



CAREC REGIONAL INVESTMENT FRAMEWORK FOR HEALTH 2022-2027

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CONTENTS

ABBREVIATIONS

I. INTRODUCTION.....	1
A. Strategic Context.....	1
B. Rationale of Regional Investment Framework.....	2
II. PROPOSED AREAS FOR STRATEGIC ENGAGEMENT.....	4
A. Leadership and Human Resource Capacity.....	4
1. Coordination, Governance and Financing for Preparedness and Response.....	4
2. Workforce Capacity and Skills.....	7
B. Technical Preparedness.....	10
1. Surveillance and Detection.....	10
2. Laboratory Infrastructure.....	11
C. Access to Supplies and Surge Demands.....	12
1. Regulatory Mechanisms.....	12
2. Procurement and Supply Chain Management.....	14
D. Vulnerable Population Groups and Border Health.....	16
1. Cross-border Health Security.....	16
2. Border Health and Financial Protection of Migrants.....	17
E. Crosscutting Topic: Digital Health.....	19
III. PROPOSED REGIONAL HEALTH INVESTMENT FRAMEWORK (2022-2027).....	19
A. Strategic Pillar 1 – Leadership and Human Resource Capacity.....	20
B. Strategic Pillar 2 – Technical Preparedness.....	21
C. Strategic Pillar 3 – Surge Demand and Access to Supplies.....	22
D. Strategic Pillar 4 – Vulnerable Population Groups and Border Health.....	23
E. Crosscutting: Digital Health.....	24

ANNEXES

1. CAREC Health Strategy Results Framework.....	25
2. Existing Health Security and Related Frameworks and Initiatives of Countries and Development Partners in Selected Areas.....	27

ABBREVIATIONS

ADB	–	Asian Development Bank
CAREC	–	Central Asia Regional Economic Cooperation
COVID-19	–	coronavirus disease
EOC	–	Emergency Operating Center
GMP	–	Good Manufacturing Practice
HRH	–	Human Resources for Health
IHR	–	International Health Regulations
LQMS	–	Laboratory Quality Management Systems
NAPHS	–	National Action Plans for Health Security
NRA	–	National (Drug) Regulatory Authority
POE	–	point-of-entry
PSM	–	Procurement and Supply Chain Management
RIF	–	Regional Investment Framework
SEZ	–	special economic zone
TA	–	technical assistance
WGH	–	(CAREC) Working Group on Health
WHO	–	World Health Organization

I. INTRODUCTION

1. The coronavirus disease (COVID-19) pandemic once again proved that improving health security is not a cost, but an investment and financing preparedness can contribute to saving lives and future costs. Without increased investments, capacities to prepare, prevent, detect and respond to public health emergencies will continue to be insufficient. Despite efforts to strengthen national and regional health security, countries in the Central Asia Regional Economic Cooperation (CAREC) region have varied levels of public health core capacities to achieve this. The recent crisis highlighted the need for countries to identify remaining gaps to ensure that health systems are prepared to withstand large-scale public health emergencies.

2. The impact of public health threats transcends national borders, as demonstrated by the COVID-19 pandemic. The lack of preparedness and coordination in response can have devastating consequences on populations, societies, and economies. Even before the COVID-19 pandemic, evidence has suggested that infectious disease outbreaks were increasing in frequency, with rising health and economic costs.¹ Much of the CAREC region remains prone to outbreaks from emerging infectious diseases and transboundary spread of animal diseases.²

3. The pandemic has re-emphasized that global and regional cooperation is needed to overcome health threats³ and better control pandemic situations. National-level control measures alone can slow down but not stop outbreaks. We have learned that alongside collaboration with global institutions, regional cooperation may offer significant benefits ranging from informal cooperation, setting up joint projects (e.g., building common infrastructure), coordination and regulatory frameworks to shaping joint policies and institutions.⁴ Achieving regional health security is a crucial entry point for regional health cooperation among CAREC countries. Therefore, CAREC countries recognize the significance of regional cooperation in managing regional health risks and strengthening health systems resilience to be better prepared for future public health threats.

A. Strategic Context

The CAREC Health Strategy 2030, developed through consultations with Ministries of Health of CAREC member countries and development partners, was endorsed on 17 November 2021 at the 20th CAREC Ministerial Conference. The strategy supports health cooperation focusing on regional health security. It builds on four main pillars: (i) leadership and human resource capacity; (ii) technical preparedness (laboratories and surveillance); (iii) access to supplies and surge capacity; and (iv) protecting vulnerable population groups and border health. The strategy was developed in consultation with CAREC countries and development partners, including World Health Organization (WHO), World Bank and others.⁵

¹ K.F. Smith et al. 2014. Global Rise in Human Infectious Disease Outbreaks. *Journal of the Royal Society Interface*. 11 (101).

² ADB 2021. [Enhancing Regional Health Cooperation under CAREC 2030: A Scoping Study](#). Manila

³ Organization of American States. [Alliance for Multilateralism: We Need Strong Global Cooperation and Solidarity to Fight COVID-19](#).

⁴ A. B. Amaya and P. De Lombaerde. 2021. Regional Cooperation is Essential to Combatting Health Emergencies in the Global South. *Globalization and Health*. 17(9).

⁵ A consortium, led by GOPA Worldwide Consultants, was selected to manage a multidisciplinary team of international and national experts to provide capacity development, analysis, and support preparation of the CAREC Health Strategy 2030 and Regional Investment Framework.

4. A CAREC Working Group on Health (WGH) was established in March 2021 to guide the development of the CAREC Health Strategy 2030 and the implementation of the Regional Investment Framework. The strategy was further informed by recommendations from a scoping study conducted in 2019 and 2020 (footnote 2) by the CAREC Secretariat to explore potential opportunities for promoting regional health cooperation under CAREC.

B. Rationale of Regional Investment Framework

5. The CAREC region continues to face the risk of infectious disease outbreaks, which highlights the need for more significant investments in the medium and long term. These investments should address technical and financial gaps to improve the region's public health goods, enhance health system resilience, improve pandemic preparedness, and strengthen health security.

6. The Regional Investment Framework (RIF) 2022–2027 presented in Chapter 3 is linked to and proposed by the CAREC Health Strategy 2030⁶ and needs to be read together with the strategy.⁷ The RIF supports the implementation of the CAREC Health Strategy 2030 and contributes to closing the gap in effectively addressing key regional needs, including protecting vulnerable populations in border areas. The investment framework is a country-owned document with oversight for implementation by the CAREC WGH. It will serve as a tool for prioritizing projects and technical assistance (TA) supporting regional health security and cooperation. It is proposed to support the coordination of investments made by development partners and the mobilization of resources. For instance, it could support preparing proposals for the Pandemic Fund. It will be regularly updated to guide programming and mobilize resources to maintain its relevance and responsiveness as a planning and fundraising tool for health security investments in the CAREC region. Countries can also support any of the activities through their own initiative and funding. The proposed activities and initiatives in the framework range from further research and studies to capacity development and piloting to larger project investments along the four strategic pillars of the CAREC Health Strategy.

7. Investment projects will be shaped by further discussions with concerned countries as part of regular country programming exercises and policy dialogues in the near to medium-term. Regional investment and TA projects will be complemented with policy dialogues through the CAREC platform and the development of knowledge solutions. Through an ongoing regional TA, ADB has started to implement selected regional activities and will support further capacity development, studies, concept papers on regional cooperation approaches and mechanisms, and pilots of regional approaches, as identified in the RIF.⁸

8. The CAREC Health Strategy and RIF reflect areas of mutual interest among the CAREC countries aimed at strengthening their overall pandemic preparedness and health security through regional cooperation. The establishment of a regional investment fund will be explored to mobilize development partners to maintain their commitment to regional health security in the CAREC region and, at the same time, maintain assistance to countries in enhancing pandemic preparedness and resilience of health systems.

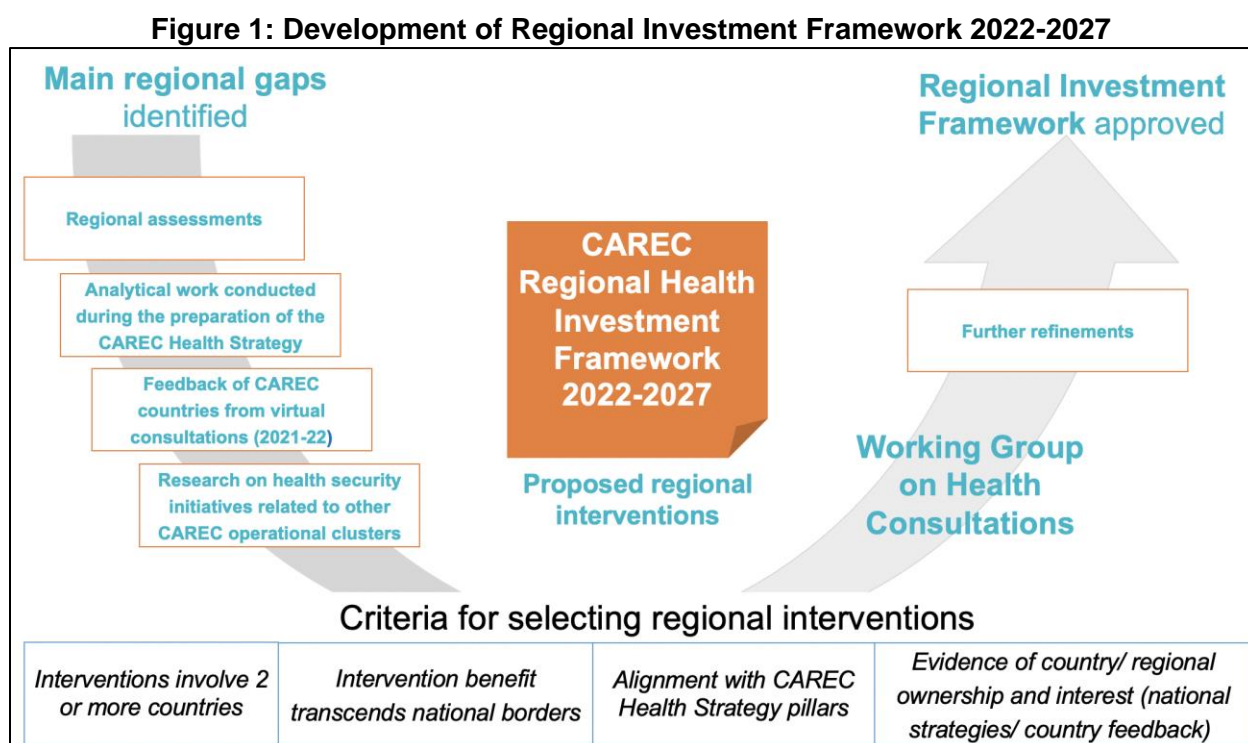
⁶ ADB. 2022. [CAREC Health Strategy 2030](#). Manila (page 40).

⁷ More on the history of CAREC Health and the strategy development process can be found here: CAREC Program. [Health](#).

⁸ ADB. [Regional: Addressing Health Threats in Central Asia Regional Economic Cooperation Countries and the Caucasus](#).

9. The criteria for selecting regional projects and TA include (i) involvement of two or more CAREC countries, (ii) benefits of proposed activity transcends national borders, (iii) clear evidence of country or regional ownership proven through respective national strategies, priorities, and country feedback, and (iv) alignment with the strategic pillars of the CAREC Health Strategy 2030.

10. Figure 1 explains how the main regional gaps were filtered through pre-defined criteria to further refine the strategic areas for engagement in the RIF.



Source: Asian Development Bank.

11. Chapter 2 of this document elaborates on strategic areas for each pillar, based on the country assessments, followed by a list of priority investment areas and TA proposals (2022–2027). The list is based on (i) analytical and assessment work conducted during the preparation of the strategy⁹ and (ii) feedback received from CAREC countries during the virtual consultation meetings conducted during 2021 and 2022 and the onsite WGH meeting in Tbilisi from 11–13 October 2022.

12. During and following the WGH meeting in Tbilisi, adjustments have been made based on countries' emerging needs and priorities. Other documents that reflect countries' needs and priorities related to regional health security and cooperation were used to inform the RIF. These include the WHO Roadmap for Health and Well-being in Central Asia (2022–2025),¹⁰ the International Organization for Migration Central Asia Regional Strategy (2021–2025),¹¹ The Global Fund's Register of unfunded quality demand for each funding cycle,¹² and results of the

⁹ As the assessments were conducted from June to August 2021, when still a large amount of COVID-19 support was being planned and prepared in the countries, some of the identified needs and gaps might require updates now.

¹⁰ WHO. 2022. [Roadmap for Health and Well-being in Central Asia \(2022–2025\)](#). News release. 11 September.

¹¹ IOM. 2022. [Central Asia Regional Strategy: 2021-2025](#).

¹² The Global Fund. 2020. [Register of Unfunded Quality Demand for 2020-2022 Funding Cycle](#).

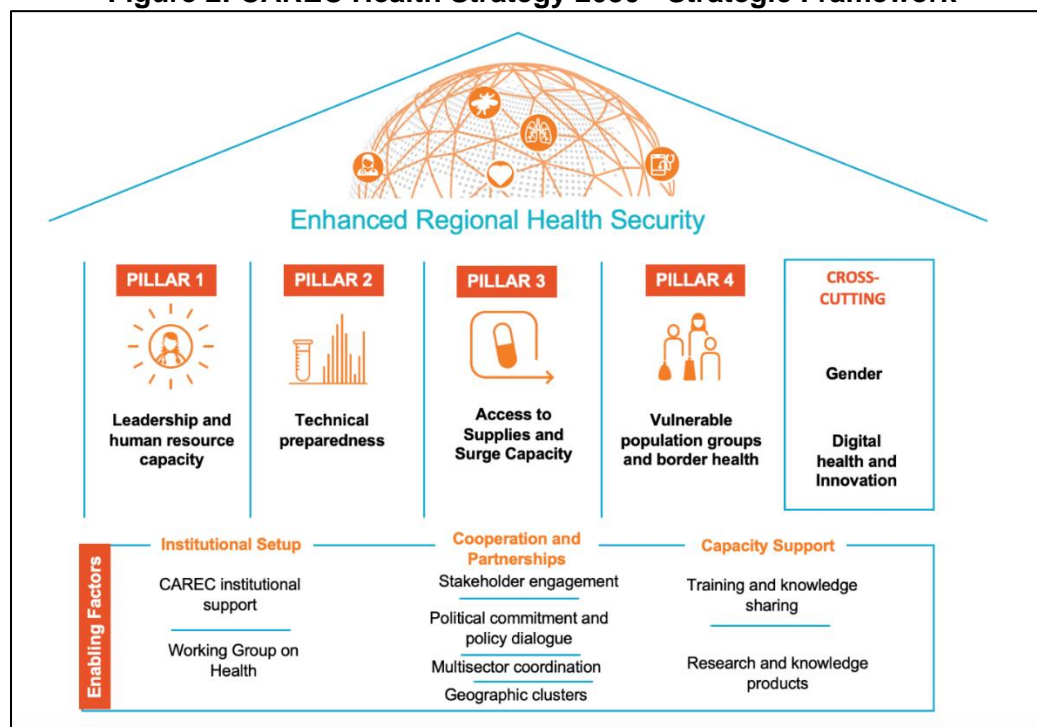
National Action Planning for Health Security (NAPHS) and of national assessments based on IHR Monitoring Evaluation Framework (e.g., Joint External Evaluation, State Party Annual Reporting and After Action Reviews).

II. PROPOSED AREAS FOR STRATEGIC ENGAGEMENT

13. **Strategic priority areas** are proposed for investments and support, along the four pillars of the CAREC Health Strategy 2030:

- (i) Leadership and Human Resource Capacity, (**Pillar 1**), with a focus on coordination and governance and workforce capacity and skills.
- (ii) Technical Preparedness (**Pillar 2**), with a focus on surveillance and laboratory capacity.
- (iii) Access to supplies and surge demands (**Pillar 3**), with a focus on regulation and procurement and supply chain management.
- (iv) Vulnerable population groups (**Pillar 4**), with a focus on health services across borders and health of border populations.

Figure 2: CAREC Health Strategy 2030 - Strategic Framework



Source: ADB. 2022. [CAREC Health Strategy 2030](#). Manila.

A. Leadership and Human Resource Capacity

1. Coordination, Governance and Financing for Preparedness and Response

14. Effective health security, including emergency preparedness and response capacities, requires several areas to be well organized, coordinated and managed. Among these are early detection of potential outbreaks or events that could result in a public health concern, outbreak investigation, risk assessment, rapid response, risk communication, emergency management

through availability of functional Emergency Operation Centers (EOCs), and ensuring timely availability of sufficient resources.

15. Emerging diseases and zoonoses demand a coordinated response that involves multiple sectors, not just the health sector alone. In most CAREC countries, multisector collaboration is weak or lacking. The management of responses by the health sector and the functioning of EOCs and similar structures have been ineffective. These issues are primarily attributed to weak governance, gaps in policy, and inadequate legislation that prevent effective and rapid implementation of measures.

16. One of the most fundamental gaps is insufficient **implementation of the International Health Regulations (IHR)**. The country assessments revealed that legislative frameworks, and policy instruments to implement the regulations, for example in terms of governance and rapid response structures and to implement NAPHS, were weak or have gaps, and equipment and infrastructure is insufficient.

17. More than half of the CAREC countries mentioned gaps in **multisector coordination and collaboration** within a country. This can refer to:

- (i) coordination between public and private sector;
- (ii) coordination and collaboration between different ministries and sectors (e.g., for One Health) and between national and sub-national levels;
- (iii) coordination of the respective agencies in different sectors by an EOC; and
- (iv) coordination between respective governments and health development partners.

18. While many countries set up whole-of-government coordination mechanisms during the COVID-19 response, in most countries the health sector is usually still leading preparedness and response efforts for infectious diseases alone, which might limit effective cross-sector coordination and collaboration. Without a formal coordination framework in place, it might be a challenge for one line ministry (e.g., Ministry of Health) to coordinate and enable the effective collaboration with other ministries and government agencies. Coordination and collaboration within countries is often limited to the health and animal health sectors, however, effective coordination requires a whole-of-government approach, involving line ministries such as the Ministry of Finance. Availability, **timeliness and use of data** at the national and regional level is critical for effective multisector and cross-border response coordination (see Pillar 2).

19. While some coordination between health and animal sectors exists, usually, a formal framework, clearly defined roles and responsibilities of all relevant sectors, as well as relevant communication and coordination arrangements are not in place. Therefore, nearly all CAREC countries want to improve **One Health governance mechanisms**. The greatest needs are perceived in multisector One Health collaboration, especially in interdepartmental coordination of surveillance for One Health (see Pillar 2) and information exchange between sectors and line ministries, including communication and reporting, as well as cross-border coordination and collaboration of One Health activities between the CAREC countries.

20. **Emergency response structures** are important for managing large-scale emergency response situations and require strengthening. During the COVID-19 response, some countries have set up EOCs on an ad-hoc basis. They have undergone changes as the pandemic unfolded because there was a lack of preparedness and expertise for such a situation. EOCs will need to become better prepared and equipped to ensure a more rapid and effective response management in future. This will require clarification about where the EOC should be housed (e.g., within the Ministry of Health, Prime Minister's Office, Disaster Management Agency or the

National Public Health Institute) and whether it should be established, staffed and equipped on a continuing or temporary basis. Rules, regulations and Standard Operating Procedures (SOPs) are also required to ensure smooth and effective operation from the very beginning.¹³ An effective rapid response system linked to national and sub-national EOCs needs to be set up with a prepared and trained workforce involving different areas of public health with One Health approach also needs to be involved (e.g., surveillance and/or epidemiology, laboratory, animal and human health experts, communication officers, potentially security forces, etc.).

21. All the above will also require the development of more robust National Health Security or Pandemic **Preparedness and Response Plans**, outlining the respective functions with their required roles, responsibilities, capacities, as well as communication and collaboration arrangements. The plans need to be regularly tested through simulation exercises (e.g., skill drills, table-top exercises, functional exercises, etc.) to ensure that all relevant actors are aware of their respective roles and the arrangements, to identify bottlenecks and to ensure that plans will be updated to respond to changing environments and contexts.

22. A major cause undermining sufficient coordination, governance and response during emergency situations is **chronic underfunding** of health systems. In almost all CAREC countries, government health expenditure as a share of gross domestic product (GDP) had already fallen tremendously prior to 2019.¹⁴ Except for in a few countries (People's Republic of China and Georgia), domestic general government health expenditure as a percentage of GDP is less than 2.5%, while the recommendation to achieve universal health coverage is 5%.¹⁵ Even though all CAREC countries significantly increased government spending on health during the pandemic through amending the national budget laws or creating dedicated funds to mobilize and channel resources more effectively, release of funds was slow.

23. The assessment results underline these findings. More than half of the CAREC countries mentioned a lack of health system funding as a major gap; four CAREC countries underlined the need for more emergency funding capacities. Concrete aspects mentioned were insufficient budget for COVID-19 response and lack of financial protection of vulnerable populations, low and even declined government health expenditure as percentage of GDP, and lack of mechanisms for budget execution and fund release for emergencies. Three CAREC countries mentioned that the financial burden on the population (out-of-pocket expenses), especially for those being vulnerable, has increased during the COVID-19 pandemic, which underlines the need for financial protection mechanisms (see Pillar 4).

24. **Proposed solutions.** There is much to be gained from effective cross-border and regional collaboration, starting with regular policy dialogue and exchange. One opportunity is to strengthen the CAREC WGH further. Relevant health security topics can be discussed, study tours organized, and accountability among WGH members to foster regional collaboration strengthened. Leadership courses in health security and global health governance could be

¹³ Several considerations are required for the establishment of an EOC. If an EOC is located within the health sector only, coordination and collaboration with relevant agencies and stakeholders of other sectors may be challenging. Besides, EOCs within the health sector often lack the experience and capacity to manage massive emergencies and to involve different sectors. Disaster management agencies may be more suited for such a context, but they do not necessarily have the capacities and understanding of how to respond to public health emergencies.

¹⁴ B. Rechel et al. 2011. Lessons from Two decades of Health Reform in Central Asia. *Health Policy and Planning*. 27 (4). pp. 281-287.

¹⁵ World Bank. Data. [Domestic General Government Health Expenditure \(% of GDP\) - Uzbekistan, Mongolia, Azerbaijan, Tajikistan, China, Kyrgyz Republic, Pakistan, Georgia, Kazakhstan, Turkmenistan, Afghanistan](#) (accessed 30 January 2022).

developed for CAREC countries to better navigate multilevel, multisector and cross-border coordination in collaboration with educational institutes or networks. The establishment of regional hubs or centers of excellence with expertise in health security topics to coordinate and carry out training institutions can be considered. A first step is to review existing training institutions (see para. 35) and develop a training repository (currently ongoing).

25. Options for regional collaboration in this area could include carrying out joint simulation exercises across borders (see Pillar 4), strengthening EOCs and regional networks of EOC building on ongoing initiatives to support each other, developing and costing NAPHS, and developing a regional mechanism for regular meetings to potentially identify minimum standards for such preparedness plans and simulation exercises. A regional Health Security and Pandemic Preparedness and Response framework for CAREC countries could include details on the roles and responsibilities of different agencies, communication arrangements, etc. Given the need for One Health communicated by a majority of CAREC countries, more coordination of human health, animal health, environmental health and other sectors at the regional level could be considered. A regional framework could include multisector One Health collaboration, with a focus on information exchange structures for One Health for willing CAREC countries.

26. Rapid access to funding during and after emergencies or shocks is as critical as direct funding to the appropriate interventions for effective and timely response, whether funding is from national or donor sources or from financial markets. Policy discussions and knowledge exchange on pandemic risk financing instruments could be carried out, and innovative and flexible risk financing solutions to support mitigating adverse impacts of future health emergencies and pandemics could be piloted selectively. In the long run, emergency response funds that can be accessed quickly can be considered, and specific administrative procedures could be developed to fast-track the allocation and transfer of funds in an emergency case. Pre-agreements with development partners to support such an emergency fund and the disbursement procedures could also help to ensure sufficient financial means to become quickly available, specifically in countries that may not be able to keep large amounts earmarked on a permanent basis for such purposes.

2. Workforce Capacity and Skills

27. Health systems resilience is weakened if workforce capacity and skills are not in place. Several aspects came into play during the pandemic. Among those which hampered the responsiveness of CAREC's resource capacity most were weak planning and distribution of human resources for health (HRH), insufficient training, lack of accreditation, and deficiencies in mental support for health workers.

28. The assessment revealed that all CAREC countries had issues with weak **management, planning and forecasting of healthcare capacity**, including budgeting, procurement and human resources distribution (including forecasting, deployment, and retention), and they lacked proper tools to do so. The three most commonly mentioned needs were (see also Pillar 3) developing capacity and skills in:

- (i) appropriate financial planning in emergencies promoting autonomy in budget executions and transparency at sub-national level (Pillar 1);
- (ii) special procedures for the transfer of funds and procurement of needed supplies during emergencies (see Pillar 1 and 3); and
- (iii) human resource forecasting and planning of appropriate distribution of available HRH, including preparations to enable surge capacities.

29. Another major gap perceived by most CAREC countries was the lack of **technical capacities** of health care workers in areas such as surveillance, laboratory, infection prevention and control, case management, and advanced medical capacities for intensive care units. Extensive emergency response requires different approaches and capacities, and while most countries had emergency or pandemic preparedness and response plans, relevant public health officials and health care workers lacked the experience and capacities to effectively apply the relevant measures. In many countries it was mentioned that the rapid response teams were not effective and, in most cases, they did not include the required mix of professionals from different technical areas (e.g., epidemiology, laboratory, case management, and risk communication) and sectors (e.g., human and animal health).

30. The assessment revealed the need for **several technical skills** to be developed and the need to:

- (i) train health care workers on early warning and rapid response;
- (ii) train laboratory and surveillance staff, especially at sub-national and local levels and across sectors (including One Health training);
- (iii) train health care workers and others (X-ray technicians, lab staff, cleaners, health care waste handlers, etc.) to appropriately apply infection prevention and control measures to protect themselves and others from cross-contamination and infection;
- (iv) train health care workers on new guidelines (e.g., on COVID-19) and most up-to-date treatment protocols, including those for managing more severe cases (this could also mean setting up mechanisms to quickly deploy training on new protocols needed in potential future emergency situations, e.g., through e-learning); and
- (v) train health care workers in intensive care to enhance surge capacities (including for medical oxygen).

31. Mechanisms for recruiting additional workforce to **meet surge demands** in emergency situations were largely absent. For filling HRH gaps, most CAREC countries employed a common strategy such as engaging recent graduates or final-year students at medical colleges and universities in the provision of health care services. While this enabled filling most urgent gaps to treat uncomplicated cases of COVID-19, emergency and acute care capacities, particularly in intensive care units, could not be easily supplemented by inexperienced staff without specific training on attending patients on ventilators and other forms of life support.

32. Other aspects mentioned in the assessment and perceived as a gap was the lack of **mental health support of health workforce**. The pandemic revealed a need for more mental health support of health workers because they were experiencing a high level of physical and mental stress due to increased workload, risk of and contracting COVID-19 or being quarantined, and being away from their families. Consequently, staff were overworked, had a high risk of becoming infected and felt inadequately prepared and supported to carry out their tasks. Additionally, salaries and training for managers and planners (leadership training) were perceived as major gap by some CAREC countries.

33. **Proposed solutions.** Specifically, **forecasting and planning capacities** of staff in health care facilities, public health agencies and departments at relevant ministries working on human resources, administration, finance, and procurement are needed. These could be conducted as short- or medium-term national or regional training sessions.

34. The variety of **technical training needs** described above could include short training activities (1–2 weeks) and longer training sessions, including pre-service and in-service education. COVID-19 has shown more clearly that existing curricula in educational institutions and training facilities need to be upgraded and reviewed to ensure that topics of importance for pandemic response are sufficiently covered. This will help ensure that tomorrow's workforce will not continue to have the same skills gaps. For some gaps revealed during the assessments, training courses do not exist or are just evolving, for example, to establish and strengthen quarantine and other border health aspects at points of entry.

35. Building the capacity of national training institutions to plan and offer training programs and courses, including regionally, would support the sustainability of training efforts. Some countries or institutions in the CAREC region might have capacities or future potential to support the training activities of other countries. Institutions in the CAREC region that can offer training for other countries and regionally need to be identified and training offered regarding health security in the region mapped. There is an opportunity to develop such training courses or modules for the whole region. A **repository of available reputable and certified training programs** on health security and institutions focusing on this topic is being developed to have a better overview of existing resources. This could be a first step to the establishment of regional hubs or centers of excellence with expertise in health security topics to coordinate and carry out training.

36. Developing or strengthening accreditation mechanisms is required to ensure the standards of medical education and the high quality of the health sector workforce. The development of **common competency frameworks** and curricula for selected skills and technical areas could be a first step toward the harmonization of standards. It could, in the future, support mutual recognition of skills.

37. Overall, **better planning and deployment of HRH** during public health emergencies is needed. Digital health solutions such as human resource registries can support forecasting, planning and distribution capacities for HRH. Better human resource deployment protocols for emergency response are also needed to enhance readiness. In addition, a human resource supply and demand analysis for selected health security cadres could contribute to a better understanding of the available health workforce. Nurses and doctors could be trained for periods of time to work in intensive care units (ICU) to acquire at least a basic understanding. This could be topped up by short-term training to support permanent staff in ICUs.

38. Support is needed to establish a **psychological support system** for healthcare workers, train counselors and other staff accordingly, and provide them with skills and logistical needs to deal with pandemics and other public health emergency situations. Besides providing mental support, it will be necessary to review working conditions and arrangements to help reduce the stress and burden of healthcare workers who are most affected by quarantine and lock-down measures and are at the “frontline”. Different options can be considered and identified to enable healthcare workers to remain physically or remotely in contact with their families.¹⁶

¹⁶ Rest and recreational leave would be an option, similar to arrangements for humanitarian workers living and working in difficult conditions.

B. Technical Preparedness

1. Surveillance and Detection

39. Technical preparedness is strengthened through effective surveillance and response to public health threats. Recognizing the importance of effective surveillance and epidemiology, outbreak and case investigations with specimen collection, laboratory testing, contact tracing, and forecasting to plan needed healthcare resources for the current pandemic was an important element of responsiveness. Countries that recognized this need and had systems, tools and capacity in place were able to respond quicker.

40. The assessment revealed that in many countries, different gaps hindered effective case-based integrated surveillance and response. Among those mentioned by almost all CAREC countries were shortcomings in **HRH capacities and training**. Specifically, countries underlined gaps in the qualification of staff to analyze surveillance data at the primary health care level, a general shortage of human resources and managerial capacity, and lack of funding to implement proper training for surveillance (e.g., Field Epidemiology and Laboratory Training Program).

41. Another factor hampering technical preparedness was insufficient **data analytics and data use**, including **lab-based surveillance**. The use of digital tools for surveillance is limited, with most countries relying on the initial collection and reporting of results using paper-based systems. Limited interoperability between infectious disease surveillance and general health databases prevents the speed and accuracy of reporting for suspect and confirmed cases and the utilization of the data to inform and guide response management. Concrete technical factors mentioned in the assessment were the need to improve data collection by integrating health information systems with data centers, expanding 5G networks and leveraging artificial intelligence to improve early warning systems, and the availability of electronic data collection, reporting and analysis equipment especially at lower levels.

42. One important factor for the proper management of data mentioned in the assessment is **integrated surveillance**. The analysis revealed a lack of integrated surveillance between human and animal health (One Health, see also Pillar 1) and the respective sectors, including in rural areas, in at least half of the CAREC countries. Integrated surveillance also touches upon cross-border aspects. The assessment further showed that countries lack **cross-border** reporting and better information flow between national and sub-national levels, among others due to lack of funding and even exchange of relevant information. The lack of integrated surveillance includes lack of skills of veterinarians to report zoonotic diseases, as well as insufficient intersectoral training of staff and systems for the regular exchange of data and other information (see Pillar 1, workforce capacities).

43. **Funding of surveillance** in general was an aspect which some countries mentioned. Gaps in funding influenced the performance of the surveillance system and its regular monitoring, thus, there is a need to support CAREC countries through additional funding options.

44. **Proposed solutions.** Support is needed to **strengthen the qualification of staff** at all levels, including at the primary care level, in surveillance data analysis to detect outbreaks or changes in disease occurrence through expanded training options, including those for reinforcing managerial response capacities (see Pillar 1). Investments in **digital health** foundations (infrastructure, interoperability etc.), tools and data analytics and use will be needed to improve early warning and speed and accuracy of reporting and data use to inform response management (see crosscutting topic: digital health). In addition, there is a need for integrating human and

animal health surveillance systems and developing the capacity of HRH for zoonotic disease surveillance.

45. An important basis for data sharing across borders is to **standardize data**. For example, the national lists of notifiable diseases could be harmonized for information exchange purposes and aligned with IHR notifiable diseases. Besides, it is proposed to develop a health security dashboard through the Central Asian Republics Information Network (CARINFONET) to improve data sharing and reporting and support signal detection, which could later be expanded to other interested CAREC countries after an initial pilot phase. In the process of developing the dashboards, capacity development will jointly identify relevant indicators related to health security and surveillance, enhance readiness for data sharing and working toward data standardization, identifying data gaps, improve statistical analysis and signal detection, including opportunities for joint analysis at country and regional level, and considering to use data for (joint and collaborative) evidence-based and data-driven policy- and decision-making. Best practices and evidence on data standardization and on regional level for health data analyses will be collected.

2. Laboratory Infrastructure

46. A sufficient laboratory infrastructure and its management according to international quality and biosafety requirements is key for detecting infectious diseases and responding efficiently.

47. The assessment revealed that countries are facing numerous needs concerning quality laboratory services. Even though WHO's 'Better Labs for Better Health' initiative has been mainly implemented in the Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan, all CAREC countries reported remaining gaps in Laboratory Quality Management Systems (LQMS), particularly Quality Control and Quality Assurance measures of national laboratory networks.

48. Another obstacle to the efficiency of laboratory infrastructure is the limited number of skilled laboratory technicians, as mentioned under Pillar 1. More than half of CAREC countries mentioned **shortage and underperformance of the workforce**, specifically at the provincial and district level. This impacted both sampling and SARS-CoV-2 laboratory testing as COVID-19 started to spread.

49. Analysis of the daily rate of positive tests in CAREC countries indicates that existing systems for sampling and testing have been overloaded, resulting in many people not being tested. This likely means that the true number of cases has been underestimated and may delay response measures. In general, laboratory test results can be interpreted to reflect point prevalence¹⁷ as long as the daily test positivity rate is below 5%, as recommended by WHO. Experience across CAREC countries during the COVID-19 pandemic shows frequent periods when the daily test positivity rate has surged high above that, reaching 30–40% for long periods of time in many countries. Scaling up sampling and capacity for laboratory testing when the daily number of positive cases increases above 5% is therefore important to ensure that reported confirmed cases do not just represent the “tip of the iceberg”.

50. Some countries mentioned specifically the need to develop capacities for genome sequencing to monitor mutation of the virus and changes in its infectiousness or susceptibility to vaccines (e.g., WHO recommends that countries ship at least 5% of their COVID-19 samples to reference sequencing laboratory or keep producing sequencing data if they have the capacity).

¹⁷ Point prevalence, according to the Centers for Disease Control and Prevention, refers to the “number of current cases (new and preexisting) at a specified point in time”.

51. The lack of a unified **network of laboratories** in some countries is also influencing efficiency. A few countries mentioned that the **lack of specimen referral and transportation** has weakened efficiency of their laboratory system.

52. **Proposed solutions.** Support is needed in **training** laboratory technicians in testing (e.g., polymerase chain reaction analysis) and genome sequencing to achieve better performance, especially in outbreak situations (see Pillar 1, workforce). This should be combined with both entry-level and in-service training of local public health professionals in bioinformatics and epidemiology given that genomic surveillance is delivered by a multidisciplinary team requiring the appropriate knowledge and skill mix in the respective technical areas.

53. Support is also needed to enable CAREC countries to establish and strengthen national laboratory networks and improve **LQMS implementation** for enhanced, precise, reliable, and timely results. There is also a need to establish regional networks between clinical laboratories, public health institutions and academia, also across borders, to enhance regional health security. This could include strengthening of testing and sampling strategies and their exchange across the region, as well as specimen referral and transportation. Improving specimen referral and transportation in selected countries needs to be targeted as well. Improved LQMS and specimen referral and transportation systems will provide a foundation for establishing sequencing laboratory networks to produce and share the respective sequencing data. Lastly, **mobile laboratories** in hard-to-reach areas could be piloted to improve availability and access to quality laboratory care.

54. To boost testing capacities, there is a need to promote point-of-care testing such as Rapid Antigen Based Tests during health emergencies.

C. Access to Supplies and Surge Demands

1. Regulatory Mechanisms

55. Policies, regulations and tools for forecasting the need for supplies, efficient procurement and effective and functioning supply chains are critical to making sure health products get to the right place at the right time, especially during emergencies. Access to quality medical supplies cannot be guaranteed without effective regulatory mechanisms and standards for medications and supplies.

56. The assessment revealed that inadequate **regulatory oversight** resulted in delayed marketing and import authorizations in the CAREC region, and a higher probability of substandard products reaching the market. There is a common perception that insufficient investment of resources in regulatory systems results in weak and slow regulation of medicines, vaccines, and other medical products. Specific factors mentioned by CAREC countries included a **lack of** enforcement of standards such as **Good Manufacturing Practice (GMP)**, Good Distribution Practice, Good Storage Practices, and Good Pharmacy Practice. Support is needed in regulatory oversight through strengthening the implementation of GMP certification and defining oversight mechanisms for quality management and control.

57. A specific aspect of regulation are capacities of National Regulatory Authorities (NRAs). Most CAREC countries are heavily dependent on importation for their medicines supply. Therefore, NRAs must assess the quality of products originating from many diverse and distant

manufacturing sites. It is neither possible, cost-effective, nor desirable that all NRAs develop and maintain the capacity to conduct regular foreign inspections of all the concerned manufacturing sites. This calls for effective procedures for desk assessment of foreign certifications and for establishing collaboration procedures among NRAs to share resources and experience about foreign manufacturing sites.

58. An assessment in some countries in the CAREC region¹⁸ revealed that there is little collaboration between NRAs resulting in duplicative and redundant work being performed by authorities with different capacities, resources and skills e.g., in assessing products or manufacturing sites. It was also found that some CAREC countries test very large numbers of samples during laboratory testing while simultaneously testing results show extremely low sample failure rates (less than 3%). It is neither possible nor necessary to test the quality of all imported batches of pharmaceutical products. The main consequences are that people face unnecessary hurdles accessing the medical products they need, government procurement agencies are hindered by inadequate information to make evaluations and decisions, substandard or falsified products more easily reach the market, and business and trade are hindered by inefficient regulatory systems.

59. Some CAREC country NRAs participate in WHO collaborative registration initiatives,¹⁹ which are beneficial because they avoid the repetition of assessment work by relying on assessments conducted by advanced regulatory systems. However, the number of WHO-prequalified products is small compared to the number of products approved by best-resourced NRAs. Stringent Regulatory Authorities (SRA)-approved products tend to be expensive, and it can happen that manufacturers are not interested in marketing their products in small markets. Therefore, most less-resourced NRAs receive applications and must deal with a majority of products that are not WHO-prequalified or SRA-approved leading to an overwhelming number of foreign certifications to be critically reviewed.

60. **Proposed solutions.** One way to strengthen NRAs, optimize the use of resources, and eliminate unnecessary duplication of work is the establishment of effective collaboration and exchange of information among NRAs within the CAREC region about products and manufacturing sites. **Regional reliance**²⁰ is one way to cooperate effectively where the work done by a trusted authority (e.g., an assessment or inspection report) is shared with a receiving authority that uses the reports to make its own decisions without duplicating the work. While reliance on reports or decisions made by well-resourced authorities is most appropriate for new and complex medical products (such as vaccines and other biologicals), regional cooperation through reliance among authorities of countries with similar market landscapes is the most appropriate approach for the assessment of generics and manufacturers with a 'regional' projection.

61. Therefore, the **establishment of an operational mechanism of collaboration** consisting of appropriate administrative tools (legal and regulatory frameworks and procedures for sharing and making use of information) and an IT platform is proposed that will eventually

¹⁸ Assessments have been carried out in Azerbaijan, Kyrgyz Republic, Tajikistan, Pakistan and Uzbekistan.

¹⁹ Some CAREC and Caucasus NRAs participate in WHO's Collaborative Registration Procedure for WHO-prequalified pharmaceutical products: Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Pakistan, and Uzbekistan. Only Georgia participates in WHO Collaborative Registration Procedure for products approved by a broadly-recognized regulatory body (e.g., European Medicines Agency, US Food and Drug Administration). Only Kazakhstan has a WHO-prequalified quality control laboratory.

²⁰ WHO. 2021. [WHO Expert Committee on Specifications for Pharmaceutical Preparations: Fifty-fifth Report](#). WHO Technical Report Series, No. 1033. Geneva. Annex 10, page 237.

allow NRAs to exchange information, avoid work duplication, foster cross-reliance, and filter out substandard products.²¹ While working to establish an operational mechanism of collaboration, NRAs will be able to identify their respective weaknesses and strengths. This may lead them to gradually convert existing strong institutions into regional resources or centers of excellence for the benefit of all participating authorities in the medium to longer term. Initial activities could include organizing collaborative activities such as joint assessment of applications regarding medical products identified as a common priority by participating NRAs; gradually developing mechanisms of regular collaboration with well-resourced regulatory authorities (e.g., European Medicines Agency, Swiss-Medic) to regularly obtain their support and sharing of information (e.g., assessment reports, testing results, inspection reports) to be used as a reference for national or joint assessment work; and developing and implementing a dedicated IT platform to support joint assessments and facilitate information interchange with minimal manual intervention.

62. At the country level, NRA resources could be optimized by streamlining desk evaluation of documents such as GMP certificates and Certificates of Pharmaceutical Product issued within the scope of WHO Certification Scheme²² and ensuring that a risk-based approach is used as an overarching, paramount principle when designing and implementing sampling and laboratory testing activities.

2. Procurement and Supply Chain Management

63. An effective health system requires a well-functioning procurement and supply chain mechanism to ensure equitable access to quality, affordable medicines and supplies. In CAREC countries, challenges to supply security include limited supply chain data availability, quality and use, and a lack of appropriate human resource capacity contributing to poor forecasting and demand planning. The assessment revealed that the existing electronic information systems to support procurement, storage, distribution, and dispensing of public health supplies remain outdated and ineffective, undermining data use for supply and demand planning and forecasting and reporting the stock-outs in a timely manner. There are insufficient to no training courses on procurement and supply chain management, including courses on forecasting, stock management, warehouse management, and distribution.

64. Complex, time-consuming and centralized procurement practices, small market size, and uncertain demand were found to contribute to constrained supply, limited competition, and high pricing. In particular, the CAREC countries mentioned:

- (i) **a lack of special budgeting procedures** to enable the fast transfer of funds to support effective and timely procurement of health products and supplies for adequate response management; and
- (ii) **a lack of special fast-track rules for procurement and distribution** of required supplies in the amounts needed to enable fast response. The lack of such special rules and prevailing regular bureaucratic procedures were mentioned as having significantly slowed down the COVID-19 response and negatively impacted its effectiveness. One example emphasizing the importance of fast-track rules for

²¹ Other benefits of such a mechanism could include: (i) add “content” to existing regional regulatory harmonization initiatives; (ii) permit immediate dissemination of alerts on safety concerns, quality defects, and falsified products; (iii) streamline availability and exchange of manufacturer-related information facilitating timely action in situations involving defective medicines; (iv) act as a platform for referencing and benefiting from evaluations and decisions made by better-resourced authorities within and beyond the regional level; and (v) enable businesses and citizens to access information on medicines approved across a number of countries.

²² WHO. 2021. [WHO Expert Committee on Specifications for Pharmaceutical Preparations: Fifty-fifth Report](#). WHO Technical Report Series, No. 1033. Geneva. Annex 9, page 205.

procurement and distribution during the pandemic was having the right amount of medical oxygen at health facilities for emergency and inpatient care.

65. In many countries, there is a limited supplier base, and most countries rely on the importation of supplies, which makes it difficult to respond quickly to emergencies. The lack of centralized storage and storage management and cold chain equipment and respective guidelines and SOPs are contributing to inadequate infrastructure for storage and distribution. These issues negatively impact day-to-day operations and make it challenging for governments to respond in emergency situations.

66. **Proposed solutions.** Across the CAREC region, there are many opportunities for countries to collaborate on improving access to essential medicines and supplies and ensuring supply security, including through collaborative procurement, strengthening regional supply chains, as well as knowledge and data management. The level of collaboration can vary from basic information sharing, harmonization of procurement and supply chain management (PSM) competencies and training, standardizing data and processes in the short- to medium-term to more integrated collaboration, which could include the use of regional distribution centers and/or conducting joint procurements in the longer run. **Information sharing** (e.g., on commodity prices, supplier performance etc.) provides interested CAREC member countries with an opportunity for more informed procurement decision-making. The **standardization of data, policies and regulations** helps to streamline processes and improve end-to-end supply chain visibility enabling more efficient and effective health supply chains.

67. **Digitization** promotes transparency across the supply chain rendering decision-making more informed and quicker, ultimately increasing supply chain efficiency, reducing supply chain costs, and helping tackle substandard and falsified products in the market.²³ Support is needed in strengthening electronic Logistic Management Information Systems (LMIS) to ensure adequate information support at all levels starting from central procurement and storage through last-mile distribution. To be effective, accurate and timely data collection, aggregation and analysis is critical. There are opportunities to accelerate these benefits through regional collaboration around data standards, sharing, and use. A centralized LMIS and/or Control Tower can be used across all health products for data aggregation and analysis, improving product visibility and traceability across the entire supply chain and helping to inform better decision-making in the areas such as forecasting, replenishment, inventory management, procurement, and distribution planning. Benefits could include improved performance, governance, and resilience, especially during emergencies and can inform better regional collaboration.

68. Investment in PSM **human resource capacity** is critical to a well-functioning PSM system, ensuring the right decisions can be made in a timely manner and future system design is appropriate. Opportunities exist for regional coordination around conducting joint training activities, aligning PSM competencies, and knowledge sharing, providing benefits across the region. These could eventually inform harmonized competencies and certified training across the region, providing more seamless cross-border activities, reduced costs, and improved knowledge sharing.

²³ More efficient and effective data management can be achieved through the digitization of the supply chain. This requires robust product master data, so data that is collected across the entire supply chain is easier to analyze and use. Different management information systems are used across the supply chain from e.g., Warehouse Management Systems and Inventory Management systems used to manage stock and warehouse activities to Transport Management Systems which are used for distribution.

69. Given the multiple PSM areas where countries can collaborate in the region, the **establishment of a Regional CAREC PSM Institute or Center** could provide a platform to enable regional collaboration. The Regional Institute could help facilitate activities such as information sharing, alignment of standards, facilitation of discussions on key topics of interest, and hosting regional PSM trainings. It could coordinate critical information sharing such as product pricing, availability, and quality to improve transparency, epidemiological data, and demand. Countries could also share lessons learned or PSM challenges countries are facing with peers from other countries, building a regional network of PSM experts that can be leveraged. Further, it could facilitate the establishment of transparent, standardized data and provide countries with access to high quality and essential resources to improve regional capacity and knowledge of PSM practices from industry and academic experts, training professionals and the peer network. For the longer-term opportunities, **collaborative procurement** activities and the use of regional distribution centers could be explored, which have the potential to improve the availability, accessibility, and affordability of medicines and supplies across the region in looking to ensure sufficient supply and stocks, especially during emergency situations.

D. Vulnerable Population Groups and Border Health

1. Cross-border Health Security

70. The assessment revealed that almost all countries are lacking point-of-entry (POE) health capacities. This includes entry point screening and quarantine capacity, SOPs on notification procedures, as well as sufficiently equipped and staffed quarantine facilities in border areas. While disease notification and reporting happen at the national level, notifications at sub-national levels can be improved. Assessment of the countries' IHR capacities also showed that the POEs lack public health emergency contingency plans integrated into national emergency response plans.²⁴

71. Almost all CAREC countries mentioned severe gaps in multisector collaboration for cross-border management. Among specific factors mentioned are the lack of cross-sector collaboration and coordination on border biosafety and health issues at all levels, including formal frameworks (agreements, plans) for such a collaboration between different Ministries and the Border Guard Services on biosecurity and health issues.

72. Joint risk communication approaches in border areas also require improvement. Almost no CAREC country had properly implemented risk communication policies for border areas in their emergency response plans during the COVID-19 pandemic. According to the national assessment, only one country decided to strengthen its risk communication strategy by transparently targeting people with disabilities and communities residing in border areas who experienced language barriers.

73. **Proposed solutions.** There is a need to **improve POE screening and quarantine capacity** and SOPs on notification procedures, as well as sufficiently equip and staff and train quarantine facilities in border areas building on activities that have started in these areas. Support is also needed to strengthen cross-border information exchange and reporting (including at sub-national level) based on IHR. In addition, frameworks should be developed, and training provided to promote multisector collaboration for cross-border health management. These measures could be combined with joint risk assessments, including a better understanding of the risks faced by vulnerable population groups such as women, the elderly, persons with disabilities and mobile

²⁴ WHO. [IHR State Party Self-Assessment Annual Report \(SPAR\)](#).

populations. Joint simulation exercises in border areas could also contribute to multisector and cross-border coordination and emergency response planning.

74. Lastly, support in developing culturally sensitive **risk communication strategies**, emphasizing gender-sensitive risk communication strategies, would strengthen outreach to communities residing in border areas.

2. Border Health and Financial Protection of Migrants

75. Border areas are often in remote, hard-to-reach areas or along busy economic corridors and high travel zones with trading activities, mobile populations passing through, and markets attended by local traders from the region. National and cross-border health services where migrant and mobile populations reside and pass through need to be strengthened. Mobile and migrant populations may be even more vulnerable to infections and outbreaks because they are often poor and live in crowded and unhygienic conditions. Many CAREC countries have pointed out the relevance of large nomadic populations moving across countries and not always using official border crossings. They also move a large number of livestock, which can be affected by or serve as the origin and carrier of diseases, increasing the risk of zoonotic disease outbreaks.

76. Health facilities in border areas are an important link to outbreak prevention and detection, emergency response and related patient care. Oftentimes they are not sufficiently linked to laboratories and border agencies. A related gap mentioned by half of the CAREC countries is insufficient cross-border patient management. Continuity of care is hampered by several factors, including a lack of platforms to exchange patient records across borders, lack of cross-border referral systems as well as a lack of follow up mechanisms for infectious diseases. The lack of information on health care services available across borders, including specific services for vulnerable population groups, also affects cross-border patient management.

77. In addition, large labor migrant populations live and work in different CAREC countries. A significant number might not be formally registered, and many have little or no access to health services for different reasons. Allowing proper treatment for vulnerable population groups is necessary to reduce the disease burden. Foreign labor migrants are often excluded from or are ineligible for insurance-based schemes operating in the countries where they work. And where inclusive insurance schemes exist, there is often low uptake among migrants for different reasons, including the inability to afford insurance membership or premiums.

78. CAREC countries also have special economic zones (SEZs) and industrial zones that attract and employ a substantial number of migrant worker populations. As these zones are also usually situated outside of capital regions, these workers' access to health services and their health-related knowledge, attitudes and practices are generally less developed than in urban settings and pose additional health risks. It is important to understand and address the health issues of these workers for their welfare and to optimize benefits for businesses and the associated communities.

79. **Proposed solutions.** As reflected in the CAREC Health Strategy's results framework, it is proposed to conduct further research on the **health and socioeconomic status and health needs of border communities and mobile populations**, including women and vulnerable groups, residing in selected border areas. This research should also include health-related risks and social determinants of health based on where they work and live. Resilience to infectious and non-infectious diseases depends on how healthy the population of a country is and what risk

factors exist. Further research on the sex-differentiated effects of the outbreaks and pandemics, especially on female health workers, female patients, and on households with female heads residing in border areas is also proposed. This shall be complemented by research on the **availability and quality of health services in selected border areas**, along with border health facility assessments to understand better the infrastructure, equipment, staffing, and other relevant aspects. The assessment should include options for expanding service availability using other service delivery mechanisms (mobile teams and service delivery points, telemedicine). It should also provide recommendations for improving emergency preparedness and response capacities and infection prevention and control in health facilities in border areas.

80. Based on the assessment and research, **upgrading needs of health facilities** and health and sanitary services in border areas, with improved services for border communities and mobile populations, and establishment or strengthening of laboratories in or in proximity of border areas will be identified (see Pillar 2). Support in upgrading border health facilities shall encompass technical standards as well as health workforce capacity. Strengthening facilities in border areas also includes improving infection prevention and control, better linkages to laboratories and support for outbreak prevention, detection and control, screening, and case management of infectious diseases in border areas.²⁵

81. Support should also include bilateral arrangements to connect health facilities across borders and enable sharing of patient information and referral of cases across borders to ensure access to health care services. This would require **establishing platforms for patient information exchange** (with safeguards for patient privacy and protection) and collection of reliable information on health care services available across borders. Continued development of telemedicine and the use of digital tools for health will further enhance access to health services and ensure support for health care workers located in remote and hard-to-reach areas.

82. Interventions could further support **strengthening and empowering communities** residing in border areas and build community capacity for disease management and control (including environmental health). Community empowerment and engagement are important to enable the communities to make effective decisions about their health in terms of responding to their health needs, making and adopting healthy choices and behaviors, and practicing self-care. Empowered communities not only help promote individual motivation and behavior change but are also fundamental in co-producing healthy environments. As such, enhancing border health requires empowering and engaging border communities, including the underserved and marginalized population groups, supporting community-led initiatives for improving community health and resilience, and providing health education and training to develop communities' knowledge, skills and confidence to voice their needs and to collaborate with health care providers.

83. It is recommended to do an additional study on the **financial protection of labor migrants** in selected CAREC countries and assess possibilities on the portability of benefits. Support in improving the accessibility of health services could include the definition of a benefits catalog for migrants crossing borders, including access to medical services and diagnostics. It could also include defining agreements between CAREC countries on the portability of benefits for migrants crossing borders.

²⁵ The Kyrgyz Republic Regional Health Security project approved in 2022 already includes a component on border health. ADB. 2022. [Kyrgyz Republic: Strengthening Regional Health Security Project](#).

84. Timely and regular conduct of **health impact assessments** through a multisectoral approach (involving health ministries, SEZ authorities, environmental ministries, and other agencies) will help to identify, mitigate and manage the health risks and impacts on migrant workers in SEZs. Scoping exercises and risk assessments should be conducted as part of an HIA to identify and prioritize health issues and their determinants and inform the development and implementation of measures to manage health risks and impacts.

E. Crosscutting Topic: Digital Health

85. Investing in digital health foundations is critical to achieving a sustainable, interoperable and secure digital health landscape generating critical data to support various health sector goals. Digital health is an important area across all pillars. However, investing in digital health foundations is necessary to support sustainability and coordination of investments and avoid fragmentation. The COVID-19 pandemic revealed that having a sound technical infrastructure was critical to quickly roll out digital solutions to support pandemic response. An assessment in six CAREC countries showed critical foundational gaps such as lack of digital health strategy, gaps in legislation, weak governance for digital health, insufficient digital literacy among health workers, gaps in enterprise architecture, core infrastructure, and registries, and insufficient adoption and implementation of standards. It is therefore suggested to include investments in digital health foundations as a separate area.

82. While such investments are usually at country level, regional collaboration could include strengthening and leveraging peer-to-peer country networks to exchange knowledge and lessons learned and extend peer-to-peer advice and support.

III. PROPOSED REGIONAL HEALTH INVESTMENT FRAMEWORK (2022-2027)

86. The table below provides details of the proposed RIF that reflect country priority investments based on the country assessments and discussions and country roadmaps at the second meeting of the CAREC Working Group for Health held from 11-13 October 2022 in Tbilisi, Georgia. The identified priorities include a set of possible TA activities, such as studies, pilots and smaller-scale capacity development activities, supporting policy dialogue, and development of knowledge products either linked to ongoing ADB TA projects or future TA, which could be funded by any development partner. The RIF also presents proposals for project investments, including more national-level interventions and support. The suggested project investments can be standalone projects or project components of projects for larger investment needs and can be further tailored based on country needs and resulting from further country programming and policy dialogue. Any project would undergo further preparation, including due diligence and detailed design. It should be noted that any of the activities in the RIF can also be supported through countries' initiatives and funding.

87. To the extent possible, projects will build on or contribute to existing initiatives in the region (see Annex 2 and Attachment 5 of the CAREC Health Strategy).

88. For each of the proposed activities, the RIF indicates (i) the objectives to which these activities contribute to, (ii) their level of priority (high priority color-coded green and medium priority color-coded amber), (ii) the indicative implementation modality and timeframe, (iii) the possible countries and cluster of countries, and (iv) the CAREC Health Strategy Results Framework indicators that they contribute to (see Annex 1).

A. Strategic Pillar 1 – Leadership and Human Resource Capacity

Objective	Activities and Level of Priority	Indicative Implementation Modality ^a and Period	Possible Countries and Clusters	Link to Results Framework ^b
Governance, coordination and financing				
Strengthen leadership and cooperation for regional health security	<ul style="list-style-type: none"> Hold regular meetings, policy discussions and study visits on relevant health security topics (e.g., on cross-border health cooperation, One Health, gender mainstreaming). Raise awareness on cross-border health and advocate for high-level actions, multisectoral and multilevel collaboration, and accountability among WGH members to foster regional cooperation and progress toward the CAREC Health Strategy targets. Include IHR focals in WGH meetings to allow coordination. 	TA activity, 2023-2026	Regional	1.a
Enhance health security preparedness and response capacity	<ul style="list-style-type: none"> Develop or update and cost National Action Plans for Health Security for prioritization of capacity development and implementation. 	TA activity, 2023-2025	All countries	C.
	<ul style="list-style-type: none"> Provide capacity development on establishing or strengthening Emergency Operation Centers. 	TA activity, 2023-2025	Regional	
	<ul style="list-style-type: none"> Establish or strengthen Emergency Operation Centers, including developing the legal and policy framework for a long-term perspective, defining relevant aspects, such as institutional arrangements and set up, infrastructure and equipment, information systems, staffing, deployment and specific training and institutional capacity strengthening needs. 	Project or project component, 2024-2028	All countries, regional	
	<ul style="list-style-type: none"> Explore options for establishing public health emergency funds (funding modalities, e.g., specific disbursement procedures) to enable fast-tracking of allocation and disbursement in emergency situations. 	TA activity and project component, 2024-2028	TAJ, UZB	1.b
Improve pandemic risk financing	<ul style="list-style-type: none"> Carry out policy discussions and knowledge exchange on pandemic risk financing instruments. 	TA activity, 2022-2023	Regional	1.b
	<ul style="list-style-type: none"> Pilot regional pandemic risk financing mechanism. 	TA activity, 2023-2026	Initially 1-2 countries	1.b
Workforce capacity and skills				
Strengthen human resources for appropriate and effective health response measures	<ul style="list-style-type: none"> Develop repository of available reputable/certified training programs, institutions and materials on health security (including on One Health, public health emergency management, and labs). Identify opportunities to scale up existing institutions to carry out regional training and training of trainers. 	TA activity, 2023-2025	Regional	6.a
	<ul style="list-style-type: none"> Conduct country-specific human resource supply and demand analysis for selected cadres, including mapping of existing human resources against required health workforce competencies for health emergency preparedness and response. 	TA activity, 2023-2025	AZE, KGZ, GEO, MON, PAK, TAJ, TKM, UZB	1.c
	<ul style="list-style-type: none"> Develop health workforce registry. Improve skills and data use in human resources for health planning and forecasting. 	Project component, 2023-2026	AZE, KGZ, GEO, MON, PAK, TAJ, TKM, UZB	1.c
	<ul style="list-style-type: none"> Develop and test country-specific human resource deployment protocols for emergency response. 	Project component, 2023-2026	AZE, KGZ, GEO, MON, PAK, TAJ, TKM, UZB	1.b
	<ul style="list-style-type: none"> Conduct trainings and training-of-trainers in pre-defined areas (One Health, forecasting and planning skills, testing and sampling procedures and methodologies in laboratories) based on gap analysis results. 	Project component, 2023-2026	AZE, KGZ, GEO, MON, PAK, TAJ, TKM, UZB. Specific to labs: PAK, TKM, TAJ	1.c

AZE = Azerbaijan, CAREC = Central Asia Regional Economic Cooperation, TA = technical assistance, GEO = Georgia, IHR = International Health Regulations, KGZ = Kyrgyz Republic, MON = Mongolia, PAK = Pakistan, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan, WGH = Working Group on Health.

^a Any of the activities in the RIF can also be supported through countries' own initiative and funding.

^b See Annex 1 for the CAREC Health Strategy Results Framework.

B. Strategic Pillar 2 – Technical Preparedness

Objective	Activities and Level of Priority	Indicative Implementation Modality ^a and Period	Possible Countries and Clusters	Link to Results Framework ^b
Surveillance				
Improve access to and use of regional health data for health emergency prevention, preparedness and response	▪ Harmonize national lists of notifiable diseases for information exchange and align with IHR notifiable diseases (event information site, outbreak notification), Standard Operating Procedures, early detection and alerts. Assess and strengthen sub-national information flow. ^b	TA activity and/or project component, 2023-2025	KAZ, KGZ, TAJ, TKM, UZB	2.a 5.b 6.a
	▪ Publish regularly updated regional health security dashboard via CARINFONET and institutionalize use of data for health emergency prevention, preparedness and response.	TA activity, 2023-2025	KAZ, KGZ, TAJ, TKM, UZB	1.b 5.b 6.a
	▪ Disseminate knowledge and lessons of piloting sentinel surveillance system as a regional public good.	TA activity, 2023-2024	AZE, regional	
	▪ Strengthen and, where suitable, digitize surveillance systems to improve outbreak detection. Strengthen integrated surveillance systems (One Health), including for antimicrobial resistance.	Project component, 2024-2028	AZE	2.a 5.b
Laboratory infrastructure and capacity				
Improve availability and access to quality laboratory services	▪ Pilot mobile laboratories in remote and hard-to-reach areas.	TA activity or project component, 2023-2025	PAK, TAJ, TKM	
	▪ Assess, cost and plan for laboratories upgrading to comply with national standards and biosafety levels and detect antimicrobial resistance.	TA activity, 2023-2025	AZE, TAJ, TKM, UZB	
	▪ Upgrade selected laboratories (in border areas) to comply with national standards and biosafety levels and establish cross-border referral and specimen transportation. ^b	Project component, 2024-2028	AZE, KGZ, TAJ, TKM, UZB	2.b
	▪ Enable national reference laboratories to conduct genome sequencing.	Project component, 2024-2028	AZE	2.b
	▪ Implement Laboratory Quality Management Systems for national laboratory networks and foster regional exchange of testing and sampling strategies. ^b	Project component, 2024-2028	AZE, KGZ, TAJ, TKM, UZB	2.b
Enhance laboratory equipment and supply management systems	▪ Design and establish laboratory equipment and supply management systems.	Project component, 2024-2028	KGZ, TAJ, TKM	2.b
	▪ Pilot and implement laboratory information systems, including laboratory information sharing and specimen tracking. ^b			

AZE = Azerbaijan, CARINFONET = Central Asian Republics Information Network, IHR = International Health Regulations, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.

^a Any of the activities in the RIF can also be supported through countries' own initiative and funding.

^b See Annex 1 for the CAREC Health Strategy Results Framework.

^c Activity included in KGZ Regional Health Security project fully or to some extent.

C. Strategic Pillar 3 – Surge Demand and Access to Supplies

Objective	Activities and Level of Priority	Indicative Implementation Modality ^a and Period	Possible Countries and Clusters	Link to Results Framework ^b
Regulatory mechanisms				
Enhance capacities of national regulatory authorities (NRA) and regional reliance	<ul style="list-style-type: none"> Organize collaborative activities such as joint assessment of applications regarding medical products identified as common priority by participating NRAs. 	TA activity, 2023-2026	AZE, GEO, KGZ, MON, TAJ	1.b 3.a
	<ul style="list-style-type: none"> Develop mechanisms for regular collaboration with well-resourced regulatory authorities (e.g., European Medicines Agency, Swiss-Medic) to regularly obtain their support and sharing of information. 	TA activity, 2023-2026 and/or project component, 2024-2028		
	<ul style="list-style-type: none"> Assess NRA strengths and weaknesses with the possibility of gradually converting strong NRAs into regional centers of excellence for the benefit of all participating authorities. 	TA activity, 2024-2026		
	<ul style="list-style-type: none"> Develop and implement a dedicated IT platform to support joint assessments and facilitate information exchange and foster reliance with minimal manual intervention. 	TA activity or project component 2024-2028		
	<ul style="list-style-type: none"> Optimize country resources by streamlining desk evaluation of documentation such as Good Manufacturing Practice Certificates and Certificates of Pharmaceutical Product issued within the scope of WHO Certification Scheme and ensure using a risk-based approach when designing and implementing sampling and laboratory testing activities. 	TA activity 2024-2026 or project component, 2024-2028		
Procurement and supply chain mechanisms				
Improve regional supply security by strengthening cross-country collaboration on procurement of essential public health products	<ul style="list-style-type: none"> Facilitate information sharing through the collection, compilation, analysis, and visualization of country-provided data (including product pricing, supplier performance, market information) for selected hard-to-access essential medical products as a first step toward collaborative procurement. 	TA activity, 2023-2024	Regional	1.b 3.b 6.a
	<ul style="list-style-type: none"> Conduct feasibility assessment on establishing regional mechanism(s) for aggregating demand, group contracting and/or pooled procurement of essential public health supplies, and identify pathfinder countries to pilot initiatives for selected priority products. 	TA activity, 2023-2024	Regional	3.b 6.a
	<ul style="list-style-type: none"> Pilot collaborative procurement mechanism, potentially including a joint revolving fund element. 	Project or project component, 2025-2028	Initially 2-3 countries	1.b 3.b 6.a
Increase transparency and efficiency of regional health supply chains	<ul style="list-style-type: none"> Investment in end-to-end digitization of public health supply chains and in regional standards for data management, use and sharing to improve forecasting and demand planning, enable informed procurement decisions, prevent stock-outs and shortages, and reduce the circulation of substandard and/or falsified products. 	Project or project component, 2024-2028	Initially 1-2 countries	3.c
	<ul style="list-style-type: none"> Develop Regional Supply Chain Risk Management Plan. 	TA activity, 2023-2024	Regional	3.c
Establish a regional hub for strengthening procurement and supply chain management	<ul style="list-style-type: none"> Conduct feasibility assessment to establish a regional PSM Institute or Center for strengthening and supporting regional collaborative procurement and supply chain management. 	TA activity, 2023-2024	Regional	3.b 6.a
	<ul style="list-style-type: none"> Establish a regional PSM Institute or Center for capacity development activities and supporting regional collaborative PSM management. 	Project or project component, 2026-2028	Regional	3.b 6.a

AZE = Azerbaijan, GEO = Georgia, IT = information technology, KGZ = Kyrgyz Republic, MON = Mongolia, PSM = procurement and supply chain management, TA= technical assistance, TAJ = Tajikistan, WHO = World Health Organization.

^a Any of the activities in the RIF can also be supported through countries' own initiative and funding.

^b See Annex 1 for the CAREC Health Strategy Results Framework.

D. Strategic Pillar 4 – Vulnerable Population Groups and Border Health

Objective	Activities and Level of Priority	Indicative Implementation Modality ^a and Period	Possible Countries and Clusters	Link to Results Framework ^b
Cross-border health security				
Enhance cross-border health security	▪ Initiate cross-border data exchange in border areas based on the IHR and following agreed data standards and selected priority diseases through Memoranda of Understanding (also see Pillar 2).	TA activity, 2023-2025 and/or project component, 2024-2028	AZE-GEO border; Selected KAZ, KGZ, TAJ, TKM, UZB borders; PAK	1.b 2.a 5.b
	▪ Upgrade points-of-entry (POE) in terms of infection screening (laboratory and networks) and control (quarantine), case management, and quality of care. Strengthen sensitization on IHR at POE.	Project component, 2024-2028	ABEC: KAZ, KGZ; AZE-GEO border; TAJ, TKM, UZB	
	▪ Conduct and scale joint outbreak risk assessments and joint outbreak response simulations, contingency plans development in designated POE (see IHR annex) drawing from available and updated tools.	Project component, 2024-2028	AZE-GEO border; Selected KAZ, KGZ, TAJ, TKM, UZB borders; PAK	1.b
Border health				
Improve understanding of border health conditions	▪ Conduct survey among border communities and mobile populations (including women and vulnerable groups) on their health status, needs, social determinants of health, access to health services, and effects of outbreaks and pandemics. ^b	TA activity, 2023-2024	AZE-GEO border; ABEC: KAZ, KGZ; Selected KAZ, TAJ, TKM, UZB borders; PAK	4.a 5.c
	▪ Assess service availability and quality of selected border health facilities.			
Improve availability and quality of health facilities and services in border areas	▪ Upgrade selected border health facilities, including improving infection prevention and control, better linkages to laboratories and support to outbreak prevention, detection and control, screening, and case management of infectious diseases in border areas.	Project or project component, 2024-2028	ABEC: KAZ, KGZ; AZE-GEO border; TAJ, TKM, UZB	4.b
	▪ Conduct workshops on establishing and sharing migrant Electronic Medical Records and case referrals across borders (including for TB and HIV).	TA activity, 2023-2024	AZE, GEO, KGZ, MON, PAK, TAJ, UZB	1.c 4.b
	▪ Pilot to trial migrant Electronic Medical Records between AZE and GEO borders (including for TB and HIV).	Project component, 2024-2028	AZE-GEO border	4.b
Enhance community empowerment	▪ Develop or update plans for socially inclusive Risk and Behavior Change Communication (BCC) across borders, considering gender mainstreaming.	Project component, 2024-2028	TAJ, PAK	
	▪ Implement socially inclusive risk and BCC plans (e.g., informing migrants of services available and removing stigma as barriers to access) and support community-led social actions for resilience in border areas.			
Financial protection for labor migrants				
Improve financial protection for labor migrants	▪ Conduct feasibility study and dialogues on financial protection, portability of benefits and benefit catalog for labor migrants (including access to medical and diagnostic services).	TA activity, 2023-2024	AZE, GEO, KAZ, KGZ, PAK, TAJ, TKM, UZB	4.a
	▪ Pilot financial protection schemes for labor migrants (including foreign nationals) in selected CAREC countries building on existing insurance schemes and bilateral arrangements to be further determined based on feasibility study.	Project component, 2025-2028	To be determined after feasibility study	6.a

ABEC = Almaty - Bishkek Economic Corridor, AZE = Azerbaijan, CAREC = Central Asia Regional Economic Cooperation, GEO = Georgia, IHR = International Health Regulations KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, PAK = Pakistan, TAJ = Tajikistan, TB = tuberculosis, TKM = Turkmenistan, UZB = Uzbekistan.

^a Any of the activities in the RIF can also be supported through countries' own initiative and funding.

^b See Annex 1 for the CAREC Health Strategy Results Framework.

^c Activity included in KGZ Regional Health Security project.

E. Crosscutting: Digital Health

Objective	Activities and Level of Priority	Indicative Implementation Modality ^a and Period	Possible Countries and Clusters	Link to Results Framework ^b
Digital health foundations				
Improve technical capacities on digital health foundations	<ul style="list-style-type: none"> Conduct digital health webinars on a variety of topics such as standards and terminology; education and digital literacy; health workforce registries; platform development; evaluation of applications and shared knowledge, interoperability, cybersecurity, developing an enterprise architecture, and planning for digital health investments. 	TA activity, 2022-2024	Regional	1.c 5.a
	<ul style="list-style-type: none"> Investments in digital health foundations (core registries, platform, infrastructure, network, etc.). 	Project component, 2024-2028	Selected countries	5.a
	<ul style="list-style-type: none"> Develop a regional framework for the assessing digital health applications and solutions. 	TA activity, 2023-2024	Selected countries	6.a
	<ul style="list-style-type: none"> Conduct feasibility study on a mechanism for regular collaborative activities to conduct a joint assessment of digital health applications and solutions and share information. 	TA activity, 2024-2028	Selected countries	6.a

AZE = Azerbaijan, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, TA = technical assistance, UZB = Uzbekistan.

^a Any of the activities in the RIF can also be supported through countries' own initiative and funding.

^b See Annex 1 for the CAREC Health Strategy Results Framework.

CAREC Health Strategy Results Framework

Goal	Indicators	Baseline	Source	
Enhanced regional health security	By 2030: A. Incidence of EIDs among population		CAREC countries and Secretariat	
	B. Average IHR score of CAREC countries		CAREC countries and Secretariat	
	C. Number of CAREC countries that incorporate joint regional approaches and cross-sector activities in their UHC and/or health sector strategies or plans ^a		National health strategies/ plans CAREC reports	
Strategic Pillar	Outcome	Indicators	Baseline	Source
1. Leadership and human resource capacity	Strengthened regional leadership, coordination, and workforce	Coordination and governance: 1.a Intersectoral Support Framework is established	0	CAREC Secretariat
		1.b Number of joint country activities conducted under the CAREC Health Strategy	0	CAREC Secretariat
		Workforce skills and capacity: 1.c Number of health-related personnel (sex-disaggregated) trained through CAREC support to address issues related to health security ^a	TBD	CAREC countries and Secretariat
2. Technical preparedness	Improved surveillance and laboratory infrastructure	Surveillance response: 2.a Number of CAREC countries using harmonized surveillance data and common analysis criteria	TBD	CAREC countries and Secretariat
		Laboratory infrastructure: 2.b Number of CAREC countries with diagnostic laboratories that have recognized capacity for providing high-quality PCR analysis	TBD	CAREC countries and Secretariat
3. Access to supplies and surge capacity	Increased capacity to access supplies and meet surge demands	Regulatory mechanisms: 3.a Regional cooperation mechanism established to strengthen regulatory capacity	0	CAREC Secretariat
		Procurement mechanisms: 3.b Number of regional procurement mechanisms developed (from information sharing to actual procurement)	0	CAREC countries and Secretariat
		Supply chain management: 3.c Regional Supply Chain Risk Management Plan developed	0	CAREC countries and Secretariat
4. Vulnerable population groups and border health	Enhanced health services for migrant groups, border communities, and vulnerable groups	Access: 4.a Research conducted on the needs of CAREC cross-border communities and mobile populations, including women and vulnerable groups	0	CAREC countries and Secretariat
		Burden of disease: 4.b Number of regional collaboration initiatives for cross-border support to migrants with chronic infectious diseases (e.g., TB, HIV)	TBD	CAREC countries and Secretariat

Strategic Pillar	Outcome	Indicators	Baseline	Source
Crosscutting themes	Sufficient health information systems, data management, regional knowledge sharing, and innovation capacity	Digital health/innovation: 5.a Number of nationally agreed vision and road maps for the interoperability of information systems	TBD	CAREC countries and Secretariat
	Disaggregation of data by gender assured; specific needs of women considered in health planning and design of services and infrastructure	Gender: 5.b Number of CAREC countries with capacity to collect sex-disaggregated routine surveillance data on EIDs 5.c Research conducted on the sex-differentiated effects of the outbreaks and pandemics, especially on female health workers, female patients, and on households with female heads	TBD 0	CAREC countries and Secretariat CAREC countries and Secretariat
Institutions and governance	Institutional platform for regional health cooperation established ^a	6.a Number of joint regional health solutions developed under CAREC ^a	0	CAREC Secretariat

CAREC = Central Asia Regional Economic Cooperation, EID = emerging infectious diseases, IHR = International Health Regulations, PCR = polymerase chain reaction, TB = tuberculosis, TBD = to be determined, UHC = universal health coverage.

^a Aligned with the CAREC Program Results Framework.

Existing Health Security and Related Frameworks and Initiatives of Countries and Development Partners in Selected Areas

Health security
<ul style="list-style-type: none"> • National Action Plan for Health Security • WHO Joint Assessment and Detection of Events (JADE) Regional Exercise • CAREC sanitary and phytosanitary standards modernization project
Human resource capacity
<ul style="list-style-type: none"> • CDC Field Epidemiology and Laboratory Training Program • Public health workforce strategy in Georgia under CDC, Johns Hopkins University, and Georgia National Center for Disease Control and Public Health collaboration • Multiple recognition of skills (e.g., CIS)
Surveillance and laboratories
<ul style="list-style-type: none"> • Biosurveillance Network of the Silk Road • Regional Antimicrobial Resistance center (Lugar Center) • Global Disease Detection Regional Center • The Central Asian and European Surveillance of Antimicrobial Resistance network (CAESAR) • Better Labs for Better Lives • EU Chemical, biological, radiological and nuclear (CBRN)-related projects
Procurement and supply chain mechanisms
<ul style="list-style-type: none"> • Existing pooled procurement (GAVI, HOPE, UNICEF) • Single pharmaceutical market introduced under EAEU
Border health and health security
<ul style="list-style-type: none"> • Enhanced health and border management in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan to respond to COVID-19 and other communicable diseases (IOM, CDC) • Cross-border reporting and communication under the IHR (2005) • Regional operational framework for international travel related public health measures in the context of COVID-19 (WHO) • Provisions existing under EAEU and CIS • Provisions in national legislation (e.g., Kazakhstan) • Bilateral agreements (limited scope to Tuberculosis/HIV)
Digital Health
<ul style="list-style-type: none"> • Regional Informatics and Data Science in Health Training Program (CDC)

CAREC = Central Asia Regional Economic Cooperation; CDC = Centers for Disease Control and Prevention; CIS = Commonwealth of independent States; EAEU = Eurasian Economic Union; GAVI = Gavi, the Vaccine Alliance; HIV = human immunodeficiency virus; HOPE = Health Oriented Preventive Education; IHR = International Health Regulations; IOM = International Organization for Migration; UNICEF = United Nations Children's Fund; WHO = World Health Organization.