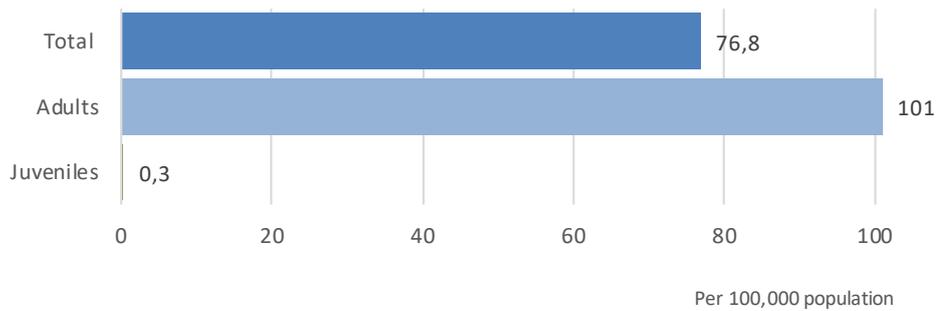
Despite improvements, poor equipment, lack of medication and limited staff have remained key issues regarding health care services in the country's prisons. In 2018, 76.8 persons per 100,000 population were held in Armenian prisons (UNODC 2018) (Figure 39). Although the government has made some progress in this area, with overcrowding no longer a problem at the prison level, it does still at the cell level (Stepanian 2017; U.S. Department of State 2019). Moreover, health care services in prisons have remained understaffed and poorly equipped. The lack of access to specialist care and shortage of medication have been reported as key issues in many prisons in Armenia (Stepanian 2017; U.S. Department of State 2019). The containment of the virus in prisons is likely to fail if strong infection prevention measures, adequate testing, treatment, and medical care and services are not carried out in prisons and other similar settings. Furthermore, people in prisons and jails already face restriction on their liberties

Box: Control of the pandemic in prisons and other places of detention

People in prisons and other places of detention are particularly vulnerable to the COVID-19 outbreak because of living in confined conditions in which they stay together for prolonged periods (WHO, Regional Office for Europe 2020b). Experience shows that COVID-19 prevention measures like maintaining personal and communal hygiene and social distancing are less likely possible in jails and similar settings, where people are gathered in proximity. Therefore, prison health is considered part of public health, facing challenges in COVID-19 response.

and may react differently to the imposed restrictive measures (WHO, Regional Office for Europe 2020b). In Armenia, like many other countries, the provision of essential medical equipment, protective items, treatment of infected persons and knowledge and training for health care personnel of penitentiary institutions are urgently needed to protect the health and life of prison populations during the pandemic.

Figure 39: Persons held in prisons in Armenia



Source: UNODC (data refer to 2018)

4. Conclusion

The conclusion highlights the main areas or groups identified within this secondary assessment of available data that require special attention in pandemic response in Armenia:

- Armenia is experiencing population decline, combined with **population ageing**. Around 1 in 10 of the Armenian population is aged 65 and older. Given that risk of COVID-19 severe illness and death rises sharply with age, Armenia's significant elderly population implies a relatively high proportion of people are potentially at risk to COVID-19. The elderly population is also particularly vulnerable to the socio-economic and psychological consequences of the pandemic.
- Despite the shrinking population, the **urbanisation level** is currently high in Armenia: more than two-thirds of the population live in urban areas, while more than half of the population are concentrated in Yerevan. Around 1 in 10 of Armenians lives in **urban slums**. They are particularly vulnerable to COVID-19 transmission due to substandard and overcrowded living conditions.
- Living in **large and extended family households** is common in Armenia. Limited and crowded living space makes physical distancing and self-isolation difficult. As a result, people living in large and extended family households may be at increased risk of household transmission of the COVID-19.
- While Armenia has experienced promising **economic growth** in previous years, this has begun to decline since March 2020. The increased current spending to mitigate the SARS-CoV-2 pandemic, low revenue collection, and projected shrinking GDP are likely to increase the state budget deficit, affecting economic growth.
- Around 1 in 4 of the Armenian population is living in **poverty**. At the same time, **income inequality** is increasing. High poverty rate in Armenian society can compound with the immediate socio-economic impacts of COVID-19 and exacerbate the risk of extreme poverty and existing health and vulnerabilities of **poor households**.
- Homelessness is rising in Armenia. The homeless are particularly vulnerable to the transmission of the virus due to the lack of access to shelter, hygiene, and healthcare.
- The country's **high unemployment rate**, especially **youth unemployment**, is a key concern that is likely to be exacerbated due to the short-term and long-term impacts of the pandemic on the country's economy.
- A significant portion of Armenia's **labour force works in informal non-agricultural sectors** such as unregistered small-scale businesses or temporary workers. Decent working conditions, including access to social security mechanisms such as sick leave, are rarely accessible for workers in these sectors, making them more vulnerable to the impacts of the SARS-CoV-2 pandemic.
- Many **Armenian labour migrants** working in neighbouring countries such as Russia, rely on **remittances** to make a living and thus might suffer the effects of economic downturns and border closures, leading to job and income loss.
- Armenia's **transportation infrastructure**, including freight and public transport, face a relatively inadequate capacity to cope with the severe disruptions and supply/demand shocks

caused by COVID-19. Deficiencies in freight transport services and public transport appear to affect people's daily lives, especially for those who live in remote rural communities.

- While many Armenian people use the internet and telecommunication devices, there is a significant **digital divide** between regions, age, gender, and socio-economic groups. During the pandemic, existing digital inequalities in access to technological devices, networks, and digital literacy result in further social deprivation and exclusion and greater vulnerabilities within affected groups to the health and socio-economic impacts of the pandemic.
- Armenian **female participation** in the labour market is significantly lower than male participation. At the same time, women are the main **providers of informal care** within families. The pandemic is likely to aggravate the unpaid caregiving burden on women and places additional stress and health vulnerabilities on them.
- The SARS-CoV-2 pandemic appears to increase **gender-based violence** in Armenia. Restrictive measures create further challenges for survivors to report or seek help during the pandemic.
- The pandemic can worsen the **existing inequalities** in educational opportunities in Armenia, which can have long-term impacts on younger generations' educational and career pathways.
- Financial insecurities and housing problems are among the key challenges of **migrants** in Armenia, which can be worsened during the pandemic.
- Recent **armed conflict** between Armenia and Azerbaijan over the disputed region of **Nagorno-Karabakh** has resulted in thousands of **displaced persons and refugees**, who have been taken to transitional settlements. Displaced people and refugees are particularly vulnerable to virus transmission due to the lack of access to hygiene and essential health services and psychological support.
- **Trust in institutions** is generally low in Armenia. People mostly rely on **informal networks** of support, which works as a mechanism for coping with hardships in extreme situations such as the pandemic.
- Armenia is currently dealing with domestic **political instability** which can affect pandemic governance and coordinated pandemic response.
- Despite recent progress, **corruption and lack of transparency** remain key problems in Armenia, affecting public operations in the wake of the pandemic.
- Transition toward **democracy** is an ongoing process in Armenia. COVID-19 restrictions can trigger concentration of power and anti-democratic and non-transparent decision-making procedures, affecting the country's democratic transitions.
- **Independent journalism** is yet to be fully achieved in Armenia. Increased governmental control on media reports and journalists has been evident during the state of emergency in Armenia, leading to further restrictions on press freedom and people's rights **to seek and receive information**.
- **Armenian LGBT Individuals, women, persons with disabilities and the elderly population** are facing structural forms of **discrimination and social exclusion**. Structural exclusion and law discrimination contributing to the series of problems and risks such as poverty and the lack of access to essential health care services increase the vulnerability of marginalised and disadvantaged groups to the health and socio-economic impacts of the SARS-CoV-2 pandemic.
- Recent **armed conflicts** between Armenia and Azerbaijan over Nagorno-Karabakh appear to have created additional challenges, rendering the country's state and institution more fragile and vulnerable to failure.

- There is a considerable gender gap in **life expectancy and adult mortality rate** in Armenia. Given that men are more likely to die from COVID-19 infection, COVID-19 excess mortality is expected to deepen Armenia's gender gaps in life expectancy and mortality.
- Compared to European average, Armenia has a **higher rate of maternal mortality and mortality of children under five**. During the global pandemic, maternal and under-5 child deaths are at risk of increasing due to the disruption of health care services and the potential impact on food security and other measures for saving maternal and child lives.
- **High NCD incidences** are a key public health concern in Armenia, causing many premature deaths. Underlying NCDs may contribute to an increased risk of severe COVID-19 and a higher risk of fatality.
- **Obesity** is a major public health issue in Armenia. Obesity is one of the risk factors that account for the increased disease burden in Armenia and considered as one of the COVID-19 comorbidities, increasing the risk of severe illness.
- More than half of Armenian men aged over 15 use **tobacco**. Tobacco smoking increases the risk of NCD diseases, including cardiovascular and circulatory diseases, and can be associated with severe COVID-19.
- There is a high rate of **alcohol consumption** among Armenian men. Harmful alcohol consumption is associated with a series of underlying health such as cardiovascular and circulatory diseases and diabetes, increasing the risk of COVID-19 fatal consequences.
- **Air quality** in Armenia is moderately unsafe. Exposure to ambient air pollution gives rise to a series of underlying health conditions such as respiratory diseases and chronic lung inflammation, which can contribute to severe COVID-19 disease.
- Armenia's **TB incidence** is one of the highest in Europe. TB can put people at higher risk of experiencing more COVID-19 severe symptoms.
- **HIV prevalence** is relatively low in Armenia, but coverage of antiretroviral therapy is under the global average. During the pandemic, Armenian people living with HIV can be at particularly increased vulnerability due to disruptions of HIV services and a lack of essential COVID-19 related services programmes.
- Armenia has a high vaccination rate, but the regional differences in timely vaccination remain a key issue, which can be exacerbated by disruptions due to COVID-19 on vaccination programmes.
- **Safely managed drinking water, basic sanitation, and handwashing facilities** are not accessible for everyone in Armenia. In the pandemic, the lack of access to safely managed drinking water from an improved source accessible on-premises can affect households' wellbeing and health. The lack of basic sanitation facilities forces people to use shared facilities, thus increasing their risk of infection. Since poor hygiene is one of the main routes of transmission of the COVID-19 virus, households without hygiene facilities are less equipped to protect themselves from the infection.
- **Food insecurity, malnutrition, and unhealthy dietary habits** are concerning in Armenia, which can be worsened by the effects of the SARS-CoV-2 pandemic on the functioning of the food system and household income.
- Compared to Europe and Central Asia averages, Armenia has a lower hospital bed ratio. Like many other countries, Armenia is facing a shortage of hospital capacity in the spike of COVID-19 infection, affecting the ability of the health system to cope with the pandemic situation.

- The **uneven geographical distribution of medical workers** resulting in a shortage of regional and rural healthcare workers can pose challenges to the health system in regional and rural areas to deal with the pandemic.
- Armenia is facing inadequate **laboratory capacity**. The lower laboratory capacity may pose challenges for laboratory support and urgent needs to boost testing capacity for early detection and containment of the Covid-19 outbreak. Lower laboratory capacity has been reported as a major issue in the wake of the virus outbreak in Armenia.
- **Household Out of Pocket Payment** remains the largest source of health financing in Armenia. The high proportion of household OOPs suggest inadequate protection for households, which may be exacerbated in the wake of COVID-19. Simultaneously, a low share of public health expenditure poses challenges to the Universal Health Coverage in Armenia.
- **Mental health** services focus primarily on inpatient care in Armenia. During the pandemic, shifting to **home-based health care** and remote community services is considered a potential strategy to maintain mental care services. The feasibility of these adaptation strategies mainly depends on human resources availability and integrated community-based mental health care, which are currently limited in Armenia's centralised and hospital-based mental healthcare system.
- **Informal family caregiving** is the major source of support for people in need of long-term care in Armenia. However, special support such as financial assistance is currently inadequate. In the current situation, COVID-19 impacts contribute to the increasing challenges of families who are responsible for informal long-term care.
- Despite improvements in these areas, poor equipment, lack of medication, and limited staff remain key issues regarding health care services in the country's **prisons**. The containment of the virus in prisons is likely to fail if strong infection prevention measures, adequate testing, treatment, and medical care and services are not carried out in prisons and other similar settings.

As highlighted above, Armenia is currently facing various vulnerabilities, ranging from increasing rates of poverty, political instability, digital divide, and domestic violence to high rates of non-communicable diseases, food insecurity, unequal distribution of health workforce. This secondary assessment has focused on descriptive statistics and information most relevant to vulnerability in the SARS-CoV-2 pandemic context aiming to have a clearer understanding of the current state of analysis. This assessment is not to draw the full picture of the multifold dimensions of vulnerabilities. Its purpose is to have a clearer understanding of the current state of analysis, which seems to be necessary to then go more in depth into the whole complexity of vulnerabilities against the pandemics multifold effects. It's just a very first step into a new field of research. There are a variety of very individual vulnerability and resilience aspects that require further qualitative and quantitative research. The highly dynamic nature of the pandemic makes it essential to continuously assess emerging vulnerabilities and identify the most affected areas and groups that require special attention in the pandemic response.

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Appendix – List of selected indicators and data sources

Aspect	Category	Indicator name	Definition ³⁵	Indicator and data source	Access date
Demographic factors	Population trends	Population Growth (% annual)	“Annual population growth rate for year is “the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage”(World Bank 2019n).	World Bank, based on United Nations Population Division. World Population Prospects: 2019 Revision.	23.12.2020
		Fertility rate, total (births per woman)	“Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year” (World Bank 2019a).	World Bank and United Nations Population Division. World Population Prospects: 2019 Revision.	23.12.2020
		Population age 65 and above (% of total population)	“Population ages 65 and above as a percentage of the total population. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship” (World Bank 2019m).	World Bank and United Nations Population Division. World Population Prospects: 2019 Revision.	07.08.2020
	Urbanisation	Population density (people per sq. km of land area)	“Population density is midyear population divided by land area in square kilometers” (World Bank 2018c).	World Bank, based on Food and Agriculture Organization and World Bank population estimates.	07.08.2020
		Urban population (% of total population)	“Urban population refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division” (World Bank 2019r).	World Bank, based on United Nations Population Division. World Urbanization Prospects	07.08.2020
		Population living in slums (% of urban population)	“Population living in slums is the proportion of the urban population living in slum households. A slum household is defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water, access to improved sanitation,	World Bank, based on United Nations Human Settlements Programme (UN-HABITAT)	23.12.2020

³⁵ All indicator definitions are based on data and indicator resources.

			sufficient living area, housing durability, and security of tenure” (World Bank 2018d).		
	Household size and composition	Average household size	“The average number of usual residents (household members) per household” (United Nations 2019a).	United Nations, population division	20.08.2020
Socio-economic conditions	Economic factors	GDP per capita (current US\$)	“GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars” (World Bank 2019c).	World Bank	23.12.2020
	Economic factors	GDP per capita growth (annual%)	“Annual percentage growth rate of GDP per capita based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser’s prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products” (World Bank 2019d).	World Bank	08.08.2020
	Economic factors	Inflation, consumer price (annual%)	“Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly” (World Bank 2019g).	World Bank, based on International Monetary Fund, International Financial Statistics and data files.	20.08.2020
	Income distribution and poverty	GINI coefficient	“According to World Bank: Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households	ARMSTAT, ILCS	03.12.2020

Socioeconomic conditions			within an economy deviates from a perfectly equal distribution” (ARMSTAT 2020a).		
	Income distribution and poverty	Poverty line	“Poverty line calculated through the new methodology defines, in monetary terms, the value of goods (food and non-food) and services that meet the needs of the minimum level of living standards in the country” (ARMSTAT 2020a).	ARMSTAT, ILCS	03.12.2020
	Income distribution and poverty	Poverty rate	“Poor households are identified as those whose consumption value is insufficient to afford the value of such basket, i.e. their consumption falls below the poverty line. In particular, the welfare level of households in Armenia is determined by calculating the value of total monthly consumption per adult equivalent” (ARMSTAT 2020a).	ARMSTAT, ILCS	03.12.2020
	Income distribution and poverty	Severity of poverty	“The severity of poverty is used to measure the inequality of consumption among the poor. It reflects the fact that in terms of consumption some poor people are further away from the poverty line, while some others are much closer to it.” (ARMSTAT 2020a).	ARMSTAT, ILCS	03.12.2020
	Work and employment	Unemployment rate	“Unemployment refers to the share of the labor force that is without work but available for and seeking employment” (ARMSTAT 2020a).	ARMSTAT, based on ILO standard definition	15.10.2020
	Work and employment	Unemployment, youth (% ages 15–24)	“Youth unemployment refers to the share of the labor force ages 15-24 without work but available for and seeking employment” (World Bank 2020f).	World Bank, based on International Labour Organization, ILOSTAT database	15.10.2020
	Work and employment	informal employment (% of total nonagricultural employment)	“Employment in the informal economy as a percentage of total non-agricultural employment. It basically includes all jobs in unregistered and/or small-scale private unincorporated enterprises that produce goods or services meant for sale or barter. Self-employed street vendors, taxi drivers and home-base workers, regardless of size, are all	World Bank, based on International Labour Organization, ILOSTAT database	15.10.2020

Socioeconomic conditions			considered enterprises.” (World Bank 2020c).		
	Work and employment	Personal remittances, received(% of GDP)	“Personal remittances comprise personal transfers and compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from nonresident households” (World Bank 2019).	World Bank, based on IMF balance of payments data, and World Bank and OECD GDP estimates.	15.10.2020
	Transportation	Logistics performance index: overall (1=low to 5=high)	“The Logistics Performance Index is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. The LPI 2018 allows for comparisons across 160 countries” (World Bank 2018a).	World Bank.	10.08.2020
	Transportation	Road Connectivity index (1-100) best	“Average speed and straightness of a driving itinerary connecting the 10 or more largest cities that together account for at least 15 percent of the economy's total population” (Schwab 2019).	World Economic Forum, Global Competitiveness Index	11.08.2020
	Digital technologies and communication	Individuals using the Internet (% of population)	“Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV etc” (World Bank 2019f).	World Bank, Based on International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database	20.10.2020
	Digital technologies and communication	Mobile cellular subscriptions (per 100 people)	“Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology” (World Bank 2019i).	World Bank, based on International Telecommunication Union	20.10.2020
	Digital technologies and communication	fixed telephone subscription(per 100 people)	“Fixed telephone subscriptions refer to the sum of active number of analogue fixed telephone lines, voice-over-IP (VoIP) subscriptions, fixed wireless local loop (WLL) subscriptions, ISDN voice-channel equivalents and	World Bank, based on International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database	20.10.2020

			fixed public payphones” (World Bank 2019b).		
	Gender issues	Gender Inequality Index (value/rank)	“A composite measure reflecting inequality in achievement between women and men in three dimensions: reproductive health, empowerment and the labour market” (UNDP 2019).	UNDP	6.11.2020
	Gender issues	Intimate partner violence prevalence (% of women 15-49)	“The percentage of ever-partnered women in a given population who have ever experienced physical and/or sexual violence by an intimate partner” (WHO 2020h).	WHO	12.08.2020
	Education	Literacy rate, adult (% 15 ages and older)	“Adult literacy rate is the percentage of people ages 15 and above who can both read and write with understanding a short simple statement about their everyday life” (World Bank 2020d).	World Bank based on UNESCO Institute for Statistics	26.10.2020
Socioeconomic conditions	Education	School enrollment, primary(% net)	“Net enrollment rate is the ratio of children of official school age who are enrolled in school to the population of the corresponding official school age. Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music” (UNESCO 2020a).	UNESCO	26.10.2020
	Education	School enrollment, secondary(%net)	“Net enrollment rate is the ratio of children of official school age who are enrolled in school to the population of the corresponding official school age. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers (UNESCO 2020a).”	UNESCO	26.10.2020
	Education	School enrollment, tertiary(gorss%)	“Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of	UNESCO	26.10.2020

Socioeconomic conditions			education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level" (UNESCO 2020a).		
	Migration	International migration stock (% of population)	"International migrant stock is the number of people born in a country other than that in which they live. It also includes refugees" (United Nations 2019b).	United Nations Population Divisions	20.08.2020
	Migration	Refugee population by country or territory of asylum	"Refugees are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee-like humanitarian status, and people provided temporary protection. Asylum seekers--people who have applied for asylum or refugee status and who have not yet received a decision or who are registered as asylum seekers--are excluded" (United Nations 2019b).	United Nations, Population division	10.08.2020
	Social capital	Social capital index	"Social Capital measures the personal and family relationships, social networks, and the cohesion a society experiences when there is high institutional trust, and people respect and engage with one another (civic and social participation), both of which have a direct effect on the prosperity of a country" (Legatum Prosperity Index 2020).	Legatum Prosperity Index	30.10.2020
	Governance	Worldwide Governance Indicators	"The Worldwide Governance Indicators (WGI) project reports individual governance indicators for over 200 countries and territories over the period 1996–2019, for six dimensions of governance including Voice and Accountabilities, political stability and Absence of Violence,	World Bank	30.10.2020

			Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption” (World Bank 2019s).		
Political conditions	State of democracy	Institutionalized democracy	“Institutionalized Democracy: Democracy is conceived as three essential, interdependent elements. One is the presence of institutions and procedures through which citizens can express effective preferences about alternative policies and leaders. Second is the existence of institutionalized constraints on the exercise of power by the executive. Third is the guarantee of civil liberties to all citizens in their daily lives and in acts of political participation. Other aspects of plural democracy, such as the rule of law, systems of checks and balances, freedom of the press, and so on are means to, or specific manifestations of, these general principles. The Democracy index is an additive eleven-point scale (0-10)” (Center for Systemic Peace 2018).	Center for Systemic Peace-Polity VI project dataset	30.10.2020
Political conditions	Presence of conflicts	Fragile States Index	“The Fragile State Index (FSI) which is powered by Fund for Peace (FFP) is an annual ranking of 178 countries based on the different pressures they face that impact their levels of fragility. Scores are apportioned for every country based on twelve key political, social and economic indicators and over 100 sub-indicators that are the result of years of expert social science research” (The Fund For Peace 2020).	The Fund For Peace	30.10.2020
	Life expectancy and mortality	Life expectancy at birth (years) (Both sexes/ Male/Female)	“Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life” (World Bank 2019h).	World Bank, based on multiple resources	06.08.2020

Public health	Life expectancy and mortality	Mortality rate adult (male/Female)	“Adult mortality rate, male, is the probability of dying between the ages of 15 and 60—that is, the probability of a 15-year-old male dying before reaching age 60, if subject to age-specific mortality rates of the specified year between those ages” (World Bank 2019j).	World Bank based on United Nations Population Division. World Population Prospects: 2019 Revision.	30.10.2020
	Life expectancy and mortality	Maternal mortality ratio (per 100,000 live birth)	“The number of maternal deaths during a given time per 100,000 live births ” (WHO 2019d).	WHO, GHO	06.08.2020
	Life expectancy and mortality	Mortality rate, under 5 (per 1000 live births)	“The probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year” (World Bank 2019k).	World Bank, based on UN Inter-Agency Group for Child Mortality Estimation	07.10.2020
	Burden of non-communicable diseases	Premature deaths due to noncommunicable diseases (NCD) as a proportion of all NCD deaths (%)	“Deaths due to noncommunicable diseases (NCDs) among people aged below 70 years, as a percentage of NCD deaths among all ages” (WHO 2018e).	GHO data, WHO	06.08.2020
	Burden of non-communicable diseases	Cause of death, by non-communicable diseases (% of total)	“Cause of death refers to the share of all deaths for all ages by underlying causes. Non-communicable” (World Bank 2016a).	World Bank	06.08.2020
	Communicable and vaccine preventable diseases	Estimated incidence of tuberculosis (per 100,000 population)	“The estimated number of new and relapse tuberculosis (TB) cases arising in a given year, expressed as the rate per 100,000 population” (WHO 2020p).	WHO, based on TB data	06.08.2020
	Communicable and vaccine preventable diseases	Estimated number of people living with HIV	“The number of people with HIV infection, whether or not they have developed symptoms of AIDS, estimated to be alive at the end of a specific year” (WHO 2020d).	GHO data, WHO	12.09.2020
	Communicable and vaccine preventable diseases	HIV prevalence among adults aged 15-49 years (%)	“The estimated number of adults aged 15-49 years with HIV infection, whether or not they have developed symptoms of AIDS, expressed as per cent of total population in that age group” (WHO 2020o).	GHO data, WHO	12.09.2020
	Communicable and vaccine preventable diseases	Number of Deaths due to AIDS	“The estimated number of adults and children that have died due to HIV/AIDS in a specific year” (WHO 2020k).	GHO data, WHO	12.09.2020

Public health	Communicable and vaccine preventable diseases	ART coverage among people living with HIV (%)	"The percentage of adults and children with HIV infection currently receiving antiretroviral combination therapy" (WHO 2020c).	GHO data, WHO, HIV/AIDS Data and Statistics	12.09.2020
	Communicable and vaccine preventable diseases	Measles-containing-vaccine second dose (MCV2) immunisation	"The percentage of children who have received two doses of measles containing vaccine (MCV2)" (WHO 2020i).	GHO data, WHO	30.10.2020
	Communicable and vaccine preventable diseases	Diphtheria tetanus toxoid and pertussis (DTP3) immunisation coverage among 1-year-olds (%)	"The percentage of one-year-olds who have received three doses of the combined diphtheria, tetanus toxoid and pertussis vaccine in a given year" (WHO 2020b).	GHO data, WHO	30.10.2020
	Risk factors	Prevalence of obesity among adults, BMI \geq 30	"Percentage of defined population with a body mass index (BMI) of 30 kg/m ² or higher" (WHO 2017).	WHO, GHO data	06.08.2020
	Risk factors	Prevalence of current tobacco use among persons aged 15 years and older (age-standardised rate)	"The percentage of the population aged 15 years and over who currently use any tobacco products (smoked and/or smokeless tobacco) on a daily or non-daily basis" (WHO 2020n).	GHO data, WHO data	30.10.2020
	Risk factors	Alcohol, total per capita (15+ years) consumption (in litres of pure alcohol) (both sexes/male/female)	"Total alcohol per capita is defined as the total (sum of three-year average recorded and unrecorded APC, adjusted for tourist consumption) amount of alcohol consumed per adult (15+ years) over a calendar year, in liters of pure alcohol" (GISAH 2020).	WHO; GISAH	06.08.2020
	Risk factors	Ambient air pollution: Annual mean PM2.5 concentration (total/Urban)	"The mean annual concentration of fine suspended particles of less than 2.5 microns in diameters is a common measure of air pollution" (WHO 2018g).	GHO data, WHO data	19.08.2020
	Water, sanitation and hygiene services	Drinking water levels (households)	"The JMP services use a drinking water ladder to benchmark and compare service levels across countries which include improved drinking water sources are those which, by nature of their design and construction, have the potential to deliver safe water. water takes 30 minutes or less, then it will be classified as a basic drinking water service. If water collection from an improved source exceeds 30 minutes, it will be categorised as a limited service" (WHO/UNICEF JMP 2017).	WHO/UNICEF, JMP	06.08.2020

Public health	Water, sanitation and hygiene services	Sanitation facilities levels (households)	“Improved sanitation facilities are those designed to hygienically separate excreta from human contact. There are three main ways to meet the criteria for having a safely managed sanitation service. People should use improved sanitation facilities which are not shared with other households, and the excreta produced should either be: 1) treated and disposed in situ, 2) stored temporarily and then emptied and transported to treatment off-site, or 3) transported through a sewer with wastewater and then treated off-site” (WHO/UNICEF JMP 2017).	WHO/UNICEF, JMP	06.08.2020
	Water, sanitation and hygiene services	Hygiene services levels (households)	“According to JMP ladder for hygiene: “The presence of a handwashing facility with soap and water on premises has been identified as the priority indicator for global monitoring of hygiene. Households that have a handwashing facility with soap and water available on premises will meet the criteria for a basic hygiene facility. Households that have a facility but lack water or soap will be classified as having a limited facility and distinguished from households that have no facility at all” (WHO/UNICEF JMP 2020).	WHO/UNICEF, JMP	06.08.2020
	Food security and nutrition	Prevalence of food insecurity	“The percentage of population who cannot physically or economically access the food they need for an active and healthy lifestyle” (WFP 2019).	WFP	06.08.2020
	Food security and nutrition	Prevalence of undernourishment	“The percentage of population who cannot acquire the food they need to meet their daily needs” (WFP 2019).	WFP	12.10.2020
	Food security and nutrition	Prevalence of overweight, weight for height (% of children under 5)	“The percentage of children under age 5 whose weight for height is more than two standard deviations above the median for the international reference population of the corresponding age as established by the WHO's new child growth standards	World Bank, based on UNICEF, WHO, World Bank: Joint child malnutrition estimates (JME).	19.08.2020
Public Health					

			released in 2006" (World Bank 2019o).		
	Food security and nutrition	Prevalence of underweight, weight for age (% of children under 5)	"The percentage of children under age 5 whose weight for age is more than two standard deviations below the median for the international reference" (World Bank 2019q).	World Bank, based on UNICEF, WHO, World Bank: Joint child malnutrition estimates (JME).	12.10.2020
	Food security and nutrition	Prevalence of anaemia among children (% of children under 5) Data	"The percentage of children under age 5 whose haemoglobin level is less than 110 grams per liter at sea level" (World Bank 2016b).	World Bank, Based on WHO	12.10.2020
	Food security and nutrition	Prevalence of stunting, height for age (% of children under 5)	"Prevalence of stunting is the percentage of children under age 5 whose height for age is more than two standard deviations below the median for the international reference population ages 0-59 months. For children up to two years old height is measured by recumbent length. For older children height is measured by stature while standing. The data are based on the WHO's new child growth standards released in 2006" (World Bank 2019p).	World Bank, based on UNICEF, WHO, World Bank: Joint child malnutrition estimates (JME).	12.10.2020
Healthcare system	Physical and human resources	Hospital beds per 1000 population	"Hospital beds include inpatient beds available in public, private, general, and specialized hospitals and rehabilitation centers" (World Bank 2019e).	World Bank, WHO, ARMSTAT	12.12.2020
	Physical and human resources	Skilled health professionals (per 10,000 population)	"The total number of physicians, nursing, and midwifery personnel" (WHO 2018f).	WHO, GHO	18.08.2020
	Physical and human resources	Medical doctors (per 10,000)	"Number of medical doctors includes generalists, specialist medical practitioners" (WHO 2020j).	WHO Global Health Workforce Statistics database	18.08.2020
	Physical and human resources	Nursing and midwifery personnel (per 10,000)	"Number of nursing and midwifery personnel includes nursing personnel and midwifery personnel in the given national and/or subnational area" (WHO 2020l).	WHO Global Health Workforce Statistics database	18.08.2020
	Health security core capacities	Average of 13 International Health Regulations core capacity scores, SPAR version	"The SPAR (State Party Self-Assessment Annual Reporting) tool consists of 24 indicators for the 13 IHR capacities needed to detect, assess, notify, report and respond to public health risk and acute events of	WHO: e-SPAR	19.08.2020

Healthcare system			domestic and international concern" (WHO 2019b)		
	Health financing	Current health expenditure (CHE) as percentage of gross domestic product (GDP) (%)	"Level of current health expenditure expressed as a percentage of GDP" (WHO 2021).	WHO, Global Health Expenditure Database	12.01.2021
	Health financing	Health spending US\$ per capita (CHE)	"Per capita current expenditures on health expressed in respective currency" (WHO 2018d).	WHO, Global Health Expenditure Database	12.01.2021
	Health financing	Government health spending % Health spending	"Share of government of total health spending" (WHO 2018d).	WHO, Global Health Expenditure Database	12.01.2021
	Health financing	Out of Pocket spending %Health spending	"Share of out-of-pocket payments of total current health expenditures. Out-of-Pocket Payments are spending on health directly out-of-pocket by households" (WHO 2018d).	WHO, Global Health Expenditure Database	12.01.2021
	Health financing	UHC service coverage index	"WHO Universal Health Coverage Index of service coverage (UHC) is an index reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage. The tracer indicators categorized in to four components of service coverage: 1. Reproductive, maternal, newborn and child health 2. Infectious diseases 3. Noncommunicable diseases 4. Service capacity and access" (WHO 2019g).	GHO data, WHO	05.08.2020
	Mental health care services	Social workers working in mental health sector, per 100,000	"Social workers working in mental health (per 100,000 population), including professionals working in private and public mental health facilities as well as private practice" (WHO 2019f).	GHO data, WHO	19.08.2020
	Mental health care services	Psychiatrists working in mental health sector, per 100,000	"Psychiatrists working in mental health (per 100,000 population), including professionals working in private and public mental health facilities as well as private practice" (WHO 2019f)	GHO data, WHO	19.08.2020
	Mental health care services	Psychologists working in mental health sector, per 100,000	"Psychologists working in mental health (per 100,000 population), including professionals working in private and public mental	GHO data, WHO	19.08.2020

Healthcare system			health facilities as well as private practice" (WHO 2019a).		
	Mental health care services	Mental health outpatient facilities, per 100,000	"Mental health outpatient facilities per 100,000 population" (WHO 2019e).	GHO data, WHO	19.08.2020
	Mental health care services	Mental health day treatment facilities	"Mental health day treatment facilities per 100,000 population" (WHO 2019e).	GHO data, WHO	19.08.2020
	Long-term care	Long-term care beds (excl. psychiatric beds), per 100,000 population	"Long-term care beds in hospitals are hospital beds accommodating patients requiring long-term care due to chronic impairments and a reduced degree of independence in activities of daily living. Inclusion: Beds in long-term care departments of general hospitals, beds for long-term care in specialty (other than mental health and substance abuse) hospitals, beds for palliative care" (WHO, Regional Office for Europe 2016a).	WHO, Regional Office for Europe, European Health Information Gateway	13.01.2020
	Health care services in prisons	Persons held in prisons (per 100,000 population)	"The number of people held in prisons per 100,000 population" (UNODC 2018).	UNODC	12.01.2021

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