

Covid-19 response and impact

A study on how the pandemic affected Egypt, Kazakhstan, Poland, Turkey and Ukraine



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Summary

Covid-19 is the largest pandemic in more than 100 years, impacting the entire globe. The pandemic has affected the economies where the European Bank for Reconstruction and Development (EBRD) invests. It has exposed weaknesses in healthcare systems, such as health infrastructure, medical supply chains, healthcare workforce, access to healthcare, quality of healthcare, pandemic preparedness, and national budget allocation. Covid-19 particularly impacted emerging economies such as those in the EBRD regions. Some of the economies where the Bank operates occupy places high in the list of the twenty countries currently most affected by Covid-19 worldwide. In terms of mortality per 100,000 population (this represents a country's general population, including both confirmed cases and healthy people), Bulgaria has the second-highest after Peru, Bosnia and Herzegovina is third, North Macedonia fourth, Montenegro fifth, Hungary sixth, Moldova seventh and the Czech Republic eighth. Egypt has the second-highest number of deaths per confirmed cases (observed case-fatality ratio) after Mexico. Bulgaria is third, Hungary fourth, Romania fifth, Russia sixth, Poland eighth and Ukraine ninth.¹

Egypt, Kazakhstan, Poland, Turkey and Ukraine are the five largest recipients of EBRD financing. This report aims to demonstrate the links between healthcare provision, investment needs and sustainable development in these five countries during the Covid-19 pandemic. It provides a brief analysis of the Covid-19 impact on these countries' public health and socio-economic well-being and their respective responses during 2020-21.

While the pandemic is still unfolding and the vaccine roll-out is racing against the emergence of new variants, the report examines the health systems of these economies, where the EBRD plays a unique role in mitigating the impact of the pandemic and assisting socio-economic recovery for sustainable development and attainment of the 2030 Sustainable Development Goals (SDGs). The Bank joins the vital multilateral global actions by the community of international financial institutions (IFIs) to address the global health and economic impacts of

Covid-19. It delivered a record investment of €11 billion in 2020 through 411 projects, addressing the urgent needs of the 38 economies where the EBRD invests. The Bank implemented a Resilience Framework to meet the short-term liquidity and working-capital needs of existing clients. The report shows that the Bank's investment in private healthcare services, public-private partnership (PPP) infrastructure and healthcare supply chain sectors could not only improve health systems but also bring significant benefit to overall well-being in the EBRD regions.

This time-constrained analysis is limited by the amount of information available in English as well as a lack of comparable consistent data about the healthcare systems, detailed response strategies and activities taken in each country. Therefore, the report tries to bring out preliminary findings for the next stage of examination. A follow-up study could be considered to bridge the gap between healthcare investment and sustainable development for the Bank to support a more resilient, greener and fairer recovery in the EBRD regions.

The next study could also examine how Covid-19 has exposed issues relating to inequality of income, gender, access to healthcare and education. Among the countries under discussion, there are reported economic contractions (except for Turkey), increased unemployment, school closures, limited access to digital education, extra hardship among refugees and migrants, increased domestic violence against women, increased demands on women for domestic and care work, and reduced public healthcare services such as childhood vaccinations. In order to support a fairer recovery of the economies where the Bank invests, these challenges need to be explicitly examined in the next stage of the study. Furthermore, it must explore opportunities to geographically expand the antimicrobial resistance (AMR) technical support programme for the Bank's healthcare clients and economies where it invests, with the collaboration of the British Society for Antimicrobial Chemotherapy (BSAC), based on the solid results to date.

The five countries covered in this report have different baseline conditions and Covid-19 case numbers. However, all countries have been undertaking public health system reform efforts to varying degrees that aim for equal access and quality of care prior to the Covid-19 pandemic. Testing, hospital beds and treatment capacity to respond to Covid-19 have been expanded over time. All countries, however, faced a shortage of healthcare workforce and medical supplies, including personal protective equipment (PPE) in the early stage of the pandemic.

All countries took social-distancing or large-scale quarantine measures rather than the individual-based contact-tracing and isolation measures from the start, which imposed a huge burden on their economies and education systems. Economic stimulus policies have been implemented, but some countries consequently experienced high inflation in the aftermath. Digital technologies played an important role for telemedicine to maintain routine healthcare and for public health communication. Covid-19 accelerated the adoption of new digital technologies.

During the pandemic, all countries made an effort to sustain essential health services as much as possible; however, access was inevitably impacted. For example, Poland suspended the childhood vaccination programme at the beginning of the pandemic. Healthcare access was reported to decline by 14 per cent in Ukraine and by 9.6 per cent in Poland. Training for medical professionals was interrupted in Poland because training hospitals were repurposed to become Covid-19 treatment hospitals. A lack of training opportunities may impact the future workforce as well.

Vaccination against Covid-19 will play a key role in recovery from the pandemic. The core components of preparedness in the health sector are a sustainable health infrastructure, health workforce, laboratory and medical supply chain. In addition, modified schooling and a better social security system are also warranted. Financial mechanisms and cross-sectoral collaboration are essential to preparing effective pandemic responses.

A resilient health system is fundamental for global health security (for example, the proactive and reactive activities required to minimise the risk and impact of acute public health events). Central and eastern Europe is a good place to start investing in building a better health system to maintain health security for all of Europe, in line with the “European Union (EU) Covid-19 Recovery Plan”.ⁱ Given that public health and economic health are closely intertwined, the EBRD could play a critical role in addressing the economic and public health juncture through its focus on private-sector participation in healthcare services, pharmaceuticals, PPP hospital infrastructure and ongoing AMR engagement. The EBRD, with the BSAC, has undertaken AMR technical cooperation work focusing on antimicrobial stewardship, infection prevention and control, and laboratory capacity-building in Egypt, Georgia and Ukraine.

Covid-19 further exposed the risks of AMR, (which is sometimes called a “silent pandemic”), due to prescriptions being issued for Covid-19 patients out of fear of secondary infections. The two pandemics are connected, and response activities overlap. Emerging infectious diseases and AMR will remain an important topic in the context of global health security. It is essential that IFIs such as the EBRD continue to address AMR and pandemics. A more comprehensive study is recommended to prepare the Bank’s tailored Covid-19 recovery assistance strategy for the economies where it invests, which should also include programmes to mitigate AMR.

“During the pandemic, all countries made an effort to sustain essential health services as much as possible; however, access was inevitably impacted.”

ⁱ https://ec.europa.eu/info/strategy/recovery-plan-europe_en. The largest-ever stimulus package of €1.8 trillion will be financed to rebuild a post-Covid-19 Europe that will be greener, more digital and more resilient.

Covid-19 and sustainable development

Covid-19 is the largest pandemic in more than 100 years, impacting the entire globe. Many countries faced challenges with shortages of resources and capacity in the health sector during their fight against the disease. The legacy of investment in public healthcare systems has conditioned how well each government was able to respond to the pandemic. A view of public health objectives and economic gains as a trade-off tended to hamper early preventive actions as well as meaningful cross-ministerial, sectoral and public-private collaboration in some countries.

Pandemic-related restrictions disrupted global supply chains, inhibited investment, and interrupted labour markets significantly, affecting the livelihoods of millions of people. The public health crisis has had dire economic consequences on a global scale. In the case of the United States of America, the cumulative financial costs of the Covid-19 pandemic in that country alone by the end of 2021 were estimated at more than US\$ 16 trillion (90 per cent of US gross domestic product (GDP)) on an optimistic assumption. These costs far exceed those associated with conventional recessions and the Iraq War, and are similar to those associated with global climate change.²

Furthermore, Covid-19 has exposed and aggravated economic inequality and adverse economic outcomes, which are likely to impact the health and well-being of the vulnerable through disrupted access to basic healthcare services, postponed non-Covid-19 health interventions and increased mental and physical stress. Covid-19 has shown an inseparable interlinkage between public health and the economy as well as their critical interface for sustainable development.

Domestic economic activities shrank and international trade and travel diminished as a consequence of disease control measures. The World Bank predicted that world trade volume in 2020 would reduce by 22.6 per cent from the previous year.³ Oil prices declined by US\$ 21 per barrel in April 2020 due to the decreased demand around the world.³ However, global prices of agricultural products rose at an increasing rate from 7.5 per cent in August to 11.2 per cent in November.⁴

Progress achieved towards the SDGs before Covid-19 has been set back during the past year. The World Bank has estimated that poverty rates have increased for the first time in the last 20 years due to the pandemic as, globally, 90 million people fell into extreme poverty.⁵ Education has been highly disrupted and around half of the students in the world are still affected by school closures; the United Nations Educational, Scientific and Cultural Organization (UNESCO) has predicted that 100 million children would fall below the minimum reading proficiency level.⁶ The World Bank has also estimated that the loss of education would lead to a reduction of US\$ 872 in yearly earnings for the current cohort in primary and secondary schools.⁷ Child marriage and gender-based violence have increased.⁸ Due to the disruption of the supply chain or reduced access to health services during lockdowns, 7 million unintended pregnancies may have occurred.⁹ Seventy countries have halted childhood vaccination programmes.¹⁰

A successful roll-out of the Covid-19 vaccine can boost confidence in economic activities. Vaccination against Covid-19, prioritising healthcare workers and the elderly, started in many countries in December 2020. However, vaccine hesitancy in the community poses a serious challenge to achieving sufficient coverage.¹¹ More details are discussed in the Recovery section.

The impact of Covid-19 on the “silent pandemic” of AMR is currently being debated. Undoubtedly, countries are reporting significant and severe disruption to the provision of other core healthcare services, and also to the various responses to AMR.¹² Both Covid-19 and AMR will have substantial adverse clinical and economic impact and AMR is likely to be exacerbated by Covid-19.¹³ Tackling the twin pandemics of Covid-19 and misinformation simultaneously appears to be required.¹⁴

“Covid-19 has exposed and aggravated economic inequality and adverse economic outcomes, which are likely to impact the health and well-being of the vulnerable through disrupted access to basic healthcare services, postponed non-Covid-19 health interventions and increased mental and physical stress.”

The EBRD's response to Covid-19

Global issues need to be addressed with a global approach. The EBRD joins the vital multilateral global actions by the community of IFIs to address the global health and economic impacts of Covid-19 as well as climate change. To help the EBRD regions counter the economic impact of the pandemic, the Bank delivered a record investment of €11 billion in 2020 through 411 projects, addressing the urgent needs of the 38 economies where it operates. The Bank implemented a Resilience Framework to meet the short-term liquidity and working-capital needs of existing clients, especially those badly affected by the crisis, including financial institutions, small and medium-sized enterprises, and corporate sectors, such as tourism and hospitality, automotive and transport providers, agribusiness and medical suppliers.

EBRD-financed hospitals and medical laboratories are serving Covid-19 patients in Egypt, Georgia, Jordan, Montenegro and Turkey.¹⁵ These projects have supported the countries' needs to tackle Covid-19 in diagnostic capacity, training and practice, clinical management/intensive care unit (ICU) capacity, adjustment of patient flow and wards in hospitals to separate potential Covid-19 patients from general patients, drugs and medical equipment purchases, maintaining essential healthcare and information technology (IT) technology for public access to essential information. The Covid-19 pandemic is not going away any time soon, and therefore the Bank's clients are likely to continue to play an important role within public health systems in their respective countries.

In Turkey, the Ministry of Health (MoH) has designated all public hospitals for the treatment and care of Covid-19 patients. Adana City Hospital, Konya City Hospital, Elazig City Hospital and Bursa City Hospital under the Infra TMEA's Hospital Facility Management public-private partnership (PPP) Framework are serving that purpose. The recently signed Başakşehir City Hospital in Istanbul (also known as Ikitelli hospital) has joined the group with its commencement in May. Adana City Hospital has implemented the MoH's Covid-19 guidance, including training and updating diagnosis and treatment algorithms. More than 300 of 1,550 beds have been allocated for Covid-19 patients in Adana province. All assigned patient rooms in the hospital are equipped with a negative-pressure ventilation system. The hospital laboratory has started PCR testing. The operating hospitals funded under the Bank's PPP framework are equipped with cutting-edge medical technology,

including ICU capacity. As a result, these hospitals are well-positioned to respond to the Covid-19 pandemic effectively. In addition, the Bank has provided a sovereign loan of up to €130 million to Turkey, for the benefit of the MoH to finance the purchase of ventilators and ICU monitors, and other emergency medical equipment urgently needed in public hospitals to fight the Covid-19 pandemic. The Bank also provided a US\$ 25 million loan to Georgia Healthcare Group (GHG) in 2020 to fund working capital and operational expenditure requirements for the group's critical role in fighting the Covid-19 pandemic in that country. The funds will enable GHG to adapt six major hospitals for Covid-19 patients as well as enhance its diagnostic capacity, which is critical for tracking the virus, by testing in the country's most advanced medical laboratory, Mega Lab, originally financed by the EBRD in 2019.¹⁶

The Covid-19 response affects the emergence of AMR in terms of transmission, emergence and infection burden.¹⁷ During this pandemic, antibiotics have often been used for Covid-19 patients. Over-the-counter drug usage increased in low- and middle-income countries as people tried to reduce their health expenditure. In high-income countries, reduced income increased poor health status and antibiotic usage. The hesitancy of people seeking healthcare may decrease the use of antibiotics in the short term, but the delay in seeking care may increase the severity of the disease and lead to more catastrophic outcomes. However, infection prevention and control (IPC) programmes in facilities and/or social-distancing measures in the population could potentially reduce AMR.¹⁷

The Bank has incorporated specific AMR references into the 2019 Environmental and Social Policy (Performance Requirement 4 and 6) to adhere to the sustainability mandate as well as supporting the 2030 SDGs.¹⁸ The G20 Health Ministerial Declaration (October 2019) praised the Bank for having been the first IFI to incorporate specific AMR references into the environmental and social policy.¹⁹

The Bank has been providing AMR capacity-building technical cooperation for its funding of hospitals in Egypt, Georgia, Turkey and Ukraine, focusing on antibiotic stewardship, IPC, and laboratory capacity. There are important overlaps and synergies in addressing Covid-19 and AMR. The G7 summit hosted by the United Kingdom discussed Covid-19 and AMR as priority public health issues and the next G20 meeting will follow the same Covid-19 and AMR track.

Situational analysis of five countries during the pandemic

All five countries confirmed their first Covid-19 cases between February and early March 2020. Most of the first cases were imported from western Europe. Poland, Turkey and Ukraine have had a relatively large number of cumulative cases (70, 48 and 44 per 1,000 population), while Egypt and Kazakhstan have had a smaller number of cumulative cases (2 and 18 per 1,000) as of April 2021.²⁰ Trends in the observed numbers of cases and the peaks of transmission were different in each country. The number of cases, deaths and vaccinated people, as well as key health indicators by country, are summarised in Table 1.

Figure 1 below shows cumulative cases over time in Egypt, Kazakhstan, Poland, Turkey and Ukraine from 1 February 2020 to 22 April 2021.²⁰

It should be noted that the number of new cases was increasing again in all countries as of the first week of April 2021. In Turkey, the number of new cases per day exceeded 100,000 from March 2021 and was overwhelming its health systems. On 29 April 2021 Turkey entered its first full lockdown.

Health sector preparedness and response

Health system and health finance

The five countries had developed different health systems and health insurance schemes before Covid-19. In all these countries, health system reforms are ongoing.

Turkey has been implementing health reform initiatives since 2003.²¹ This programme improved governance, health financing and health service delivery significantly, with heavy investment in health infrastructure.²² Health services are now financed through the General Health Insurance Scheme (GHIS), funded by a tax surcharge on employers, currently at 5 per cent.²³ The GHIS covers 99 per cent of all inhabitants, including more than 3.6 million Syrian refugees. Health services are provided both by public- and private-sector facilities.²² The GHIS ensures free treatment for various types of conditions, such as emergency care, occupational illness, childbirth and infectious diseases.²⁴ Their health system transformation enabled the outbreak response to be effective and timely, with relatively limited strain on the existing health system and capacity.

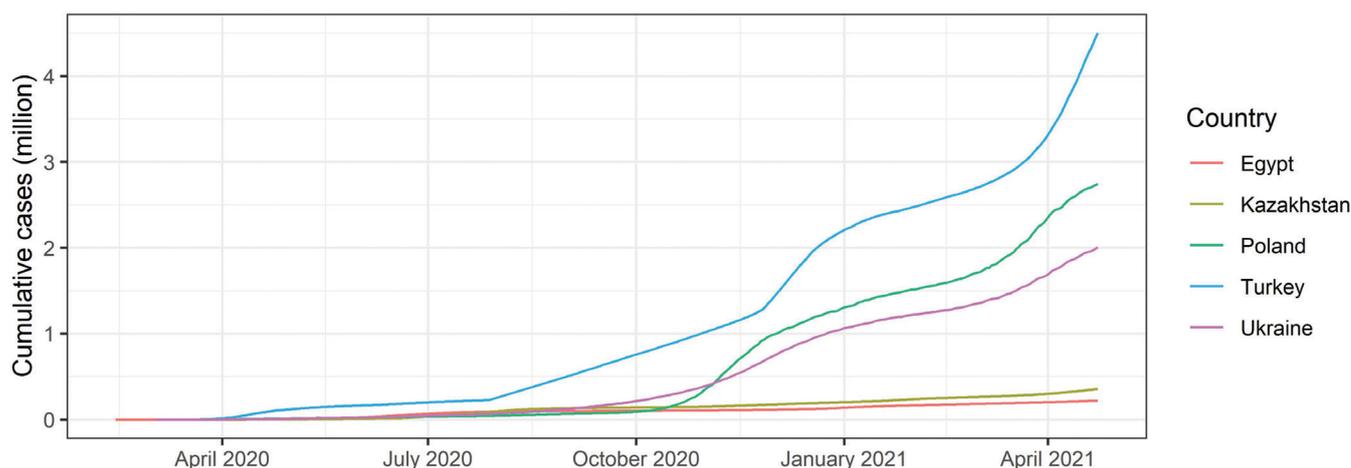
The Egyptian healthcare system is funded and managed by governmental, parastatal and private sectors. The governmental and parastatal sectors are both run by the state. The Health Insurance Organisation oversees basic health coverage for 60 per cent of the population.²⁵ The Egyptian health system was revitalised in 2014 and improved the quality of care, health expenditure, availability and accessibility of disease surveillance. According to the World Health Organization (WHO)'s assessment in 2020, Egypt has a strong capacity to respond to the outbreak.

Ukraine has the weakest health system in the post-communist countries.²⁶ Public healthcare is still in transition from a highly centralised health system. Most health financing comes from taxation and the voluntary health insurance schemes only contribute 1 per cent of health finance. Free healthcare is the principle; however, 58 per cent of patients reported having made out-of-pocket payments in 2017.²⁷ Unmet healthcare needs are a growing issue.²⁸

The health system in Kazakhstan is highly centralised and public health service is dominant. One of the key challenges in healthcare reform is the considerable inequity in health financing per capita among the different geographical areas in the country. Another challenge is that 36 per cent of health expenditure comes from out-of-pocket payments, including official user fees and informal payments.²⁹ Since 2017, all citizens have been required to participate in employers' contributions to the healthcare fund except for certain groups of vulnerable people. This measure is expected to boost healthcare spending and generally improve services for patients.³⁰

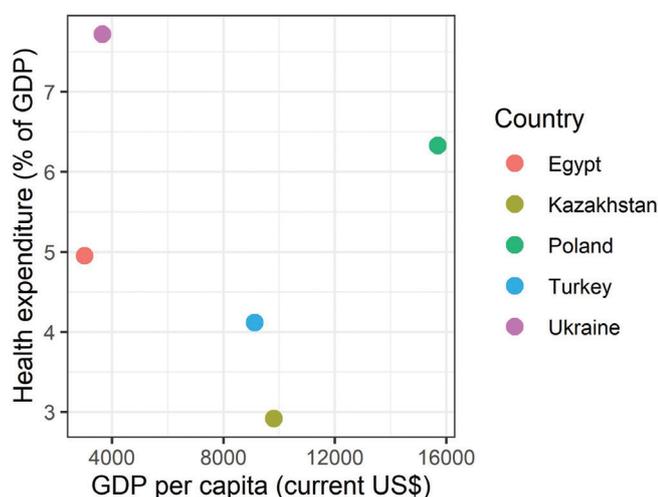
The healthcare system in Poland is financed by the National Health Fund with the capitation payment system.³¹ Citizens pay their health insurance through their employer, which is 9 per cent deducted from personal income, or are the spouse or child of an insured person. Healthcare is free for all citizens; in particular, the government is obliged to provide free healthcare to young children, pregnant women, people with disabilities and the elderly.³² The problem in the healthcare system in Poland is that out-of-pocket expenditure accounts for more than 20 per cent of health expenditure. The number of medical workers per 1,000 population is lower than the EU average, while spending on prevention is less than half of the EU average.

Figure 1. Cumulative cases over time in Egypt, Kazakhstan, Poland, Turkey and Ukraine from 1 February 2020 to 22 April 2021.



The five countries' healthcare expenditure (percentage of GDP) plotted over GDP per capita are heterogeneous, as shown in Figure 2. Healthcare expenditure as a percentage of GDP in Egypt, Kazakhstan and Turkey was lower than 5 per cent, which is below the recommended level of health financing. In Poland, the economy has grown, and GDP was at the same level as for other EU countries, but health expenditure stayed low (6.2 per cent). Life expectancy in Poland is five years shorter than the EU average.³³ Ukraine has the highest health expenditure as a percentage of GDP and their health infrastructure and human resources are among the highest levels in Europe. However, Ukrainian medical care has not met the standard, and their life expectancy is nine years shorter than the EU average.²⁸

Figure 2. Health expenditure (percentage of GDP) plotted over GDP per capita (current US\$) in 2019 for Egypt, Kazakhstan, Poland, Turkey and Ukraine.³⁴



In terms of healthcare, central and eastern European (CEE) countries have considerably lagged behind western Europe. Prevention is another area where these countries have not performed well. There is a lack of specialists in CEE countries because many practitioners pursue better pay and working conditions in the west. Lower levels of research and screening combined with the “brain drain” are the main problem in CEE. CEE countries need to invest more in health, which results in economic growth and a rise in productivity.³⁵

National coordination of response activities

Turkey established an emergency operations centre immediately after the confirmation of Covid-19 in China and coordinated response activities through a whole-government approach. Turkey also established a scientific advisory board in the early stages.^{22, 36} The Ukrainian government set up the Health Emergency Operation Committee in the MoH on 24 January and an inter-sectoral working group on 25 April 2020. Kazakhstan created an interdepartmental commission under the government to coordinate activities to prevent the spread of Covid-19 with all related ministries on 27 January 2020.³⁷

Although comparable information about detailed response strategies in each country is limited, Turkey has implemented a swift and well-coordinated response. On the other hand, the

other countries' coordination was difficult to assess by the desktop study carried out for this report. Ukraine has combined its response activities with the support of the WHO country office and other aid organisations.

Testing capacity

Generally, probable cases and contacts with confirmed cases were tested by PCR testing in all countries. The WHO has noted a well-established Covid-19 surveillance system in Egypt and Turkey. Case definitions of probable and confirmed cases were slightly different by country, though they follow WHO or the European Centre for Disease Prevention and Control guidelines.

Turkish PCR testing capacity, one of the highest in the world, is supported by 453 laboratories, while Egypt established 40 laboratories.^{22, 25} Ukraine had 96 test centres as of November 2020. PCR tests were conducted in nine laboratories at the oblast level and a national reference laboratory in Kazakhstan as a part of the influenza surveillance programme. In Poland, 276 laboratories were carrying out testing at the end of January 2021. Total testing capacity exceeds 150,000 per day in Turkey, more than 80,000 per day in Poland and around 50,000 per day in Ukraine.³⁷ All countries have made an effort to increase testing capacity.

Turkey has more than 100,000 field teams conducting contact tracing.^{22, 25} Potential contact persons were remotely monitored by audio or video call, if possible, in Kazakhstan.³⁷

Health infrastructure

Turkey has 563 hospitals (up to 1,200) dedicated to the treatment of Covid-19 cases as of November 2020. More than 25,000 ICU beds are available in Turkey. Turkey also built two new pandemic field hospitals with a capacity of 1,000 beds.³⁷ Egypt has 750 Covid-19 designated hospitals with 35,152 beds, 2,218 ventilators and 3,539 critical care beds. Ukraine increased the available beds for Covid-19 patients from 12,000 at the beginning of the pandemic to 53,445 in 582 designated hospitals as of 24 November 2020. In Kazakhstan, a mobile hospital in Nur-Sultan is the designated hospital to deal exclusively with Covid-19 patients. Poland prepared at least one dedicated hospital in each province for case management.^{22, 25, 38, 39} As of October 2020, approximately 8,000 beds and more than 800 respirator beds were prepared in Poland.³⁷

The number of hospital beds that existed in each country before the pandemic is summarised in Table 1. All countries rapidly increased the bed capacities to accommodate patients in due course. The number of tests, hospitals and beds after the pandemic as of April 2021 is summarised in Table 2.

The EBRD is financing eight Turkish PPP hospitals under a €950 million funding framework, the Covid-19 Equipment Emergency Project (2020). The facility will consist of a sovereign loan of up to €130 million. The operating PPP hospitals' patient rooms are single or two-person rooms and equipped with negative-pressure rooms to prevent the virus leaking from the rooms. The loan proceeds will be used by the MoH to finance the purchase of hospital equipment required for public hospitals to fight the Covid-19 pandemic in Turkey.

Healthcare workforce

Maintaining the healthcare workers for routine health services and Covid-19 responses was the largest challenge in all countries. The strategies to keep the workforce in five countries were task shifting, financial incentives and providing psychosocial care for them.

In Turkey, medical and dental residents were repurposed for the Covid-19 response. Poland mobilised non-specialised personnel, retired persons, medical students and soldiers, and assigned them certain tasks in line with their capacity. Ukraine reserved medical students to be hired as a surge capacity.³⁷

Poland, Turkey and Ukraine increased the salary for those who work with Covid-19 patients by 100-300 per cent. In Poland, the loss of income was compensated for the medical staff, which was restricted to work outside of their own hospital due to the potential contact with Covid-19 patients. Overtime payments and time off duty were ensured by law. Quarantined or isolated doctors received 100 per cent of their salary in Poland and Ukraine. Turkey and Poland provided accommodation for healthcare workers who did not want to put their family at potential risk of infection.³⁷

In Ukraine, the MoH required healthcare personnel to pass WHO online courses on clinical management and IPC. The WHO led training at 200 designated treatment hospitals and shared knowledge on Covid-19 treatment measures via video conferencing.³⁷

Medical supply

Due to the shutdown of Chinese factories, supply chains were considerably disrupted.⁴⁰ Many essential medical drugs and ingredients of major antibiotics were produced in China. Shortages of masks, gloves and PPE were reported all over the world.⁴¹ Egypt, Poland, Turkey and Ukraine reported a shortage of PPE in the early stages of the outbreak.^{22, 25, 42} Turkey had strategised the production and stockpile of drugs and PPE at a national level. Ukraine has received more than 65,000 items of PPE from the WHO.⁴³ Poland has joined the EU's medical equipment procurement mechanism for the purchase of gloves, goggles, face protectors, surgical masks and clothing.⁴⁴

Physical distancing

All countries imposed regional or national quarantines, "lockdown" measures, between March and May 2020, and gradually lifted them in June 2020 or later. Business offices, restaurants, retail shops and entertainment venues were closed. Public entities, parks and beaches were closed. Mass gatherings and religious worship were generally prohibited.^{22, 25, 26, 39, 45} Egypt has banned the two largest religious events in the country.²⁵

In Turkey, curfews have been imposed on those who have chronic illnesses or are aged either over 65 or under 20.²² In Egypt, a night-time curfew was put in place, but no day-

time lockdown was imposed.²⁵ The "partial lockdown" was later questioned because the lockdown period was prolonged without adequate suppression of disease transmission.

Kazakhstan, Poland and Ukraine took strict restriction policies for all citizens. Ukraine and Poland divided areas into red or yellow zones according to their local epidemic status.³⁷ Ukraine and Kazakhstan prohibited domestic travel from crossing regional borders as well as international travel.^{26, 39, 45} International travel was prohibited partially or fully in all countries. Negative PCR results were required before entry and travellers were quarantined at the border if certain criteria were met.

The distancing measures that Kazakhstan, Poland and Ukraine took are called an "interstate lockdown", which restricted the movement of people in a larger area than at household or individual level. This trend was seen across the world, while individual contact tracing was not reported often even as a strategy in the early stage of the pandemic, except in Turkey. This approach seemed to be more successful in former socialist countries. Physical-distancing measures, masks and "lockdown" were beneficial.

Health communication

Clear and transparent communication with the public is an important part of the pandemic response and of avoiding panic and misinformation, which may impinge on effective response activities. The main communication channels were the official websites, online streaming and social media.

The MoH in Turkey established a public website and updated the number of cases and other useful information, for example guidelines, posters and Q&A. They used social media, including Twitter, Facebook and Instagram accounts, to share information with the public. In Ukraine, an official recommendation of hand hygiene and respiratory etiquette was translated into Ukrainian and posted on several social media channels and the MoH website. Regular short daily briefings about the Covid-19 response were arranged and streamed online on the MoH website and TV. Weekly briefings about the Covid-19 situation were distributed by text message or video.

Kazakhstan used visual posters, loudspeakers and the mass media for health education, and to provide regular information to the public about prevention of Covid-19, at borders and at transport stations. In Poland, information was transmitted by website, Twitter and Facebook through the official channels, such as the MoH or Primary Health Office. Poland uses a chatbot and provides information about Covid-19 24/7 through the WhatsApp application.

Digital communication played a primary role in mass communication during the pandemic in many countries. Poland, Turkey and Ukraine have invested in digitalisation in health and other areas. The evolution of digital technology is rapid, and digitalisation is a key to future development.

Impact on the economy

Covid-19 is the biggest challenge the global economy has experienced in the post-Second World War era. Because of the lockdown measures taken, domestic consumption declined by 40 per cent in Kazakhstan, for example.⁴ The annual GDP growth rate in 2020 declined in all countries compared with that of the previous year, except in Turkey (-3.6 per cent in Egypt, -2.8 per cent in Kazakhstan, from January to September, -2.7 per cent in Poland, 1.8 per cent in Turkey and -8.2 per cent in Ukraine^{4, 46-49}). Poland's well-diversified economy with advanced digitalisation was the least hit by Covid-19, but despite this, Poland experienced the first output contraction for over 20 years.⁴⁹

Unemployment increased in Egypt (to 9.6 per cent in September, 7.2 per cent in November), Poland (from 5.5 to 6.5 per cent) and Ukraine (from 8.1 to 9.5 per cent).^{3, 48, 49} The number of people living below the poverty line (US\$ 5.50 per day for middle-income countries) increased in Egypt by 0.2 million, in Kazakhstan by 1.1-1.5 million, in Turkey by 1.6 million and in Ukraine by 2.7 million.⁴⁶⁻⁴⁹

Emergency funds were established to support domestic enterprises in all countries to mitigate the economic fallout. All countries took similar measures, such as:^{4, 46, 47, 49, 50}

- affordable bank loans at discounted interest rates for businesses
- financial support/cash transfers to poor households and affected individuals
- support for firms' payments such as short-term working capital or unpaid leave or subsidised salaries
- exemption from tax or social contributions, tax deferrals and subsidised loans for firms or targeted sectors.

These government policies have supported the economy to stay afloat, while Egypt and Turkey have faced high inflation as a cost.^{46, 47} In Kazakhstan, inflation was first driven by an increase in food prices, but later, the weak external demand, low oil prices and subsequent exchange rate depreciation led to higher inflation.⁴ The impact on the economy and its mitigation measures in each country are summarised in Table 3.

Impact on health

Healthcare access was reduced by both demand-side and supply-side issues. In Ukraine, 14 per cent of households could not access healthcare during the pandemic due to busy hospitals, lack of medication, suspension of regular services and a lack of transport for access.⁴⁸ In Poland, despite the significant growth of telemedicine, the total volume of services provided at primary care centres between March and November 2020 decreased by 9.6 per cent compared with the same period of 2019.³⁹ Home visits by midwives were minimised and school nurses had no duties as schools closed.³⁹

Telemedicine was promoted in Kazakhstan, Poland, Turkey and Ukraine to maintain essential health services.³⁷ Kazakhstan, Poland and Ukraine continue to provide routine medical

assistance to pregnant women and children, patients receiving cancer treatment, as well as other life-threatening diseases while suspending routine screening or examination.

Telemedicine is an attractive, effective and affordable option, particularly for non-emergency, routine care, or mental health counselling where direct patient-provider interaction is not necessary. Although telemedicine can reduce transmission and increase access to healthcare during the pandemic, implementation largely depends on accreditation, payment systems and insurance. Some doctors expressed concerns about safety, quality, privacy and accountability.^{51, 52}

A hotline was created in Kazakhstan, Poland, Turkey and Ukraine for Covid-19-related consultation or screening. These four countries provided free healthcare services related to Covid-19, including testing, treatment and vaccination.³⁷

Poland, Turkey and Ukraine reduced admissions to the hospital, especially for elective surgery, though they continued to offer emergency surgery. Poland tentatively stopped routine childhood vaccination, though it resumed in April 2020. Ukraine observed a significant declining trend of routine vaccination in March-April 2020, but performance improved by July 2020.³⁷

In Poland, training for resident doctors was stopped at the hospitals dedicated for Covid-19 patients. Doctors are leaving the hospitals, although their salary has been increased by the governmental compensation. There is a concern that the function of these hospitals might not be maintained even after Covid-19 is over.³⁷

Impact on education, gender and civil liberties

The Covid-19 pandemic has negatively affected education for children. Schools were closed completely in all countries for between 19 and 38 weeks as of 16 April 2021.⁶ Modified reopening of schools offers strategies that could ameliorate the losses. E-learning or remote learning, such as video-based instruction, matching the skills of the teaching force to the new range of tasks and activities could enhance the performance of schools. However, distance learning was challenging due to limited access to digital technologies in all countries. The refugees and migrants in Turkey and Ukraine and general students in Kazakhstan have reported significant problems with the infrastructure for accessing the internet.⁵³⁻⁵⁶ In Poland, internet access was ensured for all citizens.³⁷

In Turkey, women have been more likely to lose their jobs and carry out domestic labour besides working remotely during the pandemic.⁸ Uneven division of household labour by gender has continued or even been aggravated. In Ukraine, women are disproportionately affected by the disease because women account for 82 per cent of all health and social workers (compared with the 70 per cent worldwide average).⁴⁸ The pandemic and lockdowns have also led to an increase in domestic violence by 30 per cent in Ukraine.⁴⁸

Censorship of speech for medical professionals in Egypt and Poland has highlighted the importance of balancing public health measures and civil liberties.^{42, 57}

Recovery

Vaccines provide hope of fighting the pandemic. COVAX is the vaccine pillar of the Access to Covid-19 Tools (ACT) Accelerator, whose aim is to accelerate the development, production and equitable access to Covid-19 tests, treatments and vaccines.⁵⁸ A total of 92 low- and middle-income countries will be able to access Covid-19 vaccines through the COVAX facility.ⁱⁱ

Various types of vaccine have been rolled out in different countries. Poland and Turkey primarily use the vaccine made by Pfizer in the United States of America, Egypt uses the Sinopharm vaccine from China, Ukraine uses the AstraZeneca vaccine made in India, and Kazakhstan uses the Sputnik V vaccine from Russia. In Kazakhstan, Poland and Turkey, 40 per cent, 53 per cent and 58 per cent, respectively, of the total populations have received two doses or been fully vaccinated as of 6 November 2021. On the other hand, in Egypt and Ukraine it is only 11 per cent and 18 per cent, respectively.⁵⁹

Among the economies where the EBRD invests, the vaccine roll-out in central Europe and the Baltic states, Mongolia, Morocco, Turkey and Turkmenistan has passed 50 per cent of the complete vaccination rate; Armenia, Belarus, Egypt, the Kyrgyz Republic, Tajikistan and Ukraine suffer from a low rate.⁶⁰ Bulgaria and Romania both show the lowest rate among the EU member states and reportedly suffer from mistrust on vaccine safety. The spread of misinformation during epidemics has been documented before, but Covid-19 has brought with it a global deluge of misinformation. The politicisation of the pandemic in many countries led to some politicians being a leading source of misinformation, while initial underestimation of the pandemic by key public health stakeholders led to inconsistent messaging and widespread public confusion. Furthermore, a fair global allocation of the Covid-19 vaccine is an urgent matter to be addressed.

However, vaccine hesitancy in communities poses serious challenges to achieving the coverage required for herd immunity.¹¹ Egypt and Ukraine reported high vaccine hesitancy in both the general population and among healthcare professionals.^{61, 62} It was reported that underlying causes of vaccine hesitancy derive from the lack of trust in the government-led healthcare sector in Ukraine.⁶¹ Egyptian medical students said that a lack of information about the adverse effects of the vaccine were the reason for vaccine hesitancy.⁶²

Based on the experience from the Covid-19 response, development of a pandemic preparedness plan at both national and international levels and the allocation of adequate resources are required. The risks and costs of not preparing are far higher than the required investment. Financial mechanisms and cross-sectoral collaboration are essential to prepare for the next pandemic. The core components of preparedness in the health sector are health infrastructure, including for ICUs and ventilators, health workforce, laboratory and testing capacity, and the medical supply chain. These core capacities need to be maintained sustainably. In addition, modified schooling and a better social security system are also warranted.

Investment opportunities

While Covid-19 hit western Europe hard, little attention has been paid to central and eastern Europe.⁶³ This region is large, politically diverse and historically complex. Rapid economic growth and digitalisation in some countries have not necessarily increased the spending on health. Shortages of medical equipment, expertise and personnel make the region particularly vulnerable to the outbreak and its consequences.⁶⁴ Building a resilient health system through improving health security across Europe, without politicisation and division, will help to better link countries within and outside Europe. Central and eastern Europe is a good place to start to invest.⁶³

Work toward the SDGs attained in previous decades has in many ways been set back by the Covid-19 pandemic. The recovery process will be a chance to reconstruct society in such a way that it becomes greener, more equal and more resilient. The green economic recovery has already been planned in central and eastern Europe. A total of €1.8 trillion allocated to the EU's Covid-19 Recovery Plan will help rebuild a post-Covid-19 Europe.

“Work toward the SDGs attained in previous decades has in many ways been set back by the Covid-19 pandemic. The recovery process will be a chance to reconstruct society more equally, more resilient and greener.”

ⁱⁱ COVAX aims to guarantee fair and equitable access to Covid-19 vaccines for every country in the world.

Conclusion

The Covid-19 pandemic illustrates how socio-economic well-being is linked to public health provision. The early response to the epidemic in these five countries was not only an effective public health intervention but also the best practice for mitigating economic impact. Even though initial costs look large, they will be paid back by future economic gain and social stability. Smart investment in public health appears to be key.

While many economic segments were negatively impacted, the pandemic accelerated the adoption of new digital technologies, such as telemedicine, which will have long-term benefits. Digital technologies also helped the economies to keep operating via online platforms, including e-commerce, outsourcing, cloud computing and remote working. Digitalisation will be one of the target investment areas for maintaining health security and the economy.

All five countries covered in this report have been making public health system reform efforts that aim for equal access and better quality of healthcare. Testing and treatment capacities to respond to Covid-19 have been expanded over time. All countries, however, have faced a shortage of healthcare workforce and medical supplies. Throughout the pandemic, the importance of healthcare provision and access to quality healthcare services appears to have become an acute public concern in these countries.

All countries took social-distancing or large-scale quarantine measures, which placed a huge burden on the economy and education system. Economic stimulus policy has induced high inflation in the aftermath. While digital technologies played an important role in maintaining routine healthcare and health communication, and although all five countries have made an effort to sustain essential health services, health access has declined in some of the countries.

Vaccination will play a key role in the recovery from the pandemic. Health infrastructure, health workforce, laboratory capacity and the medical supply chain are the main health sector components for preparedness. Modified schooling and a better social security system are also warranted. Financial mechanisms and cross-sectoral collaboration are essential to prepare effective pandemic responses.

Covid-19 increased the risk of the emergence of AMR. The two pandemics are related, and response activities overlap. Emerging infectious diseases and AMR will remain important topics in the context of global health security. It is essential that IFIs such as the EBRD continue to address AMR and pandemics.

The health security challenges that the five countries have encountered are likely to shape their recovery strategies. Against the backdrop of the EU Covid-19 recovery and Paris Alignment, the EBRD's expertise and experience in working with the private sector are essential to support their shaping of the strategies and implementation. Based on this initial examination, an in-depth analysis is needed to link health security and sustainable economic development for a resilient, greener and fairer recovery to attain the objectives of the 2030 SDGs. Such a study should examine whether certain socio-economic conditions affect the Covid-19 disease burden disproportionately and whether the degree of Covid-19 economic impact varies among different socio-economic groups as well as between men and women. These analyses could be useful for the proposed resilient, fairer and greener recovery.

Table 1. Covid-19 cases and baseline health indicators

Summarised below are the number of Covid-19 cases and deaths, vaccine doses, and selected health and economic indicators in each country. The number of cases and deaths from Covid-19 were collected from the WHO dashboard as of 16 April 2021. The date of data collection for vaccination doses varied by country and sources but was between 4 April and 16 April 2021.

| | Egypt | Kazakhstan | Poland | Turkey | Ukraine | Global |
|--|--------------------------|--------------------|----------------------|----------------------|------------------------------------|------------------------|
| Population in 2020 | 102,334,404 | 18,776,707 | 37,846,611 | 84,339,067 | 43,733,762 | 7,845,261,000 |
| Percentage over 65 years old | 5.3% | 7.7% | 18.1% | 8.7% | 16.7% | 9.09% |
| Cases (per 1,000 population) | 213,798 (2.09) | 333,046 (17.74) | 2,660,088 (70.29) | 4,086,957 (48.46) | 1,921,244 (43.93) | 138,688,383 (17.68) |
| Deaths (per 1,000 population) | 12,611 (0.12) | 3,963 (0.21) | 61,208 (1.62) | 35,031 (0.42) | 39,096 (0.89) | 2,978,935 (0.38) |
| Vaccine dose total (per 100 population) | 355,104 (0.35) | 496,343 (2.89) | 7,569,268 (22.62) | 18,494,796 (25.0) | 378,269 (0.95) | 751,452,536 (10.97) |
| Vaccine dose 1 | – | 338,582 (2.2%) | 6,236,289 (16.2%) | 11,708,135 (15%) | 432,815 (1.0%) | 478,106,792 (6.1%) |
| Vaccine dose 2 | – | 105,392 (0.7%) | 2,248,126 (5.8%) | 7,737,134 (9.9%) | 5 (0.0%) | 189,647,946 (2.4%) |
| Vaccine type | Sinopharm AstraZeneca | Sputnik V | Pfizer Moderna | Pfizer | AstraZeneca Pfizer Sinopharm | – |
| Vaccine roll-out started | Jan 2021 | 1 Feb 2021 | 27 Dec 2020 | 2 Apr 2021 | 24 Feb 2021 | – |
| | Egypt | Kazakhstan | Poland | Turkey | Ukraine | EU average |
| Life expectancy at birth in 2018 (years) | 72 | 73 | 78 | 77 | 72 | 81 |
| GDP per capita in 2019 (current US\$) | 3,019 | 9,812 | 15,693 | 9,127 | 3,659 | 34,913 |
| Health expenditure in 2019 (percentage of GDP) | 4.95 | 2.92 | 6.33 | 4.12 | 7.72 | 9.85 |
| Hospital beds per 1,000 population in 2018 | 1.4 | 6.1 | 6.5 | 2.9 | 7.5 | 4.6 |
| Physicians per 1,000 population in 2018 | 0.5 | 4.0 | 2.4 | 1.8 | 3.0 | 3.7 |

Table 2. Response activities to Covid-19

Ukraine received significant financial aid from the United Nations, the World Bank and the European Commission.

| | Egypt | Kazakhstan | Poland | Turkey | Ukraine |
|---|--|--|------------------------------------|--|--------------------------------------|
| National coordination | – | Yes Jan-20 | – | Yes Jan-20 | With WHO May-20 |
| Existing legislation | – | – | Infectious Disease Act 2008 | Plan for pandemic influenza 2019 | – |
| Covid-19 dedicated facilities and beds | 750 hospitals 35,152 beds | One mobile hospital | 19 hospitals 8,000 beds | 563 (~1200) hospitals | 582 hospitals 53,445 beds |
| PCR test capacity | 40 laboratories | – | – | 453 laboratories 150,000 per day | – |
| “Lockdown” measures | Night-time Mar-Jun 2020 No daytime restrictions | Full Mar-Jun 2020 Weekends Jun-20 | Full Mar-20 | >65 yr, <20 yr Mar-20 Weekends and holidays Apr-20 | Full Mar-Jun 2020 |
| Public entities/leisure place closures (restaurants, cafés, theatres) | Yes Mar-May 2020 | Yes Mar-May 2020 | Yes Mar-20 | Yes Mar-20 | Yes Mar-May 2020 |
| Mask-wearing in public places | Yes | Yes Jul-20 | Yes Apr-20 | Yes | Yes Apr-20 |
| Border closures | Full Mar-Jun 2020 Partial Jun-20 | Full Domestic travel ban | Partial | Partial Domestic travel ban | Full Domestic travel ban |
| School closures | 19 weeks Mar-May 2020 | 36 weeks Mar-20 | 35 weeks Mar-20 | 38 weeks Mar-20 | 19 weeks Mar-May 2020 |
| Finance for healthcare | – | 17 billion KZT 3.9 million USD | 7.5 billion PLN 2.0 billion USD | – | 1.25 billion UAH 45.2 million USD |

Table 3. Economic and social impact of Covid-19

| | Egypt | Kazakhstan | Poland | Turkey | Ukraine |
|---|--|---|---|--|------------------------|
| Impacted sector | Tourism Cotton Suez Canal (trade) Oil and gas | Oil and gas Service sector (hospitality, retail, travel and leisure) | Agriculture Steel industry Service sector | Service sector (hospitality, retail, travel and leisure) | Trade Remittance |
| Poverty rate (per cent) in 2018-19 (<US\$ 5.5 per day) | 4.1% 4.2 million | 6% 1.1 million | 1.2% | 10.5% | 14.4% 6.3 million |
| Poverty rate (per cent) in 2020 (<US\$ 5.5 per day) | 4.3% 4.4 million | 12-14% 2.2-2.6 million | – | 2.1% 1.6 million increase | 20.6% 9.0 million |
| Unemployment rate 2019 (15-65 yrs) | – | – | 5.5% | – | 8.1% |
| Unemployment rate 2020 (15-65 yrs) | 9.6% | – | 6.5% | – | 9.5% Short-term 31% |
| GDP growth in 2019 (annual, per cent) | 5.6% | 4.5% | 4.5% | 0.9% | 3.2% |
| GDP growth in 2020 (annual, per cent) | 3.6% | -2.8% (Jan-Sep) | -2.7% | 1.8% | -8.2% |
| Total amount of fund for stimulus package | £100 billion (US\$ 6.4 billion) 1.7% of GDP | 10 billion US\$ 5.7% of GDP | – | TL 100 billion (US\$ 15 billion) 13% of GDP | – |

Resources

Health and economic indicators or statistics used in this document were found at the websites below. Additional resources are available in the reference section at the end of the document.

Covid-19 cases, deaths and vaccination roll-out (WHO dashboard)

<https://covid19.who.int/>

Health and economic indicators

Population, percentage of 65 years, life expectancy at birth

<https://datatopics.worldbank.org/universal-health-coverage/coronavirus/>

Hospital beds per 1,000 people

<https://data.worldbank.org/indicator/SH.MED.BEDS.ZS>

Physicians per 1,000 people

<https://data.worldbank.org/indicator/SH.MED.PHYS.ZS>

Health expenditure (percentage of GDP)

<https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS>

GDP per capita

<https://data.worldbank.org/>

Poverty rate

<https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty-looking-back-2020-and-outlook-2021>

Education

<https://www.worldbank.org/en/topic/education/publication/simulating-potential-impacts-of-covid-19-school-closures-learning-outcomes-a-set-of-global-estimates>

<https://en.unesco.org/covid19/educationresponse#durationschoolclosures>

Health and gender

Gender-based violence, unintended pregnancies, child marriage

<https://www.unfpa.org/resources/coronavirus-disease-covid-19-pandemic-unfpa-global-response-plan>

<https://data.unicef.org/wp-content/uploads/2021/03/UNICEF-report--COVID-19--A-threat-to-progress-against-child-marriage-1.pdf>

Health systems and financing

<https://www.euro.who.int/en/countries>

Economic impact of Covid-19

<https://openknowledge.worldbank.org/handle/10986/35273>

References

1. Johns Hopkins Coronavirus Resource Center (2021) “Mortality Analyses” (available at: <https://coronavirus.jhu.edu/data/mortality>) (last accessed 7 November 2021).
2. D.M. Cutler, L.H. Summers (2020) “The COVID-19 Pandemic and the \$16 Trillion Virus”, *The Journal of the American Medical Association*, Vol. 324(15), pp. 1495-6.
3. World Bank Group (2021) “Egypt’s Economic Update – April 2021” (available at: <https://www.worldbank.org/en/country/egypt/publication/economic-update-april-2021>).
4. S.A. Rahardja, Azamat (2020) “Kazakhstan Economic Update: A Slow Recovery Through the COVID-19 Crisis” (English). World Bank Group: Washington, D.C.
5. World Bank Group (2021) “Updated estimates of the impact of COVID-19 on global poverty: Looking back at 2020 and the outlook for 2021” (available at: <https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty-looking-back-2020-and-outlook-2021>).
6. UNESCO (2021) “Education: From disruption to recovery” (available at: <https://en.unesco.org/covid19/educationresponse>).
7. J.P. Azevedo, A. Hasan, D. Goldemberg, K. Geven, S.A. Iqbal (2021) “Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates”, *The World Bank Research Observer*, Vol. 36(1) pp. 1-40.
8. UN Women (2020) “The economic and social impact of COVID-19 on women and men: Rapid gender assessment of COVID-19 implications in Turkey” (available at: <https://eca.unwomen.org/en/digital-library/publications/2020/06/the-impact-of-covid19-on-women-and-men-rapid-gender-assessment-of-covid19-implications-in-turkey>).
9. UNFPA (2020) “Coronavirus Disease (COVID-19) Pandemic UNFPA Global Response Plan”. (available at: <https://www.unfpa.org/resources/coronavirus-disease-covid-19-pandemic-unfpa-global-response-plan>).
10. The Lancet Public Health (2020). “Will the COVID-19 pandemic threaten the SDGs?” (Editorial), *The Lancet Public Health*, Vol. 5(9), p. e460.
11. M. Sallam (2021) “COVID-19 Vaccine Hesitancy Worldwide: A Concise Systematic Review of Vaccine Acceptance Rates”, *Vaccines*, Vol. 9(2), p. 14.
12. S. Tomczyk, A. Taylor, A. Brown, M.E.A. de Kraker, A. El-Saed, M. Alshamrani, R.S. Hendriksen, M. Jacob, S. Löfmark, O. Perovic, N. Shetty, D. Sievert, R. Smith, J. Stelling, S. Thakur, A.C. Vietor, T. Eckmanns, the WHO AMR Surveillance and Quality Assessment Collaborating Centres Network (2021) “Impact of the COVID-19 Pandemic on Antimicrobial Resistance (AMR) Surveillance, Prevention and Control: A Global Survey”, *Journal of Antimicrobial Chemotherapy*, Vol. 76(11), pp. 3045-3058.
13. J. Hsu (2020) “How covid-19 is accelerating the threat of antimicrobial resistance” *British Medical Journal*, Vol. 369, p. m1983.
14. M. Arshad, S.F. Mahmood, M. Khan, R. Hasan (2020) “Covid-19, misinformation, and antimicrobial resistance” *British Medical Journal*, Vol. 371, p. m4501.
15. N. Ichikawa (2020) “EBRD-financed hospitals tackle Covid-19”. (Available at: <https://www.linkedin.com/pulse/ebrd-financed-hospitals-tackle-covid-19-nobuko-ichikawa/?trackingId=DwxTBJ6D8WV25Dkj9Kw9gg%3D%3D>).
16. EBRD (2020). “EBRD supports Georgia Healthcare Group during the crisis” (available at: <https://www.ebrd.com/news/2020/ebrd-supports-georgia-healthcare-group-during-the-crisis.html>).
17. G.M. Knight, R.E. Glover, C.F. McQuaid, I.D. Olaru, K. Gallandat, Q.J. Leclerc, N.M. Fuller, S.J. Willcocks, R. Hasan, E. van Kleef, C.I.R. Chandler (2021) “Antimicrobial resistance and COVID-19: Intersections and implications”, *eLife*, Vol. 10, p. e64139.
18. EBRD (2019) “Environmental and Social Policy (ESP) 2019”, London. (available at: <https://www.ebrd.com/news/publications/policies/environmental-and-social-policy-esp.html>).
19. G20 Health Ministers (2019) “Okayama Declaration of the G20 Health Ministers” (available at: <http://www.g20.utoronto.ca/2019/2019-g20-health.html>).
20. WHO (2021) “WHO Coronavirus (COVID-19) Dashboard” (available at: <https://covid19.who.int/>) (last accessed 16 April 2021).
21. M. Tatar, S. Mollahaliloğlu, B. Şahin, S. Aydın, A. Maresso, C. Hernández-Quevedo (2011) “Turkey: Health system review” European Observatory on Health Systems and Policies.
22. B. Keskinilic, I. Shaikh, A. Tekin, P. Ursu, A. Mardinoglu, E.A. Mese (2021) “A Resilient Health System in Response to Coronavirus Disease 2019: Experiences of Turkey”, *Frontiers in Public Health* Vol. 8, p. 871.
23. R. Atun (2015) “Transforming Turkey’s Health System – Lessons for Universal Coverage”, *New England Journal of Medicine*, 373, pp. 1285-9.

24. AnglInfo “The Health Insurance System in Turkey” (available at: <https://www.anglinfo.com/how-to/turkey/healthcare/health-system/health-insurance>) (last accessed 27 May 2021).
25. Y.E. Gaye, C. Agbajogu, R. El Oakley (2021) “COVID-19 on the Nile: Review on the Management and Outcomes of the COVID-19 Pandemic in the Arab Republic of Egypt from February to August 2020” *International Journal of Environmental Research and Public Health*, Vol. 18, p. 10.
26. A. Aslund. “Responses to the COVID-19 crisis in Russia, Ukraine, and Belarus” *Eurasian Geography and Economics*, Vol. 61, pp. 532-45.
27. WHO (2018) “Can people afford to pay for health care?” WHO Regional Office for Europe.
28. V. Lekhan, V. Rudiy, M. Shevchenko, D.N. Kaluski, E. Richardson (2015) “Ukraine: Health system review”, European Observatory on Health systems and policy.
29. M. Karanikolos, B. Rechel (2012) “Kazakhstan: Health system review” European Observatory on Health Systems and Policies.
30. WHO (2020) “Assessment of sexual, reproductive, maternal, newborn, child and adolescent health in the context of universal health coverage in Kazakhstan” World Health Organization.
31. C. Sowada, A. Sagan, I. Kowalska-Bobko (2019) “Poland: Health system review” European Observatory on Health Systems and Policies.
32. Polish Constitution 1997 [Polish] (available at: <https://www.sejm.gov.pl/prawo/konst/polski/kon1.htm>).
33. OECD. “Better life index” (available at: <http://www.oecdbetterlifeindex.org/>) (last accessed 31 May 2021).
34. World Bank. “The World Bank Data. Indicators 2021” (available at: <https://data.worldbank.org/indicator>) (last accessed at 10 May 2021).
35. EFPIA (2021) “Why we need increased healthcare spending in Central and Eastern Europe”, European Federation of Pharmaceutical Industries and Associations (available at: <https://www.efpia.eu/news-events/the-efpia-view/blog-articles/why-we-need-increased-healthcare-spending-in-central-and-eastern-europe/>).
36. WHO (2020) “Turkey’s Response to Covid-19: First Impressions” World Health Organization: Ankara, Turkey.
37. WHO “COVID-19 Health System Response Monitor” (available at: <https://www.covid19healthsystem.org/searchandcompare.aspx>) (last accessed at 19 May 2021).
38. UNICEF (2020) “ECARO COVID-19 Situation Report, End of Year 2020” UNICEF Turkey (available at: <https://www.unicef.org/documents/ecaro-covid-19-situation-report-end-year-2020>).
39. M. Ochal, M. Romaszko, K. Glinska-Lewczuk, L. Gromadzinski, J. Romaszko (2020) “Assessment of the Consultation Rate with General Practitioners in the Initial Phase of the COVID-19 Pandemic”, *International Journal of Environmental Research and Public Health*, Vol. 17, pp. 9.
40. R. Shretta (2020) “The economic impact of COVID-19”. Centre for Tropical Medicine and Global Health (available at: <https://www.tropicalmedicine.ox.ac.uk/news/the-economic-impact-of-covid-19>).
41. M.L. Ranney, V. Griffeth, A.K. Jha (2020) “Critical Supply Shortages – The Need for Ventilators and Personal Protective Equipment during the Covid-19 Pandemic” *New England Journal of Medicine*, Vol. 382, p. e41.
42. M. Orzechowski, M. Schochow, F. Steger (2021) “Balancing public health and civil liberties in times of pandemic” *Journal of Public Health Policy*. Vol. 42, pp. 145-53.
43. WHO (2021) “Supporting improvement of infection prevention and control programmes at national and facility levels in Ukraine during the COVID-19 pandemic in 2020: report” World Health Organization.
44. M. Pankowska (2020) “Szumowski criticizes the EU: “There is no European solidarity.” It’s a multi-storey falsehood” OKO.press [Polish] (available at: <https://web.archive.org/web/20200326225848/https://oko.press/szumowski-krytykuje-ue-nie-matej-europejskiej-solidarnosci-to-wielopietrowy-falsz/>).
45. T.D. Do, M.M. Gui, K.Y. Ng (2021) “Assessing the effects of time-dependent restrictions and control actions to flatten the curve of COVID-19 in Kazakhstan” *PeerJ*, Vol. p. 22.
46. World Bank (2021) “The World Bank in Turkey” (available at: <https://www.worldbank.org/en/country/turkey/overview#3>).
47. World Bank (2021) “The World Bank in Egypt” (available at: <https://www.worldbank.org/en/country/egypt/overview>).
48. UN Women (2020) “COVID-19 in Ukraine: Impact on Households and Businesses” UN Women, FAO, UNDP (available at: <https://eca.unwomen.org/en/digital-library/publications/2020/11/covid19-in-ukraine-impact-on-households--and-businesses>).

49. World Bank (2021) "The World Bank in Poland" (available at: <https://www.worldbank.org/en/country/poland/overview>).
50. World Bank (2021) "The World Bank in Ukraine" (available at: <https://www.worldbank.org/en/country/ukraine/overview#3>).
51. E. Monaghesh, A. Hajizadeh (2020) "The role of telehealth during COVID-19 outbreak: a systematic review based on current evidence" *BMC Public Health*, Vol. 20, p. 1193.
52. G. Perrone, S. Zerbo, C. Bilotta, G. Malta, A. Argo (2020) "Telemedicine during Covid-19 pandemic: Advantage or critical issue?" *Medico-Legal Journal*, Vol. 88, pp. 76-7.
53. Kizilay Toplum Merkezi (2020) "Situation analysis study for access of children under international and temporary protection to distance learning during covid-19".
54. World Bank (2021) "The Impact of COVID-19 on Education – Recommendations and Opportunities for Ukraine" (available at: <https://www.worldbank.org/en/news/opinion/2021/04/02/the-impact-of-covid-19-on-education-recommendations-and-opportunities-for-ukraine>).
55. B. Bokayev, Z. Torebekova, Z. Davletbayeva, F. Zhakypova (2021) "Distance learning in Kazakhstan: estimating parents' satisfaction of educational quality during the coronavirus" *Technology, Pedagogy and Education*, Vol. 30, pp. 27-39.
56. A. Belyalova, B.S. Chun (2020) "Organizational Culture and Social climate in Kazakhstani Higher Education Institutions during the COVID-19 Crisis" (2020) KazNU Case Study. *Cultura*, Vol. 17, pp. 151-64.
57. S. Devi (2020) "Egyptian health workers arrested after COVID-19 comments" *The Lancet*, Vol. 396, p. 369.
58. WHO "COVAX" (available at: <https://www.who.int/initiatives/act-accelerator/covax>).
59. Our World in Data (2021) "Coronavirus (COVID-19) Vaccinations" (available at: <https://ourworldindata.org/covid-vaccinations>) (last accessed 7 November 2021).
60. H. Pettersson, B. Manley, S. Hernandez, D. McPhillips, T. Arias (2021) "Tracking Covid-19 vaccinations worldwide" *CNN Health* (available at: <https://edition.cnn.com/interactive/2021/health/global-covid-vaccinations/>) (last accessed 3 November 2021).
61. E. Holt (2021) "COVID-19 vaccination in Ukraine" *The Lancet Infectious Diseases*, Vol. 21, p. 462.
62. S.M. Saied, E.M Saied, I.A. Kabbash, S.A. Abdo (2021) "Vaccine hesitancy: Beliefs and barriers associated with COVID-19 vaccination among Egyptian medical students" *Journal Medical Virology*, Vol. 93, pp. 4280-4291.
63. The Lancet (2021) "COVID-19: building a stronger Europe" (Editorial) *The Lancet*, Vol. 397, pp. 1157.
64. "East Central Europe COVID-19 monitor" (2021) European University Institute (available at: <https://www.eui.eu/research-hub?id=east-central-europe-covid-19-monitor>) (last accessed 3 November 2021).

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