World Health Organization

# Health systems resilience toolkit

A WHO global public health good to support building and strengthening of sustainable health systems resilience in countries with various contexts

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# Acronyms

| | |
|---|---|
| **COVID-19** | coronavirus disease 2019 |
| **EDRM** | (health) emergency and disaster risk management |
| **EPHF** | essential public health function |
| **EVD** | Ebola virus disease |
| **FCV** | fragile, conflict-affected and violent (setting/context) |
| **GPW 13** | WHO's Thirteenth General Programme of Work, 2019–2023 |
| **IAR** | intra-action review |
| **IHR (2005)** | International Health Regulations (2005) |
| **PAHO** | Pan American Health Organization |
| **PHC** | primary health care |
| **SDG** | Sustainable Development Goal |
| **SPAR** | State Party annual reporting tool |
| **UHC** | universal health coverage |
| **UNDRR** | United Nations Office for Disaster Risk Reduction |
| **UNISDR** | United Nations International Strategy for Disaster Reduction |
| **USAID** | United States Agency for International Development |
| **WHO** | World Health Organization |

# Purpose of document

This document is a consolidated, fit-for-purpose technical reference package to support countries in strengthening health systems resilience at national and subnational level from policy and planning, through operational and services delivery, to monitoring and evaluation. The Toolkit may be adapted to varying contexts and will also contribute to the dual agenda of universal health coverage (UHC) and global health security.

The Toolkit serves as a compendium of technical resources to support countries in strengthening the resilience of their health systems and provides technical grounding and clarity on the conceptualization and operationalization of health systems resilience.

The WHO Health Services Resilience Team welcomes submissions of further material for the Toolkit. To submit material, please complete this form.

# Executive summary

The experience gained from health systems shocks and their health and socioeconomic impacts underscores the need to build health systems resilience deliberately and underpin it with public health measures. While acute public health emergencies rapidly gain stakeholders' attention, health systems are also faced with less conspicuous, slow-onset stressors, such as a high burden of noncommunicable diseases and the impact of climate change and urbanization. The extent to which these varied shock events occur and affect lives is largely determined by a wide range of chronic weaknesses both within and beyond health systems. This lesson has been further highlighted by the unprecedented experiences of countries during the pandemic of coronavirus disease 2019 (COVID-19), irrespective of income group of the population or maturity of the health system. Building health systems resilience must therefore strengthen the capacity of health systems to forecast, prevent, detect, absorb, adapt and respond to a wide range of risks and shock events, while maintaining core functions and services and learning and improving as required. The application of this concept requires integration and synergy between the various efforts aimed at UHC, health security and healthier populations (all addressed in the Triple Billion targets of the World Health Organization (WHO)).

This Health Systems Resilience Toolkit was therefore developed to support national, regional and global stakeholders in facilitating and applying an integrated approach to health systems strengthening for resilience and advancing UHC, health security and relevant Sustainable Development Goal (SDG) targets in an interdependent manner. The Toolkit, developed as a global public health good under WHO's Thirteenth General Programme of Work (GPW 13), provides a consolidated and focused reference package of technical resources that can be adapted to various contexts, including fragile, conflict-affected and violent (FCV) settings and small island developing States, while taking into account the heterogeneity within and between countries. The specific objectives of the Toolkit are to:

- provide a compendium of technical resources for addressing gaps and bottlenecks in resilience-building at country level;
- guide countries' policies, planning and strategies to promote an integrated, whole-of-system approach for building resilience, including essential public health functions as an entry point;
- provide contextual considerations for adaptation to various contexts, including FCV and low-resource settings; and
- facilitate application of lessons learned from global and country experiences during COVID-19 and other public health emergencies, to contribute to health systems strengthening for resilience.

The multipronged approach used in developing the Toolkit made it possible to obtain contributions from various sources, including expert consultations and desk reviews of available resources, based on defined exclusion and inclusion criteria. To facilitate its use, the Toolkit is structured around four levels of investment in and support for health systems resilience, which constitute the four interconnected modules, namely: (1) understanding the concept of health systems resilience; (2) integrated policy-making and planning for health systems resilience; (3) health systems resilience at the implementation and operational level; and (4) monitoring and evaluating health systems resilience. Each module provides an overview of its area of focus and a concise list of the most relevant technical resources. It is to be noted that there are overlaps and important interlinkages between the four modules. Application of the Toolkit should therefore take a systems approach that allows all health systems levels and the health systems building blocks to be strengthened in parallel, from policy-making and planning to implementation, operations and monitoring and evaluation, at national, subnational and service-delivery levels.

## Module 1. Understanding health systems resilience

This module draws on syntheses of evidence, technical expertise and experiences of experts and stakeholders to provide conceptual clarity on health systems resilience and its application, serving as a foundation for modules 2, 3 and 4. Despite different definitions of health systems resilience, which can be summarized as the ability of all actors and functions related to health to collectively mitigate, prepare, respond and recover from disruptive events with public health implications, while maintaining the provision of essential functions and services and using experiences to adapt and transform the system for improvement, the core attributes expected of a resilient health system are common and widely acknowledged. These include awareness of the capacities and risks of the health system; mobilization and coordination of resources for effective management of the risks; self-regulation through informed decision-making in response to threats; adaptation as necessary to withstand adverse conditions; provision of the range and quality of services needed in all contexts; and identification and utilization of lessons learned to improve and transform, while ensuring integration between health security, health systems strengthening and other health programmes. Developing these attributes of resilience in health systems calls not only for increased investment, but also for more effective, targeted and efficient use of available resources through better integration and coordination, and overall improved systems performance to achieve more for the populations served.

Resilience attributes in health systems are applicable across the emergency management cycle of prevention, preparedness, response and recovery. This cycle summarizes the essential role of health systems in managing public health emergencies, in coordination with allied disciplines and sectors. Hence the need to deliberately build in resiliency in the design and development of health systems, since health systems provide a vital first line of defence against public health threats that affect not only health, but all other aspects of society, as we have seen with the COVID-19 pandemic.

Five case studies (studies 1–5) are provided, showing how countries have applied various elements of resilience in strengthening their health systems and managing shock events, demonstrate that, with increased and smarter use of technical and financial investments, health systems resilience can be a reality. The technical resources under Module 1 include a list of key references on understanding health systems resilience as a concept (see Table 2 below) and examples of global health frameworks, resolutions, regulations and other commitments (see Table 4 below) that support the application of this concept to make health systems more resilient to shock events and complex day to day stressors.

## Module 2. Integrated policy-making and planning for health systems resilience

Evidence-based legislation, policies, strategies and plans are essential enablers for the realization of health systems resilience and its dividends. There is an abundance of health-related policies, plans and similar instruments in countries, including those targeted at diverse public health agendas at global, national and subnational levels. Given its multifaceted requirements, much legislation and many policies and plans in the health and allied sectors (such as education, energy, agriculture, sports, transport, communication, urban planning, environment, labour, employment, industry and trade, finance, and social and economic development) have the potential to contribute to health systems resilience. However, the effectiveness of these tools in fostering sustainable resilience is, to a large extent, dependent on their coherence, synergies, inclusiveness and focus on an integrated, systems approach to health systems strengthening encompassing public health functions for resilience. This is also important for efficient use of the limited resources available in countries to equitably address population health needs. The Toolkit therefore promotes the use of this integrated lens in applying the relevant guidance documents listed under this and other modules, as appropriate to each context. These considerations also guided the selection of the technical resources in this module (see Table 5 below).

## Module 3. Health systems resilience at implementation and operational level

Another level of focus on health systems strengthening for resilience is at the operational level, where resilience and its dividends are tested and demonstrated in relation to essential public health functions, intermediate goals and population health outcomes. Here, the implementation and operational level refers to the processes, functions and services that translate the legislation, policies, plans and strategies into actions that serve the populations in need. Within the health system, service delivery at individual and population levels is the point of contact with people and the main output which manifests the strength and resilience of the entire system.

Application of the tools in this module to operationalize health systems resilience-building must therefore allow coordinated inputs and synergies between all the health systems building blocks, with active participation of communities, and allied sectors (animal health, environmental health, education, transport, etc.) including those in the private sector. This also requires prioritization of all aspects of resilience-building and the related essential public health functions in parallel. Context-specific considerations, such as the humanitarian-development-peace nexus in FCV settings, also offer opportunities to operationalize the health systems resilience concept. The resources in this module are therefore selected to support these and other integrated actions for making health systems more resilient.

## Module 4. Monitoring and evaluating health systems resilience

Systematic, timely and regular monitoring and evaluation using contextualized and integrated measurement approaches are essential for identifying areas for improvement, targeting interventions and ensuring accountability to stakeholders when investing and building health systems resilience. Key indicators of health systems resilience need to be identified, harmonized, monitored and utilized for system-wide improvement within and outside emergency contexts in countries, at national, subnational and service-delivery levels. These indicators cover the spectrum of desired resilience attributes across all functions and the continuum of public health emergency management, and involve all relevant stakeholders. It is also important that these efforts are embedded in routine health information systems and decision-making processes for health systems strengthening, health security, health promotion, etc. to avoid creating a siloed measurement mechanism, and that they should foster integration at policy-making, planning, implementation and operational levels. The materials described in this section of the Toolkit can support global, national and subnational stakeholders in the application of the above considerations to health systems resilience monitoring and evaluation.

In conclusion, the Toolkit focuses on moving from concept to specific and deliberate action for building health systems resilience through integrated systems strengthening with essential public health functions. The identified technical resources in each module are intended for integrated, contextualized application in countries. It is acknowledged that there are limitations in the availability and diversity of resources to cover all areas relevant to health systems resilience. However, the content and resources available in the Toolkit can provide a strong reference point for embarking on and sustaining national and subnational efforts in building more resilient health systems, through concerted action by stakeholders. Moreover, the Toolkit will remain a living document and benefit from updates that would incorporate additional emerging evidence, experiences and technical resources.

# Introduction

The increasing frequency of disruptive events, particularly public health events of international concern, has demonstrated the critical importance of resilient health systems in safeguarding global health security and sustaining progress towards UHC *(1)*. Events from recent infectious disease outbreaks, including the ongoing global COVID-19 pandemic, the outbreaks of Ebola virus disease (EVD) in the Democratic Republic of the Congo and Guinea, and in 2014/2015 in west Africa, and the outbreaks of Zika virus disease in 2015/2016 and Middle East respiratory syndrome in 2012, have led to increasing recognition that a country's capacity to prevent, prepare, detect, respond, and recover from public health emergencies while concurrently providing essential health services is a dividend of resilient health systems.

Moreover, health systems that are poorly resourced and those affected by fragility, conflict and violence are usually disproportionately affected. Over 25% of the global population live in FCV settings *(2)*, affected by protracted conflict, poverty and lack of access to basic health services. These challenges provide an additional layer of complexity and have a compounding effect when the same settings must also manage a public health emergency such as COVID-19. In this context, small events may have large-scale impacts/consequences on health systems, disrupting its critical routine functions and overwhelming the already weakened capacity for health service delivery.

Considering these experiences, and as part of GPW 13, the Health Systems Resilience Toolkit was developed as a global public health good. This Toolkit aims to provide a focused, concise and consolidated reference package of technical resources that can be adapted to local contexts, including countries with FCV settings.

## Scope and objectives of the Toolkit

This Toolkit aims to support WHO country offices, with national authorities and partners, in promoting health systems resilience through an integrated approach between health systems, health security programmes and other allied programmes in the areas of policy-making and planning, implementation and operationalization and monitoring and evaluation. This, in turn, will contribute to UHC and health security as interdependent parallel objectives in countries.

The Toolkit aims to:

- provide a compendium of technical resources on health systems resilience, to address gaps and bottlenecks of resilience-building at country level;
- guide countries' policies, planning and strategies to promote an integrated, whole-of-system approach for building resilience, including with essential public health functions as an entry point;
- provide contextual considerations for adaptation of the Toolkit, including FCV contexts; and
- facilitate application of lessons learned from country experiences during COVID-19 and other public health emergencies, to contribute to health systems strengthening for resilience.

## Target audience

The primary target audiences of the Toolkit are national and subnational health authorities and health service providers and local, regional and global technical partners in health systems strengthening, including WHO, organizations of the United Nations system, donors, nongovernmental organizations and other technical agencies.

# Methodology

A multipronged strategy was employed to inform the design, architecture and development of the Toolkit. This was to ensure the systematic inclusion and diverse representation of relevant technical areas, since health systems resilience is a cross-cutting function.

## Multidisciplinary technical consultation group

A multidisciplinary technical consultation group was identified and convened to inform the design, architecture and development of the Toolkit. *This group included experts from various technical areas at WHO headquarters and experts from regional and country offices in the technical areas of health systems, health emergencies, migration health, etc. The group reflects an integrated approach to health systems strengthening to inform the interdependent objectives of UHC and health security.*

## Technical consultations

Terms of reference were developed to guide the expert consultations that would inform the design, architecture and development of the Toolkit. This included the objectives, scope and framing of the Toolkit, and key guiding questions (see Annex 1) posed to technical experts about the content of the proposed Toolkit. The consultation template with the guiding questions was sent to WHO teams in the health systems, health emergencies and other public health programmes, for their input into the framing and scope of the Toolkit. This work was supplemented by a series of meetings with various technical teams, including perspectives from experts in the humanitarian and development sector supporting countries with FCV settings.

## Scoping exercise

To ascertain the existing gaps and opportunities to be addressed by the Toolkit, a scoping exercise was conducted, involving a desk review of literature from scientific databases and technical documents from various technical agencies (see Annex 2). This exercise yielded a total of 1173 resources, 323 of which were shortlisted after screening. Of the latter, 51 met the inclusion criteria listed in Table 1 below and were signposted as reference materials as part of the Toolkit, and the remainder informed the development of the Toolkit. In addition, a call for technical resources in the form of a survey (see Annex 3) was sent to relevant technical teams from WHO headquarters, regional offices and selected country offices, with the objective of scoping and collating technical resources in the form of tools, guidance, etc. of high relevance for health systems strengthening and resilience, for further examination as part of, or as reference materials for, the Toolkit. The survey questions included the title and scope of and a link to the proposed technical material.

## Development and compilation of resources to address identified priorities

A document intended to enhance conceptual clarity in health systems resilience was developed from the findings of the scoping exercise. In addition, the technical documents identified through the various sources were compiled, screened and shortlisted.

## Further consultations

An interim document on the conceptual and contextual applications of health systems resilience was sent out to the technical working group and wider teams for consultation. Feedback received was reviewed and incorporated where applicable. Moreover, technical consultations on the draft Toolkit will continue with the technical working group, including the WHO Joint Working Team for Primary Health Care (PHC) and UHC, with a diverse representation from various technical areas.

## Inclusion and exclusion criteria for shortlisted technical resources

The term "technical resource" is used throughout the Toolkit to refer to any resource intended to facilitate on-the-ground action and implementation. It covers: guidance documents, checklists, tools, complementary toolkits, training aids, implementation aids, policy briefs, handbooks, case study examples or equivalent. Inclusion and exclusion criteria were developed to guide the collection, collation and screening of the technical resources received, as shown in Table 1 below.

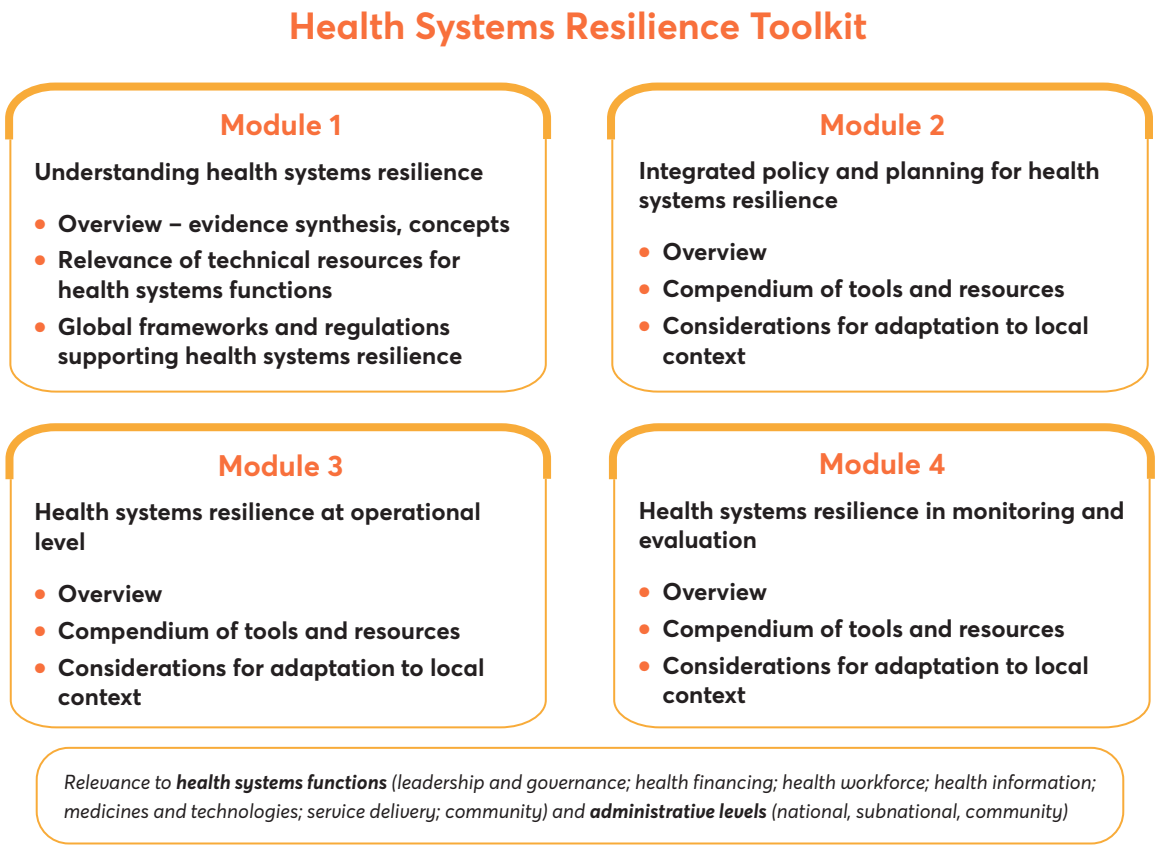
**Table 1.** Inclusion and exclusion criteria for technical resources

| Inclusion criteria | Exclusion criteria |
|---|---|
| • Technical resources developed or published between 2016 and 2021 (i.e. after the EVD outbreak in west Africa in 2014–2016, when "new" lessons and experiences of health systems resilience increased significantly in number); resources published before 2016 may be included on a case-by-case basis if they address critical gaps<br>• Technical resources from WHO, United Nations and technical partners at global and regional levels<br>• Technical resources with strong linkages and relevance to health systems resilience, based on the three modules (integrated policy-making and planning; health systems resilience at operational level; and health systems resilience in monitoring and evaluation)<br>• Technical resources developed on the basis of the latest available evidence<br>• Publicly available technical resources, obtainable via a weblink at no cost | • Academic or scientific journal literature that does not explicitly inform about country-focused practical actions<br>• Grant, project or progress reports (or similar)<br>• Country-level-specific technical resources limited to the local context (e.g. national policies, national plans, legislation)<br>• Technical resources older than 2016<br>• Webpages or website extracts |

# Composition and structure of the Toolkit

Informed by the various technical consultations, findings from the scoping review and technical experience obtained through country support, four core modules were proposed to constitute the architecture of the Toolkit. These are mainly centred around promoting (1) an understanding of health systems resilience as a concept and its application; (2) integrated approach to policy-making and planning; (3) health systems resilience at the implementation and operational level;[1] and (4) health systems resilience in monitoring and evaluation (see Fig. 1).

**Fig. 1.** Architecture of the Health Systems Resilience Toolkit




These four core modules not only address the current gaps identified, but ensure that audiences of the Toolkit at all levels within health systems can identify their role and the relevant support within this document, whether they are at the policy-making, implementation, operational or monitoring level. This also helps to ensure accountability and responsibility towards all attributes of health systems resilience across the various functions. Lastly, these four modules represent critical levers which, if strengthened, can have a cascade effect to improve and strengthen all aspects of health systems resilience.

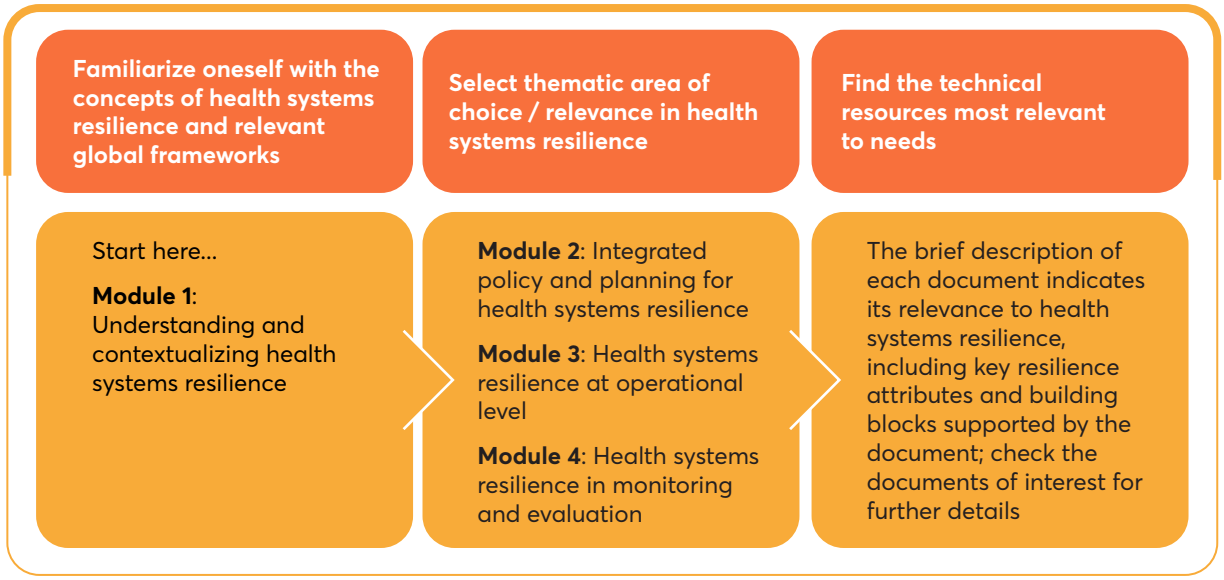
# How to use the Toolkit

This Toolkit is designed to be fit for purpose and fit for context. Users, regardless of their contextual setting, are encouraged to start with Module 1, which provides an overview of the concept of resilience, the contents of the Toolkit and the technical resources included. After reading through Module 1

[1] The operational level also includes service delivery at different administrative levels, as well as related administrative, infrastructural governance (e.g. district health management teams, One Health) and capacity development at the subnational level.

and becoming familiar with the concept and its operational significance, users can jump into the areas they are most concerned with, based on phases of programmes, general or specific settings, health systems components or administrative levels (see Fig. 2). On the companion Resilience Toolkit webpage, users can easily find the technical resources most relevant to their own work setting and needs. Below is an illustration of how technical resources are organized and can be used in this Toolkit. For example, where the aim is to develop further a focus on health systems resilience as a national or subnational priority, the starting point for decision-makers would be to gain an understanding of the concept and its application using the Module 1 resources. Under Modules 2 and 3, policy and planning guidance and training and simulation exercise resources could be selected to build technical capacity and identify areas of need and investment. Monitoring and evaluation would also be needed to measure the resilience of the health system and progress made and areas for improvement over time. Irrespective of the tools selected for use, it is important that their application is contextualized as necessary.

**Fig. 2.** How to use the Toolkit




## Functional use at national and subnational level

The Toolkit is intended for users at all administrative levels exercising various health systems functions. It is possible to find appropriate documents related to national, subnational or community levels, by first identifying the relevant thematic area and using the summaries to identify the specific document related to the thematic area of concern. Several documents are cross-cutting in nature and are applicable and relevant to all three levels. There may also be cases where a document is designed and developed for use at, for instance, the national level, but can be adapted to other (e.g. subnational) settings. Therefore, the functional application or relevance of the documents outlined cuts across different administrative levels of the health system.

## Applying a systems approach

The Toolkit aims to support health systems resilience capacities across all functions of a health system, including public health functions beyond the health sector. While certain technical products may focus on a function (e.g. the health workforce), cross-linkages with the wider system have been highlighted in the summary description for each of the products. This also includes the relevance to key resilience attributes, helping the users to cross-map and identify the operational linkages across various functions while adopting an integrated approach.

# Module 1. Understanding health systems resilience

## A. Evidence synthesis

Resilience is an ubiquitous concept applied in various sectors and disciplines, including psychology, agriculture and food security, engineering, ecology, physics, economics and public health and development *(3)*. In the area of public health and development, the term has been applied in multiple framings, ranging from health systems, disaster risk reduction and humanitarian affairs to community engagement. A general limited understanding of the concept, framing and scope of health systems resilience can be attributed to inadequate efforts to invest in an integrated approach to building systems resilience using a public health lens. This often results in the historically fragmented approaches to planning, capacity-building, implementing and even monitoring that have been observed.

There are several approaches that have indirectly contributed to strengthening health systems resilience. A few examples from the health security angle have included the International Health Regulations (IHR) (2005) monitoring and evaluation framework *(4)*, intended to measure emergency preparedness capacities; the Sendai Framework for Disaster Risk Reduction 2015–2030 *(5)*, which promotes investment in disaster reduction for resilience; and the Health Emergency and Disaster Risk Management (EDRM) Framework *(4)*, which promotes an all-hazards risk management approach. A WHO position paper, entitled Building health systems resilience for universal health coverage and health security during the COVID-19 pandemic and beyond *(7)*, also emphasizes the building of national health systems resilience by investing in the essential public health functions (EPHFs) *(8)* and the foundations of the health system, with a focus on PHC and health security.

As part of this Toolkit, a review and subsequent report were developed with the aim of improving clarity on health systems resilience, both conceptually and in application. A summary of the findings forms the basis for this module.

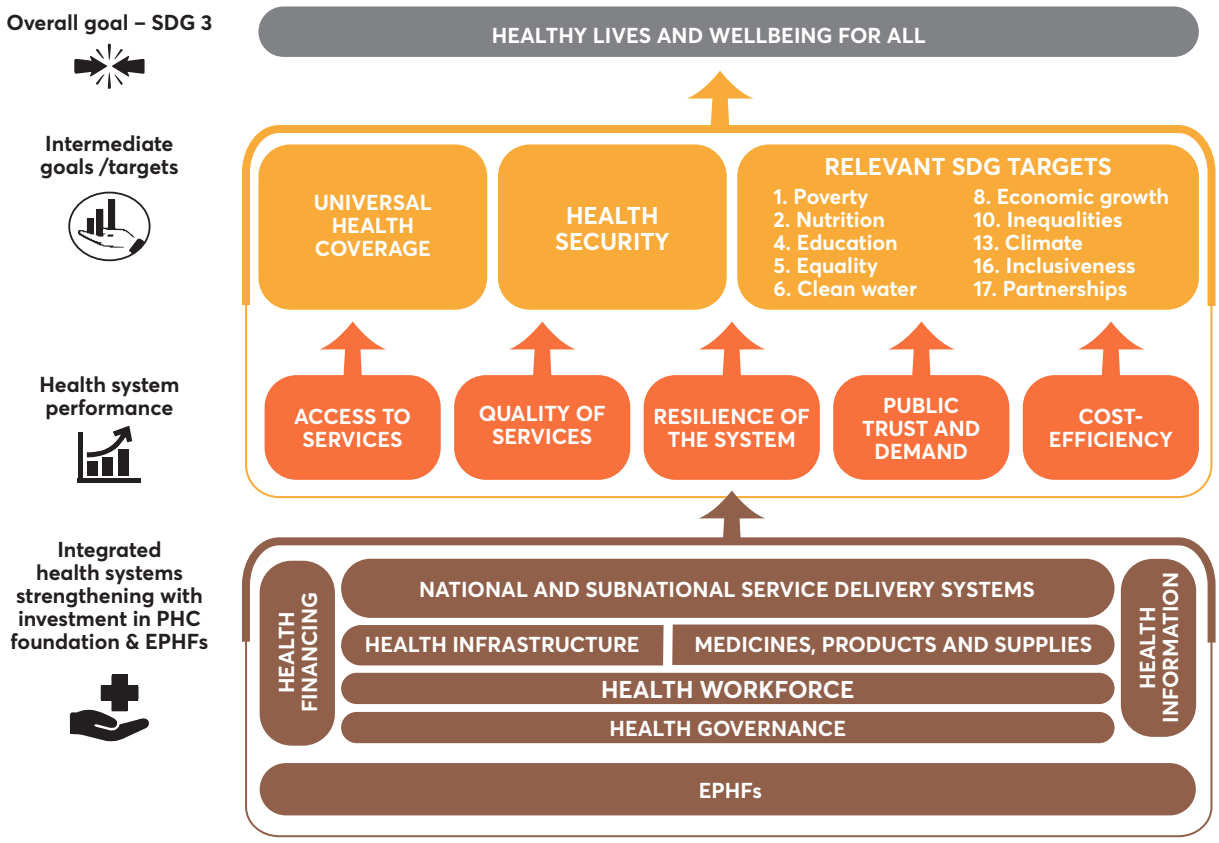
### Concept of health systems resilience

**Growing interest and evidence base:** despite the adoption of World Health Assembly resolution WHA64.10 in 2011, on "Strengthening national health emergency and disaster management capacities and resilience of health systems" *(9)*, there was historically a limited amount of literature focusing on health systems resilience. Now, however, there is a growing interest in and evidence base for the concept and application of health systems resilience, triggered by recent and current public health emergencies. Following the EVD crisis and, more recently, the COVID-19 pandemic, the discourse on resilience has become widespread within the international health community and the topic of health systems resilience has gained major traction over the years *(10)*.

**Scope of health systems resilience:** stakeholders within health and allied sectors have defined and applied the term "health systems resilience" in multiple framings. This is generally based on the definition of the health system as "the ensemble of all public and private organizations, institutions and resources mandated to improve, maintain or restore health" *(11)*. Further supporting this, several capacities of a resilient health system (see Fig. 3) that are anchored primarily on various domains of a health system have been outlined in the literature *(12)*. Some of these include sustained baseline levels and quality of routine health care, including removal of barriers to accessing care; access to flexible financing, clear governance and coordination structures; availability of surge capacity for maintaining quality care; access to sufficient quantity and quality of medical supplies, workforce; and commitment to continuous quality improvement *(13)*. Therefore, health systems strengthening using an integrated and holistic approach is an imperative for building resilience. This entails system-wide and multisectoral inputs and proportionate prioritization of individual and population-based health services with due attention to the determinants of health, equity and quality, as well as adequate attention to proactive and response-focused measures against public health challenges from prevention to preparedness, response and recovery. The EPHFs provide integrated framing that ensures that health systems strengthening includes adequate consideration for the wider determinants of health, equity, health promotion and all other aspects of population health (see Fig. 3 and Box

1). This is a necessity for building sustainable resilience against the wide range of health systems challenges, from acute shock events (e.g. infectious disease outbreak, earthquake, flooding), to everyday health system challenges and population health needs (e.g. an increasing ageing population, increasing threat of climate change to health). Moreover, the scope of resilience encompasses community resilience, given that communities are an integral element of a health system and must therefore remain central to all efforts to strengthen health systems strengthening for UHC, health security and relevant SDG targets. In addition, community resilience also places focus on actors beyond the health sector (agriculture, environment, etc.) which, according to the definition of a health system, are part of this scope and play a vital role in the health and well-being of populations.

**Fig. 3.** Relationship between integrated health systems strengthening, EPHFs, UHC and Health security




EPHF: essential public health function; PHC: primary health care; SDG: Sustainable Development Goal.
*Source: (13).*

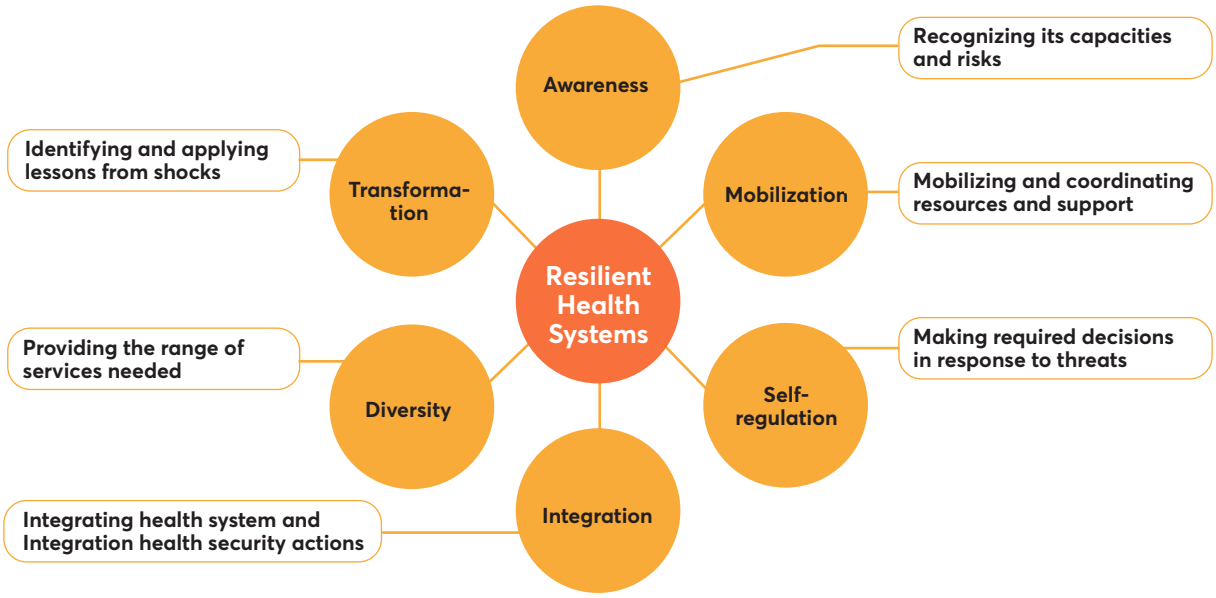
**Box 1. List of common and key public health functions based on a crosswalk between different authoritative EPHF lists**

1. Monitoring and evaluating population health status, health service utilization and surveillance of risk factors and threats to health
2. Public health emergency management
3. Assuring effective public health governance, regulation and legislation
4. Supporting efficient and effective health systems and multisectoral planning, financing and management for population health
5. Protecting populations against health threats, including environment and occupational hazards, communicable disease threats, food safety, chemical and radiation hazards
6. Promoting prevention and early detection of diseases including noncommunicable and communicable diseases
7. Promoting health and well-being and actions to address the wider determinants of health and inequity
8. Ensuring community engagement, participation and social mobilization for health and well-being
9. Ensuring adequate quantity and quality of health workforce with public health expertise
10. Assuring quality of and access to health services
11. Advancing public health research
12. Ensuring equitable access to and rational use of essential medicines and other health technologies

Source: *(14)*.

Characteristics and attributes: attributes and characteristics of health systems resilience have been framed in various ways. From the definitions reviewed in the development of the Toolkit, six key themes were consistently reflected, namely: risk reduction; preparedness; response; maintenance of core functions/services; recovery; and respective actors/stakeholders. In addition, there were some variations as definitions often presented additional characteristics such as "learning during crises"; "timeliness and efficiency"; "reducing chronic vulnerability"; "inclusive growth"; avoiding identity loss; limited resource contexts and sustainable achievements. These conceptual characteristics of resilience have also been framed, although with variations in semantics, consistently as attributes awareness, mobilization, diversity, self-regulation, integration, adaptability and transformation *(14, 15)*. Fig. 4 summarizes some of these consistent attributes and characteristics.

**Fig. 4.** Resilience characteristics and attributes




Source: WHO Health Services Resilience Team, WHO headquarters.

Resilient health systems are generally characterized as being aware of their own strengths and vulnerabilities related to health systems components and linkages to wider society; addressing a wide range of health system challenges and population health problems; improving health system functions to protect population health during public health crises; maintaining core health system functions to protect population health while effectively responding to public health crises; learning from crises and other public health events to transform themselves and improve the functions of promoting and protecting population health; integrating a great variety of actors and actions in a coordinated effort for positive health outcomes; and bringing dividends to positive health outcomes in both everyday settings and shock events.

**Actors:** the groups or actors identified in the framing of health systems resilience vary widely and include, for example, families/populations; communities; health workforce; institutions/organizations; individuals; systems/society *(10)*. Despite the varied approach to actors, a common theme across all definitions reviewed is that all of them are stakeholders that are part of a health system, performing different functions at different levels.

**Scope of hazards in which resilience was discussed:** in a review conducted by Biddle et al. in 2020, 82% of the 71 empirical studies addressed resilience in the context of a specific crisis or challenge – notably infectious disease outbreaks (20%), natural disasters (15%) and climate change (11%) *(16)*. Moreover, the review of definitions also identified a range of hazards which included infectious diseases *(17)*; general hazards *(5)*; and disruptions/disturbances *(11)*, with the majority referring to shocks and stresses *(19–24)*. Acute and protracted conflicts have both immediate and long-term effects on health systems, with implications for service delivery, access, utilization and quality. Beyond the immediate service disruptions due to conflict, massive population displacement, economic stresses (e.g. recessions) downturns and political instability pose the risk that health systems will become dysfunctional if they are not resilient *(19)*. There have been a few definitions that extend the scope to include economic stresses, conflict and natural disasters *(20, 22, 24, 25)*. Despite the variation in semantics, the underlying principle is common to all and represents a disruptive shock or stress, of varying nature and source. The implication of the scope of emergency presented in definitions affects the context in which the concept of resilience is applied. As such, a comprehensive, all-hazards approach, including adaptation for policy change, economic contraction and changing epidemiology, is a key element in defining health systems resilience.

## Application of health systems resilience

Different settings are prone to different risks and threats; the application of resilience to various disruptive events should therefore be further explored and understood. For example, EVD and other recent infectious disease outbreaks, such as the ongoing pandemic of COVID-19, have provided valuable insights into the interface between health systems and emergencies. In the case of EVD outbreaks, the transmission was greater in countries whose health systems, especially primary care, were weakened by previous conflict and neglect *(26)*. A key attribute of resilience identified is the ability to ensure the continuity of essential services *(15)*. Disruptions to essential health services during COVID-19 were reported by most countries surveyed (n=105) from different contexts (in terms of, for instance, income level, maturity of health systems, the way health systems are organized and financed), attributed to both demand and supply factors *(27)*.

Another key element of a resilient health system has been the need to ensure integrated, well aligned health systems and health security efforts, including in policy-making and planning, which inform the operational level. Findings from a global review of COVID-19 preparedness and response plans from 106 countries *(28)* further highlighted limitations and the scope for improving an integrated approach in national health-sector planning and emergency planning, which has significant implications for health systems resilience. Case study 1 below showcases a review of 154 plans from 106 countries, which revealed salient considerations that can inform ongoing and future policy and operational planning towards resilience. While the case study provides a snapshot of some of the gaps noted in the application of health systems resilience at the planning level, Module 2 (Integrated policy-making and planning for health systems resilience) provides additional detail and key technical resources to for addressing some of the challenges noted.

**Case study 1.** **Health systems resilience perspectives from a review of COVID-19 preparedness and response plans from 106 countries**

COVID-19 has exposed long-standing fragmentation in health systems strengthening efforts for health security and UHC while these objectives are largely interdependent. In this prevailing background, a review of 154 preparedness and response plans from 106 countries revealed salient considerations that can inform ongoing and future policy and operational planning towards resilience (28). This case study focuses and highlights some key findings and opportunities for improvement identified in recent emergency related planning, and subsequently calls for a more integrated, holistic approach to planning, which would generate positive cascading ripple effects at the operational level, and including in monitoring and evaluation.

There is scope to embed considerations more effectively for:

- maintenance of routine health systems functionality and
- emergency planning.

The review found 47% of preparedness and response plans considered the maintenance of non-COVID-19 essential health services (see Fig. 5). During an emergency, the focus of decision-makers invariably homes in on the crisis itself. Therefore, prior to the occurrence of a crisis, health sector and emergency planning should establish the structures needed for joint working and active involvement of those responsible for health security, humanitarian, disease-and life course-specific, health systems strengthening and UHC programmes; and crucially maintain intersectoral and multisectoral working in all contexts.

1. **Better integration can provide added value and contributes to the resilience of health systems**

By integrating efforts across health security, humanitarian and disease- and life course-specific programmes and investing in health systems to enable them to face multiple and diverse threats, this can save costs, provide greater efficiency, enable accountability and build trust. This is especially critical given the impact of COVID-19 on the economy globally and dwindling development assistance and funding for health.

2. **Guidance from the WHO and the United Nations is well adopted in country-level policy and planning and is an opportunity to build national health systems resilience**

The WHO and broader United Nations system developed, and continues to develop and update, guidance as the evidence base evolves at an unprecedented rate. Overall, the findings from the review indicate good alignment of national plans with the global planning guidance. This consistency observed during the COVID-19 response can be harnessed and extended during the health systems recovery process and in routine health systems planning for achieving UHC and health security as mutually reinforcing objectives.

i. Countries across all income groups had limitations in planning considerations for health systems resilience and operational disruptions in maintaining essential health services.

No clear trend was observed between country income groups and planning considerations for the maintenance of essential health services. This finding aligns with the widespread service disruptions observed even in high-income countries that were ranked top for health systems performance in terms of universal health coverage and health security scores. The political and governance context, ability to deploy whole-of-government and whole-of-society resources rapidly, extent of investment (or disinvestment) in EPHFs and PHC, and establishment of linkages between public health activities and clinical care are factors that contribute to better health systems resilience.

ii. COVID-19 and related health systems recovery efforts are a once-in-a-generation opportunity for integrated health systems strengthening.

The review provides evidence on the state of integration in planning between emergency preparedness and response activities and broader, routine health systems functions, which can inform the building of more integrated, resilient health systems for ongoing and future threats. As COVID-19 vaccines are deployed, health systems are transitioning from a predominant focus on the acute response to a combination of tackling smaller outbreaks, variants of concern and recovery of routine functionality. The pandemic has brought about immense global media, political and investment attention on health systems for both health security and UHC objectives. Decision-makers should appraise their health systems performance at policy, planning and operational levels, and leverage attention brought about by COVID-19 to build better, more integrated and more resilient health systems.

Source: (28).

## Contextual considerations

The scope and framing of health systems resilience varies across different countries and regions, and even within a single country. This may be attributed to several factors such as differentiated threats, different disease burdens, population expectations, health systems organization and other macro factors such as governance structures. There is thus a need for a local definition or adaptation of health systems resilience that is responsive to the local context. For instance, human and systems vulnerability to emergencies is induced by a complex mix of political, social economic, health, cultural and other factors. The burden of emergencies often falls disproportionately on vulnerable populations, namely the poor, ethnic minorities, the elderly, and people with disabilities *(6)* and other population groups in a disadvantaged position in societies within each nation, including developed nations. Depending on the current state of the health system, there should be adequate and appropriate considerations for the health workforce to meet the demands of the context. This includes integrating public health responsibilities into the roles of all health workers, not just a specialized occupational group. Ensuring that the content of pre-service and in-service training for the health workforce is oriented towards the public health functions of emergency preparedness and response, health promotion and disease and injury prevention can be one way to ensure the health workforce is fit for purpose to meet current and future public health needs.

There are other contextual considerations that must be acknowledged in order to ensure that interventions are as fit for purpose as possible in countries with special settings. A few examples of these settings and considerations are shown below.

**Heterogeneity:** Aksha and Emrich (2020), in a study conducted in Nepal, identified clusters of higher and lower community resilience across the country *(29)*. This study, which aimed to assess resilience, identified significant heterogeneity in resilience levels across different regions within Nepal that were exposed to the same risk profile. As such, when implementing any interventions within a country, it is necessary to acknowledge and account for the variations in capacities across different regions. Moreover, lessons from the COVID-19 pandemic further highlighted this heterogeneity at the community level, even in high-income countries, resulting in varied approaches and successes in implementing public health measures to control the growing infection rates.

**Vulnerable and marginalized groups in all settings:** public health emergencies uncover and exacerbate pre-existing health and socioeconomic inequities within and between societies, particularly since capacities at the community level are often limited. Vulnerable groups are often disproportionately affected by emergencies and in some settings, the already fragile health systems further compound these impacts. Countries or territories with FCV settings, such as high numbers of refugees and internally displaced populations, concurrent outbreaks and disasters and weak health systems, require complementary health and social protection measures to ensure that no one is left behind.

**Small island developing States:** a key characteristic of resilient health systems is awareness – the ability to perceive and understand current and emerging risks and capacities effectively in order to make informed decisions. Small island developing States in the Caribbean have been identified as among the most vulnerable to climate variability and climate change, with these islands having experienced frequent and intense heat waves, storms, floods and droughts in the last three decades *(30)*. The unique characteristics of these settings, including the resulting vulnerabilities, warrant even more focused attention and a greater level of awareness when building health systems resilience in these settings.

There is a need for tailored and focused support to build national and subnational capacities for strengthening health systems and services resilience in these settings. Ensuring resilience in areas experiencing complex emergencies is vital for the continuation of essential health services, while responding to increased demands on health services during emergencies.

## Health systems resilience and PHC

Emerging lessons from the ongoing COVID-19 pandemic includes the growing recognition of the need for a PHC-oriented health system in all contexts, including countries with FCV settings. This includes fostering multisectoral policy and actions, integrated health services and empowered people and

communities contributing to building resilient health systems that contribute to UHC, health security and better health and well-being. Moreover, this approach enables countries to develop better resilience to shocks and, by emphasizing the EPHFs, also provides enhanced preparedness. The WHO position paper on building health systems resilience for universal health coverage and health security during the COVID-19 pandemic and beyond *(7)* outlines seven recommendations, including the need for a strong foundation for PHC, requiring strong political commitment and leadership to attain UHC and health security (see Box 2). In essence, to achieve UHC and health security goals, PHC is a cost-effective and efficient approach to health systems strengthening.

**Box 2. Recommendations from the WHO position paper on building health systems resilience**

1. Leverage the current response to strengthen both pandemic preparedness and health systems
2. Invest in essential public health functions, including those needed for all-hazards emergency risk management
3. Build a strong foundation for PHC
4. Invest in institutionalized mechanisms for whole-of society engagement
5. Create and promote enabling environments for research, innovation and learning
6. Increase domestic and global investment in health systems foundations and all-hazards emergency risk management
7. Address pre-existing inequities and the disproportionate impact of COVID–19 on marginalized and vulnerable populations

Source: *(7)*.

An integrated and multisectoral approach to public health policy and actions systematically addresses the broader determinants of health (including social, economic and environmental factors, as well as individual characteristics and behaviour) through evidence-informed policies and actions across all sectors. This sets a strong foundation that enables the subsequent programming, planning and decision-making to be embedded in whole-of-government and whole-of-society approaches, further addressing fragmentation between efforts to achieve UHC and health security. Likewise, integrated health services with an emphasis on primary care and public health functions involves meeting people's health needs through comprehensive promotive, protective, preventive, curative, rehabilitative and palliative care throughout the life course, strategically prioritizing key health-care services aimed at individuals and families through primary care and at the whole population, with the EPHFs as the central elements of integrated health services. In unison, these provide the enabling environment to ensure that people and communities are empowered to optimize their health.

Georgia's experiences during COVID-19, described in case study 2, highlights ways in which the shift towards a PHC approach could enable a better and more integrated service delivery for both COVID-19-related and essential services, strengthening the resilience of both service provision and overall health system. The primary care level is often the first point of contact for communities during emergencies: it becomes crucial to ensure capacity-building at this level for both emergency-related care and continuity of essential individual and population services. While this example predominantly demonstrates one of the three components of PHC (integrated services), the cascading effects of these reforms resulted in a more empowered community within Georgia. To achieve this, several strategic and operational levers were deployed at various administrative levels. For example, it required strong political commitment and leadership to make the much needed reforms, as well as the allocation of enough resources (financial capital, human capital, etc.).

**Case study 2.** **Georgia's experience during COVID-19 and adoption of PHC approach to enhance integrated health services**

Emerging from the experiences and lessons from COVID–19, Georgia has made efforts to tackle the surge in COVID–19 by taking a forward-looking approach, setting a strong foundation for primary health care that both supports the pandemic response and makes health services more accessible to communities. The impetus generated by the current pandemic compelled the Government to accelerate efforts to deliver accessible quality health services for all by means of reforms enabling the transition from a fragmented, disease-centred approach to one that is more holistic, integrated and people-centred.

Some of these efforts include the rapid development and implementation of new protocols and training for primary care providers across the country in remote management of mild COVID–19 infections and patients who had been discharged from the hospital after acute COVID–19 infection. The country has leveraged this PHC approach by instituting various strategic and operational levers to increase delivery of remote and digital services to improve access for rural populations, and ensure that those services respond to people's needs and leave no one behind. These actions are all informed by the three components of a strong PHC approach (multisectoral policy and action, integrated health services and empowered communities), which are necessary to provide a cost-effective and efficient means to health systems strengthening for resilience.

Although seemingly modest, the impact these actions would have in improving the resilience of the health system cannot be overemphasized. Key resilience attributes that were reflected through these examples include integration, demonstrated by the active shift away from verticalization of individual and population-based services. Beyond the COVID–19 pandemics, the benefits of these actions will have cascading effects that support other public health domains, helping to sustain efforts towards a more resilient public health system.

This case study complements the overall direction of this Toolkit and the listed technical resources, which are helping to improve capacity in integrated policy-making and planning, as well as health systems resilience at the operational level.

## B. Operationalizing health systems resilience

### Key requirements for operationalizing health systems resilience

Operationalizing and implementing health systems resilience involves a wide array of system elements that are required to connect and work in unison, to shift from concept to the application of resilience in countries. Therefore, all efforts to make health systems resilient must proactively apply an integrated approach and focused actions using systems thinking. Systems thinking will require an in-depth understanding of the linkages, relationships, interactions and behaviours among the elements that characterize the entire health system, i.e. the different stakeholders and functions involved; the nature of relationships/linkages among these functions and stakeholders; the combined effects emerging from these interactions. These underlying principles are essential to enable the contributions required of all stakeholders within and outside the traditional health sector, as well as the necessary synergies between various efforts within and between all administrative and health-service-delivery levels. This approach to building resilience fosters adequate prioritization of and investment in strengthening health system foundations, while addressing the fragmentation that hampers progress towards resilience. Practical examples of action required to operationalize the concept of resilience through an integrated approach are shown in Table 2 below, cutting across all health system components and resilience attributes at policy-making, planning and operational levels, including monitoring and evaluation. This Toolkit includes resources which can provide more information and guidance for many of the areas outlined below.

**Table 2.** Illustrative examples of key requirements for operationalization of health systems resilience at national, subnational, community and health services delivery level

| Health systems building blocks | Illustrative examples | Examples of corresponding EPHF (not limited to identified building block) |
|---|---|---|
| Leadership and governance | • Putting in place effective public health laws, policies and plans that promote investment and coordinated actions in health systems resilience to achieve UHC and health protection<br>• Harmonizing and aligning health systems strengthening and health protection efforts in policy-making, planning and their implementation, monitoring and evaluation<br>• Defining health systems resilience attributes as essential to strengthening health systems and emergency management structures and operations<br>• Ensuring multisectoral action, policies, engagement, participation and action to build health systems resilience, including relevant sectors, public and private, at all levels<br>• Developing and institutionalizing simulation exercises that test health systems resilience regularly and at all levels<br>• Applying the principles of the humanitarian-development-peace nexus in the provision of support for populations in humanitarian contexts<br>• Establishing and utilizing learning and knowledge platforms to exchange knowledge and experiences, with a focus on ways of making health systems more resilient<br>• Institutionalizing and investing in the EPHFs, which are integral to health systems functions and services<br>• Incorporating evaluation of health systems resilience attributes in post-event reviews or multiagency exercises and ensuring lessons learned are being implemented | • Assuring effective public health governance, regulation and legislation<br>• Supporting efficient and effective health and multisectoral planning, financing and management for population health<br>• Protecting populations against health threats, including environment and occupational hazards, food safety, chemical and radiation hazards<br>• Promoting health and well-being and actions to address the wider determinants of health and inequity<br>• Ensuring community engagement, participation and social mobilization for health and well-being<br>• Advancing public health research<br>• Public health emergency management |
| Financing | • Ensuring availability and access to funds to address the foundational gaps in health systems in achieving resilience. This should underpin the long-term health system benefit of vertical programmes, health security and humanitarian response<br>• Making contingency funds available and quickly accessible for utilization in addressing emergencies, preventing and minimizing disruptions to health services, including population-based services<br>• Removing financial barriers to utilization of health services, particularly those that are of public health significance<br>• Ensuring adequate focus in financing on both individual and population-based health services, taking into account equity and disparities in capacity between the national and subnational level | • Supporting efficient and effective health systems and multisectoral planning, financing and management for population health<br>• Investment in education and training of current and future health workforce for health systems resilience<br>• Public health emergency management |

| Health systems building blocks | Illustrative examples | Examples of corresponding EPHF (not limited to identified building block) |
|---|---|---|
| Workforce | • Ensuring that health workforce is adequate in quantity and quality, equitably distributed, motivated and supported, to meet surges and changes in demand for health services caused by shock events and changing epidemiology<br>• Establishing regulatory, governance and management mechanisms to health workers mobilize rapidly in times of crisis: not only to respond to threats, but also to sustain essential service provision during shock events<br>• Pre-service and in-service competency-based education and training for health workers, incorporating emergency preparedness and response, and health promotion and disease and injury prevention approach to health practice<br>• Public health orientation of health workers and district health managers to deliver broad-based responses to diverse and parallel challenges to health systems<br>• Institutionalizing mechanisms to ensure occupational health and safety, and the well-being of health workers in all contexts and during emergency response, including access to relevant infection prevention and control measures (including personal protective equipment), manageable workload, decent work conditions and mental health support | • Ensuring adequate quantity and quality of health workers with expertise in public health<br>• Public health emergency management |
| Information systems | • Establishing integrated and interoperable health information systems to monitor health risks, public health events and their impacts on health systems and services and effectiveness of interventions<br>• Establishing/strengthening structures and resources for communicating and engaging with populations/ communities<br>• Risk registering and profiling at all levels, including health facility level, for the populations served<br>• Engaging private health service providers in the integration and alignment of health information systems to build health systems resilience, responding to and recovering from disruptive events<br>• Ensuring a functional One Health approach with public health, health care services, environment, port health and veterinary sectors<br>• Developing and utilizing a compendium of lessons learned from the health system's response to various shock events<br>• Establishing real-time surveillance of service provision and capacity to monitor continuity of essential services | • Monitoring and evaluating population health status, health service utilization and surveillance of risk factors and threats to health<br>• Public health emergency management |

| Health systems building blocks | Illustrative examples | Examples of corresponding EPHF (not limited to identified building block) |
|---|---|---|
| Medical supplies, technology and infrastructure | • Defining and mapping the existing health system assets necessary for resilience<br>• Ensuring resilient health facility infrastructure at all levels of care<br>• Prepositioning emergency-related medicines and supplies to ensure surge capacity<br>• Mechanisms to ensure a defined list of essential medicines and supplies for public health emergencies and essential health services<br>• Establishing mechanisms to optimize supply chains for sustained delivery of health products during shock events<br>• Building capacity for effective and efficient management of medical supplies at all levels<br>• Regular review of the robustness of the supply chain, including prestocked supplies for different shock scenarios | • Ensuring equitable access to and rational use of essential medicines and other health technologies<br>• Public health emergency management |
| Service delivery | • Defining essential health services packages, including those that must be prioritized in times of crisis when it is not possible to maintain all routinely provided health services<br>• Prioritizing maintenance of routine essential health services in parallel with the response to public health emergencies<br>• Developing capacities for quickly reorganizing and utilizing alternative service-delivery platforms to prevent service disruption during emergencies (e.g. digital and virtual services)<br>• Developing and implementing health service continuity plans to mitigate the disruptive impact of public health emergencies on health services<br>• Quality interventions, e.g. infection prevention and control, patient safety and application of quality improvement approaches in strengthening health systems and resilience | • Promoting prevention and early detection of diseases, including both noncommunicable and communicable diseases<br>• Promoting health and well-being and action to address the wider determinants of health and inequity<br>• Assuring quality of and access to health services<br>• Protecting populations against health threats, including environmental and occupational hazards, unsafe food, chemical and radiation hazards<br>• Ensuring community engagement, participation and social mobilization for health and well-being |

| Health systems building blocks | Illustrative examples | Examples of corresponding EPHF (not limited to identified building block) |
|---|---|---|
| Community/ people | • Establishing mechanisms for assessing and maintaining community or public trust in health services and public health measures<br>• Utilizing risk communication and community engagement strategies to promote improved health decision-making and routine health service utilization by populations during public health emergencies<br>• Mapping physical, financial and cultural barriers to communities' access to essential services and including efforts to address identified barriers in health budgets and plans at various levels<br>• Strengthening capacity of community health workforce (community health workers, clinicians, first responders, volunteers, etc.)<br>• Establishing community-based disease surveillance for priority diseases | • Ensuring community engagement, participation and social mobilization for health and well-being<br>• Monitoring and evaluating the population's health status, health service utilization and surveillance of risk factors and threats to health<br>• Public health emergency management<br>• Promoting prevention and early detection of diseases, including both noncommunicable and communicable diseases<br>• Assuring quality of and access to health services |

Beyond the technical functions necessary to operationalize resilience, wider elements, including political, socioeconomic, environmental and other determinants, are also crucial in forming the network needed to create an enabling environment.

The outlined EPHFs are based on the amalgamated list in Box 1 above. Table 2 above illustrates how health systems resilience can be operationalized by strengthening health system foundations and EPHFs. This is not an exhaustive mapping of the interlinkages between the building functions; operational aspects of health systems resilience and the individual EPHFs require system-wide inputs to function optimally and enable resilience. Table 3 below shows examples of resources for understanding and operationalizing health systems resilience.

## Case studies of potential dividends of health systems resilience

Conceptually, the value of health systems resilience has been documented and further projected in the context of recent pandemics such as COVID-19. While understanding may be improving because of the impetus experienced since the EVD outbreaks in west Africa, there is still more to be done operationally, particularly in communicating the added value or "dividends" of investing and strengthening health systems resilience. While there may not be any one country example that fits the full narrative of operationalizing and demonstrating resilience in its own context, there are several good examples that can be drawn from different contexts. Some of the demonstrations of application and operationalization of health systems resilience, through the building of various attributes of resilience, are described in the case studies below, from Guinea, Sierra Leone and Liberia; Lebanon; and Ethiopia and Liberia, respectively (case studies 3–5), in which health systems resilience was demonstrated in particular circumstances.

**Case study 3.** **The case of Guinea, Liberia and Sierra Leone in the EVD outbreak of 2014/2015**

In the outbreak of EVD in 2014 and 2015, a total of 815 confirmed or probable cases were recorded among health workers: 328 in Sierra Leone, 288 in Liberia and 199 in Guinea, accounting for 3.9% of all confirmed and probable cases reported (31). These were attributed to the suboptimal infection prevention and control in health facilities, which further contributed to significant service disruption owing to lack of public trust in these facilities. Moreover, the health service disruption was significant, with deaths among health workers having reportedly reduced the health workforce by 6.9%, 8.1% and 1.5% in Sierra Leone, Liberia and Guinea, respectively (32). In addition, services were disrupted by demand factors, since many people were reluctant to seek health care because many illnesses were treated as potential EVD cases. The similarity of the early symptoms of EVD to those of malaria and cholera, combined with lack of diagnostic equipment, made health workers cautious, so they also imposed quarantine on people with other ailments *(32)*.

In developing national plans for resilience to address the urgent post-EVD recovery and long-term needs, the three West African countries affected by EVD (Guinea, Liberia and Sierra Leone) placed quality of care and UHC at the centre of efforts to build stronger health systems with stronger emergency risk management which could be resilient to shocks to the health-care system. For example, Liberia defines resilience as building a health system that contributes to the achievement of the health outcomes described in the National Health Policy and Plan 2011–2012 by restoring the gains lost due to the EVD crisis, optimizing the delivery of quality services towards UHC and reducing the risks due to epidemics and other health threats. Liberia also developed an investment plan for building health systems resilience, which recognizes intersectoral dialogue and collaboration as paramount for a harmonized approach to recovery and reconstruction in the transformation following the EVD outbreak.

Sierra Leone has taken a similar approach, with a focus on delivering safe, efficient, and high-quality health care services that are accessible, equitable and affordable. The country has also emphasized that health systems strengthening is a means to achieving UHC, resilience and the country's health goals. In Guinea, specific priorities were set for building a resilient health system, including disease prevention and control, improved governance and accountability, community engagement and strengthening of IHR (2005) capacities.

In these three cases from the West Africa EVD context, efforts to strengthen the individual countries' level of resilience were focused on using national planning to promote an integrated approach to policy and plans at the national level. This is aligned with the resilience characteristic on using lessons learnt to inform transformation and the need for an integrated approach to health systems strengthening efforts.

**Case study 4.** **Perspectives from the Lebanon refugee crisis following the Syrian conflict**

In a review of Lebanon's health systems resilience in the context of the Syrian refugee crisis *(19)*, the lens adopted to assess the level of resilience included health systems inputs and processes (such as human resources, financing, governance and service provision) and health systems outputs and outcome (such as health service utilization, health expenditure, morbidity and mortality and prevention of infectious disease outbreaks) (19). Despite the limited increase in inputs and resources to cater for the surge in demand, the demonstrated level of system resilience was attributed to four factors: networking with stakeholders; diversification of the health system providing infrastructure and human resources; comprehensive communicable disease response; and integration of refugees into the health system. Across these functions, the underlying principle of defining and measuring the level of resilience focused on the extent to which these functions were sustained, considering the challenges presented by increased numbers of refugees from the Syrian Arab Republic as a result of conflict. The high level of adaptability achieved, taking into account the increased pressure and demand for all health services, underpinned the Government's framing of health systems resilience in the context of the Syrian refugee influx.

At the start of the crisis, there was no clear policy concerning the displaced Syrian population. The Ministry of Public Health provided immunization and primary health care services through existing structures, while international donor agencies created parallel systems, leading to fragmentation and poor coordination of the health systems response to the crisis. The Ministry called for an integrated approach to planning, financing and service delivery by embedding refugee health care within the national health system. A steering committee led by the Ministry, and including all international and local partners, guided the response. This was supplemented by the recruitment of a limited number of health-care workers within primary health care, in dispensaries and in public hospitals to strengthen surveillance of refugees and emergency response capability, while catering for the health-care needs of the displaced population. This alignment and targeting of all available resources in strengthening existing health care delivery structures highlights the systems strengthening legacy made possible by an integrated approach.

## Case study 5. Operationalizing health systems resilience through a multiyear initiative in Ethiopia and Liberia

Lessons from public health emergencies commonly highlight the need for an integrated approach to health systems strengthening as an imperative in building resilience. WHO, in collaboration with the ministries of health and public health institutes of Ethiopia and Liberia, set out to apply this lesson through a health systems resilience project in the two countries, running from 2018 to 2023. Although the project was ongoing at the time of development of this Toolkit, some examples of the way it translated the concept of resilience into action and front-line operations at national and subnational level offers insights into practical options for applying the technical resources contained in this Toolkit.

The implementation of this project involved the application of an integrated, system approach to building resilience through a defined package of support. This entailed working with national stakeholders to address the fragmentation of health systems strengthening and emergency-related initiatives to enable the development of resilience attributes with public health underpinning in the health system. Joint working was established and strengthened between the health authorities and the technical teams responsible for health systems strengthening and service delivery (ministry of health) and those responsible for health security (national public health institute) with animal health sector and private sector collaborations at all administrative levels through One Health approach. This involved all levels of health-care delivery, from tertiary to primary levels, within selected catchment areas to enable communications flow, knowledge-sharing and collaboration across the referral system. These arrangements allowed synergies between the public health functions in emergency management and health systems strengthening for integrated and effective delivery of the project's support. During a recent stakeholder review of the project in Liberia, these were identified as best practices that need to be scaled up and sustained beyond the scope of the project.

The package of support for the project includes basic requirements for enabling health systems to develop resilience attributes in an effective, efficient and sustainable manner. These operational examples of resilience-building actions include training of decision-makers and health workers to develop the required competencies for an integrated approach to building resilience; integrating routine health service continuity planning in emergency management; regular simulation exercises designed to test the resilience of the system against public health threats; incorporating health systems resilience considerations in intra-action and after-action reviews; and support for delivering and maintaining quality health services routinely and during emergencies. Defining mechanisms and indicators for monitoring and evaluating resilience in and beyond emergency contexts, as well as institutionalizing forums and governance platforms with continued advocacy roles for health system resilience, are other key aspects used to operationalize resilience in Ethiopia and Liberia. The integrated systems approach applied in the delivery of these interlinked activities ensures that each activity draws on the interconnected inputs of all health system components and multisectoral engagement, while addressing the existing fragmentation of the health sector for sustainable resilience.

The experiences and lessons learned from this initiative have informed better alignment between health systems and health security in policy, planning, action and monitoring and evaluation while building capacity for resilience in both countries. Examples include the establishment of an institutional focus on health system resilience in the Ethiopian Public Health Institute and adopting resilience-focused activities in national public health activities planning, as well as identification of essential health service continuity as a pillar in the COVID–19 incident management structure. National universities in Ethiopia are also embedding the concept and application of health systems resilience in their pre-service and advance degree programs for health professionals, based on the training package from this initiative. In Liberia, the concept of resilience is being institutionalized as a course in pre-service and continuous professional development for health professionals and incorporated into health-facility quality and accreditation standards. Health systems resilience simulation exercises informed country annual health sector operational planning in Liberia, and national authorities are embarking on developing guidance on planning for health service continuity in emergency contexts. These and other examples, best practices and lessons from the project can be extrapolated to other contexts as part of the concerted efforts to advance UHC and health security as interdependent objectives, by means of building health systems resilience.

## C. Examples of resources for understanding and operationalizing health systems resilience

Table 3 below lists a range of resources in health systems resilience.

**Table 3.** Examples of resources for understanding and operationalizing health systems resilience

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| 21st-century health challenges – can the essential public health functions approach make a difference? | Guidance | This document provides conceptual clarity relating to the EPHFs within a health systems framework and IHR (2005) core capacities and drawing on the experience and knowledge of stakeholders with the EPHFs, is to promote further the understanding of the EPHFs in relation to recent complementary concepts and approaches; to ascertain its value for health systems strengthening to meet the objectives of UHC and health security; and to present recommendations for policy-holders in the application of the EPHFs at country level. | Geneva: World Health Organization; 2021 *(13)* |
| Fostering an integrated approach to health systems strengthening series<br>1. Technical meeting report *(33)*<br>2. Health systems perspective of JEE & NAPHS *(34)*<br>3. Liberia and Bangladesh case examples *(35)* | Guidance | Public health emergencies continually reinforce the need for an integrated approach to health systems strengthening, underpinned by a public health approach, helping to build health systems resilience. This package was developed based on a technical collaboration between WHO and the USAID Office of the Health systems, with an aim to explore and foster an integrated approach to health systems resilience. The package helps to provide an understanding of the linkages between health systems, health security and other public health programmes in strengthening health systems resilience. This series consists of (1) a technical meeting report with a consolidated list of actionable next steps as well as a technical brief to inform policy; (2) a desk review of joint external evaluations and national action plans for health security in 13 countries from a health systems perspective; and (3) a desk review of health sector and security plans and policies in Liberia and Bangladesh. | Geneva: World Health Organization; 2021 |
| Strategy for building resilient health systems and post-covid-19 pandemic recovery to sustain and protect public health gains | Draft resolution submitted to Pan American Health Organization (PAHO) Directing Council draft resolution | The focus and recommendations in this proposed resolution reflect the principles of a resilient health system in the 21st century. This is also closely aligned with the WHO position paper on building health systems resilience for universal health coverage and health security during the COVID 19 pandemic and beyond *(7)*, emphasizing the need to address systemic and structural deficiencies in health systems; health systems as a means to protect, promote and sustain, heal and restore lost public health gains; transforming health systems based on the PHC approach; and increasing and sustaining public investment in health for universal health and the EPHFs, including IHR (2005) compliance. | Washington, DC: Pan American Health Organization; 2021 *(36)* |

## D. Global frameworks, resolutions and regulations supporting health systems resilience

Globally, the importance of making health systems resilient against various types of shocks is increasingly acknowledged as an imperative for global and national health security, UHC and socioeconomic development. This has made resilience a key consideration in many global initiatives on public health, including international resolutions, frameworks, regulations and standards. These provide global political backing and guidance for countries to apply the concept of resilience in policy-making, planning, action and monitoring and evaluation, across the national, subnational, community and service-delivery levels. For example, many national policies and health security plans are informed by the IHR (2005), which WHO Member States have committed themselves to implementing.

Examples of global resources that support health systems resilience are listed in Table 4, with brief explanations of how they are related to health systems resilience. Although the resources in this category are usually based on agreed global standards and evidence, it is important that their application is context-appropriate, considering the peculiarities and heterogenicities within and between various settings. This can include considerations for the available capacities, resources risks and priorities of health systems and populations.

**Table 4. Global frameworks, resolutions and regulations supporting health systems resilience**

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| IHR (2005) | Regulations | In response to the exponential increase in international travel and trade and the emergence and re-emergence of international disease threats and other health risks, 196 countries across the globe have agreed to implement the IHR (2005). This binding instrument of international law entered into force on 15 June 2007.<br><br>The stated purpose and scope of the IHR (2005) are "to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade". Because the IHR (2005) are not limited to specific diseases, but are applicable to health risks, irrespective of their origin or source, they will follow the evolution of diseases and the factors affecting their emergence and transmission. The IHR (2005) also require States to strengthen core surveillance and response capacities at the primary, intermediate and national level, as well as at designated international ports, airports and ground border crossing points. They further introduce a series of health documents, including ship sanitation certificates and an international certificate of vaccination or prophylaxis for travellers.<br><br>Finally, this second edition includes a new foreword and the health portion of the Aircraft General Declaration (as revised by the International Civil Aviation Organization), as well as annexes listing the States Parties to the IHR (2005) and reservations, objections and declarations received from States Parties. | Geneva: World Health Organization; 2005 *(37)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Sendai Framework for Disaster Risk Reduction 2015 – 2030 | Framework | The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks: (i) understanding disaster risk; (ii) strengthening disaster risk governance to manage disaster risk; (iii) investing in disaster reduction for resilience and; (iv) enhancing disaster preparedness for effective response, and to build back better in recovery, rehabilitation and reconstruction. These priorities are key for building resilience in health systems and communities.<br><br>It aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years.<br><br>The Framework was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan, on 18 March 2015. | Geneva: United Nations Office for Disaster Risk Reduction; 2015 *(5)* |
| World Health Assembly resolution WHA69.1 | Resolution | World Health Assembly resolution WHA69.1 of 2016, on strengthening essential public health functions in support of the achievement of universal health coverage, gives WHO a strong mandate to support Member States in strengthening the EPHFs. However, no concerted action has been taken thus far. The synergies with efforts in emergency management and health systems resilience are also yet to be fully operationalized. There is a need for WHO-wide coordination and convening of global-to-country-level technical assistance, with partners.<br><br>Resolution WHA69.1 drives WHO's current work on the EPHFs, providing a clear explanation of their importance, their contribution to UHC and the SDG agenda, their multisectoral nature and their interrelatedness with other aspects of WHO's work on areas such as health security, resilience, governance and social and environmental determinants. Resolution WHA69.1 urges building of strong public health systems by Member States, requesting WHO to support this aim by developing and disseminating technical guidance on EPHFs, facilitating global efforts and providing technical support/tools for EPHF capacity-building; by leading global efforts on the EPHFs in the context of health systems strengthening and the SDGs; and reporting to the World Health Assembly on progress. | Geneva: World Health Organization; 2016 *(38)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Health emergency and disaster risk management framework | Framework | Health systems and communities across the world are at risk of public health emergencies, including disasters, with their associated health, socioeconomic and environmental consequences.<br><br>This document emphasizes EDRM as a critical aspect of resilient health systems in association with community resilience at various administrative levels (national and subnational). It complements various health security-related frameworks, including the Sendai Framework, the IHR (2005) and the Paris Agreement on climate change.<br><br>The guiding principles promote a risk-based, proactive, all-hazards, people-centred, ethical, systems and multisectoral approach, which are requirements for an integrated approach to health systems resilience, encompassing the relevant characteristics. The EDRM functions outlined in this framework are aligned with the health system framework with its building blocks, highlighting the importance of system-wide, and joint policy-making, planning, resource allocation and capacity-building for resilience. These approaches support demonstration of health systems resilience through awareness of its context-relevant risks and capabilities in order to forecast and prevent, prepare for and respond to the potential threats. | Geneva: World Health Organization; 2019 *(6)* |
| The Sphere handbook – humanitarian charter and minimum standards in humanitarian response | Charter and standards | The Sphere handbook chapter on health hinges on the ethos that everyone has the right to timely and appropriate health care, including populations experiencing humanitarian situations.<br><br>The document provides guidance that helps to strengthen health systems and services resilience in the context of humanitarian crises. The guidance, principles and standards acknowledge the unique considerations needed in these settings such as overcrowding, inadequate shelter, poor sanitation, insufficient water quantity and quality, and reduced food security. The standards provided aim to ensure the continuity of essential health services during emergencies – a core aspect of resilient health systems. In addition, other resilience attributes, such as mobilization of resources in these contexts, an integrated approach to resilient health services, and diversity to ensure no one is left behind, are also reflected in this document.<br><br>While this chapter focuses on service delivery in humanitarian contexts, there are useful considerations made related to other health systems building blocks at both national and subnational levels, to strengthen the overall health system. Key considerations are applied to standards related to the health workforce, essential medicines and supplies, health financing and health information. | Geneva: Sphere Association; 2018 *(39)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Framework for action in building health systems resilience to climate change in South-East Asia Region 2017–2022 | Framework | Climate change constitutes a major part of the challenges facing health systems in the 21st century, bringing an increased risk of public health emergencies, which necessitate concerted efforts in building resilience in all contexts.<br><br>This framework highlights the roles of the health sector in tackling these challenges by strengthening health systems to withstand, prepare for and respond to direct and indirect climate change-related health issues. It highlights the shared responsibility between national, subnational and community levels, as well as interdependence between health systems resilience and community resilience.<br><br>The identified components of building climate resilient health systems cut across all health systems building blocks and promotes a multisectoral and multidisciplinary approach for integrated policies, plans, actions and monitoring and evaluation. This approach is essential for making health systems resilient to climate change and other public health threats.<br><br>Actions identified in the framework are relevant to enabling health system awareness of risks, capacities and gaps; effective and timely mobilization of resources and decision-making to maintain functionality and learning to improve following a shock event.<br><br>Although this document has been developed for the WHO South-East Asia Region, it can be adapted to other contexts. | New Delhi: WHO Regional Office for South-East Asia; 2017*(40)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| A UN framework for the immediate socio-economic response to COVID-19 | Framework | The impact of public health emergencies has notably been beyond the health-care sector, with socioeconomic effects being just as devastating. Populations not only suffer from the disruption of health services, but also from interruption of social services and economic breakdown, which can be mitigated by resilient health systems and societies.<br><br>This report sets out the framework for the United Nations' urgent socioeconomic support to countries and societies in the face of COVID-19. The framework introduces health systems resilience linked with a safe and equitable recovery of societies and economies. The five streams of work that constitute this package include: (1) ensuring that essential health services are still available and protecting health systems; (2) helping people cope with adversity, through social protection and basic services; (3) protecting jobs, supporting small and medium-sized enterprises, and informal sector workers through economic response and recovery programmes; (4) guiding the necessary surge in fiscal and financial stimulus to make macroeconomic policies work for the most vulnerable and strengthening multilateral and regional responses; and (5) promoting social cohesion and investing in community-led resilience and response systems. The Framework is mainly associated with health service delivery (maintaining essential health services), health governance (policy support) and communities (focus on at-risk and vulnerable populations).<br><br>The framework guides countries to build several resilience attributes, for example integrating health systems strengthening and health security actions, supporting countries to make required decisions in priority-setting in the immediate response phase of emergency management, etc.<br><br>While focusing on COVID-19, the general principles can be adapted to other public health events of a similarly disruptive nature. | New York: United Nations; 2020 *(41)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Building health systems resilience for universal health coverage and health security during the COVID-19 pandemic and beyond | Position paper | This position paper provides a rationale for building resilience and seeking integration between promoting UHC and ensuring health security, and provides leaders and policy-makers at national and local levels with a series of recommendations for the medium and long term, positioning health within the wider discussions on socioeconomic recovery and transformation.<br><br>The following means are highlighted for building resilience for UHC and health security in the position paper: recovery and transformation of national health systems through investment in the EPHFs and the foundations of the health system, with a focus on PHC and the incorporation of health security; all-hazards emergency risk management, to ensure and accelerate sustainable implementation of the IHR (2005); and a whole-of-government approach to ensure community engagement and whole-of-society involvement.<br><br>There is also a policy brief accompanying the position paper, including key messages for heads of government, ministries of finance, leaders outside the health sector, health leaders, partners and communities. Though the position paper and policy brief have been developed in the context of COVID-19, the recommendations and rationales are applicable for building resilience in general settings. | Geneva: World Health Organization; 2021 *(7)* |
| Operational Framework for Primary Health Care: Transforming Vision Into Action | Framework | The demonstrated links of primary health care to better health outcomes, improved equity, increased health security and cost-efficiency make primary health care the cornerstone of health systems resilience. Health systems built on the foundation of primary health care are essential to achieve universal health coverage and global health security. In the Declaration of Astana, Member States reaffirmed their commitment to primary health care as a cornerstone of sustainable health systems for the achievement of universal health coverage and the health-related Sustainable Development Goals<br><br>The operational framework for primary health care was developed to strengthen health systems and support countries in scaling up national implementation efforts on primary health care. A vision for primary health care in the 21st century is a whole-of-government and whole-of-society approach to health that combines the following three components: multisectoral policy and action; empowered people and communities; and primary care and essential public health functions as the core of integrated health services.<br><br>While primary care is mainly applicable at the service-delivery level, the PHC approach cuts across all administrative levels of the health system, from national to community levels, providing the cornerstone for building resilient health systems and services. | Geneva: World Health Organization; 2020 *(42)* |

# Module 2. Integrated policy-making and planning for health systems resilience

## A. Overview

Policies, legislative instruments and plans, typically determined at the national level, influence and set strategic and technical direction that informs the implementation of interventions in public health, including population-based services. The core attributes of resilient health systems involve integration and alignment of policies and planning, to ensure streamlining of cross-cutting efforts and functions and more effective and efficient use of resources. For example, alignment between health-sector and national health security plans in countries will enable capacity-building for emergency management to be embedded within the health system for more timely and effective response to threats while maintaining the delivery of quality routine health services, as is characteristic of resilient health systems. This also improves the level of awareness of overall capacities, resources and unified strategic direction across multiple programmes, another attribute of resilience.

An integrated approach to policy-making and planning can be achieved in several ways. First, wider systems thinking and approaches should be embedded in the development of policies and plans for specific public health programmes. For example, a national policy or plan for antimicrobial resistance, while focusing on that issue, can still be effectively positioned within the wider framing of the health and allied sectors. This ensures that there is adequate ownership, accountability and sustainability among the different stakeholders and entities, and avoids implementation of policies in isolation, rather than within the context of broader public health needs. Second, aligned policies provide collective reinforcement and make implementation much easier. For instance, policies and plans on waste management or policy and programme guidelines for cholera or other infectious diseases will reinforce those on infection prevention and control, through their mutual gains in capacity-building. Moreover, related policies, legislation and planning must be aligned to ensure complementarity across multiple programmes. For example, well aligned strategic interventions and activities would ensure a more efficient use of financial and technical resources and would result in capacity development in one programme benefiting many others, thereby improving the overall resilience of the health system. Table 5 below shows examples of technical resources for integrated policy-making and planning for health systems resilience.

## B. Contextual considerations

Adopting an integrated approach to policy-making and planning is highly contextual and can take various forms, depending on the country setting. Moreover, within a country, such as countries with federated administrative arrangements, there may be unique considerations that must be acknowledged for policy-making and planning at various administrative levels.

- Risk profiles are highly contextual and should inform policies and plans if these plans are to be as fit for purpose as possible. The legislation, policies and plans developed should be specific to the setting and based on identified risks and capacities, as well as factoring in the available levels of resources and capacities. Moreover, countries with FCV settings require specific adaptations which may include, although they are not limited to, increased health budgeting allocation to certain regions, appropriate legislation and policies to ensure equitable access to services for all populations.
- Small island developing States have limited capacities in some key public health functions, such as pharmaceutical production and laboratories, and need to share capacity with neighbouring countries. These considerations need to be factored into legislation and policies, to ensure there are mechanisms in place to access the needed functions in other countries and regions. Examples of these legislative arrangements may include data-sharing agreements, bilateral agreements with neighbouring countries or access to mutual aid in the form of surge capacity from other countries to meet increased demand.

- Integrated policies and planning at either national or subnational level should include and acknowledge context-specific needs. For example, some cities have high proportions of slums and informal settings that should be accorded more visibility in policies and planning for public health, including focused attention on water, sanitation and hygiene functions and associated health conditions, such as diarrhoeal diseases. These would not need as much attention in countries or settings that do not face these challenges.
- The development of national and subnational policies and plans requires multisectoral, inclusive and appropriate representation, including civil society, in planning, policy and decision-making. For example, settings that rely on nongovernmental organizations as health service providers would require adequate representation of these stakeholders in the national and subnational decision and policy-making processes, particularly those pertaining to service delivery.

## C. Compendium of technical resources

Table 5 lists a range of resources for integrated policy-making and planning for health systems resistance.

**Table 5.** Technical resources for integrated policy-making and planning for health systems resistance

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Health service continuity planning for public health emergencies: a handbook for health facilities | Guidance | Maintaining essential health services is a key capacity of resilient health systems. This handbook aims to support health-care facilities in minimizing disruption and, ultimately, to increase the resilience of health services in public health emergencies. It provides step-by-step guidance for developing service continuity plans in public health emergency contexts by outlining the procedures and key elements to be considered in planning, including a planning template. This handbook focuses on health service delivery, and involves all other key components of health systems, such as governance, financing, information and communities.<br><br>This handbook can be used to enhance awareness of the necessity of service continuity planning and associated requirements; to review and update existing service continuity plans and other arrangements for health services continuity; and to develop service continuity plans, if there are none for a given health facility. | Geneva: World Health Organization; 2021 *(43)* |
| Disaster recovery guidance series: health sector recovery | Guidance | A key attribute of resilient health systems is their ability to recover quickly and transform for the better after experiencing a shock event. This improvement and the application of lessons learned from emergencies allows a higher level of resilience against future, potentially disruptive, public health events. This document provides action-oriented guidance for local and national health-sector officials and partners to address post-disaster challenges related to health-sector recovery and transformation. It lays out the policy, planning, financial and operational considerations and actions to be incorporated into health-sector recovery, taking into account lessons learned from emergency experiences. It also promotes the application of a systems approach in immediate, medium-term and long-term recovery actions, which is essential for building health systems resilience. | Washington, DC: Global Facility for Disaster Reduction and Recovery/Pan American Health Organization/ World Health Organization; 2017 *(44)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Strengthening health systems resilience: key concepts and strategies | Guidance | As part of the ongoing discourse on health systems resilience, this document provides a definition of health systems resilience as the ability to prepare for, manage and learn from shocks (i.e. absorb information, adapt and transform). This document relates the concept of resilience closely to health systems shocks, which involve four distinct stages: (1) preparedness; (2) shock onset and alert; (3) shock impact and management (i.e. the health system absorbing the shock); and (4) recovery and learning. Thirteen strategies are identified for strengthening health systems resilience, which should be considered across the shock cycle. A wide range of assessment areas that have been applied to various aspects of health systems resilience are also identified.<br><br>The guidance highlights the importance of inputs of various health systems functions in the strategies, reflecting the specific country context, the stage of the shock cycle, and the type and severity of the shocks being addressed. The strategies identified to strengthen resilience cover several of the health systems building blocks, including strengthening effective and participatory leadership; strengthening coordination across government and key stakeholders; building effective information systems and flows; ensuring integrated surveillance to enable a timely response; stable health financing and effective allocation; comprehensive health services coverage; and an appropriate level and distribution of motivated and well supported human resources.<br><br>These strategies also support health systems in developing certain attributes of resilience, for example increasing diversity in providing a wide range of services with alternative and flexible approaches; mobilizing health financing and coordinating support among key stakeholders, underpinned by strong communication; facilitating health systems transformation through an organizational learning culture that is responsive to crises.<br><br>Although the cases and examples in this document come from a European context, the concept of resilience and the strategies identified to strengthen resilience are applicable or adaptable to other contexts. | Copenhagen: European Observatory on Health Systems and Policies et al.; 2020 *(45)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Strategizing national health in the 21st century: a handbook | Guidance | To build resilient health systems, it is essential to apply and promote resilience goals and integrated approaches in national and subnational health policies, strategies and plans. This handbook is designed as a resource for providing practical guidance on national health planning and strategizing for health. It establishes a set of best practices to support national health policies, strategies and plans. The focus on improving plans has grown, in recognition of the benefits of anchoring a strong national health sector in a written vision, based on participation of all stakeholders, integrated analysis and evidence.<br><br>This handbook covers the processes of developing and implementing national health plans, including assessing population needs; situation analysis of the health sector; setting priorities; transforming priorities into plans; transforming plans into action; costing and budgeting health policies; strategies and plans; monitoring and evaluation; developing laws and regulations for health; strategizing for health at subnational level; and intersectoral and multisectoral planning for health. These aspects are closely linked to leadership and governance, health financing, health information, community and other health systems building blocks. It also supports strengthening of resilience attributes, including knowing the health sector's abilities and vulnerabilities and awareness of population needs and mobilizing funding and coordinating intersectoral support for health policies, strategies and plans. | Geneva: World Health Organization; 2016 *(46)* |
| Health systems resilience during COVID-19: lessons for building back better | Guidance | This document aims to provide national policy-makers with evidence from other countries to assess their own responses to COVID-19 and incorporate adjustments that are appropriate for their national contexts. It also draws on COVID-19 experiences of countries to support "building back better" to improve the response to future health systems shocks and the transition from managing the crisis to achieving more resilient health systems and societies. The areas of emphasis include whole-of-society approaches; vulnerable populations; governance and leadership with multisectoral coordination; the role of public trust through community engagement and participation, the need for great integration between PHC and EPHFs and emphases on maintaining essential health services in emergency contexts. While the document focuses on COVID-19 and response to infectious diseases-related emergencies, the proposed strategies may be adapted to in building resilience to a wider range of health systems shocks at national and subnational levels. | Copenhagen: European Observatory on Health Systems and Policies; 2021 *(47)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Financing common goods for health | Guidance | This resource describes common goods for health as core population-based functions that require public financing and are essential for health and economic progress, while being subject to market failures. This economic perspective is important for informing a whole-of-government and whole-of-society approach to building resilient health systems based on lessons from shock events like the COVID-19 pandemic. It can inform more integrated policy-making and planning for financing the EPHFs at national and subnational levels. Given the advocacy for addressing fragmentation in population-based investment and actions, the document contributes to various aspects of health systems resilience and gives examples of the transformation attribute in terms of improved public health financing, in the context of "building back better", and overall systems strengthening. | Geneva: World Health Organization; 2020 *(48)* |

# Module 3. Health systems resilience at operational level

## A. Overview

In recent years, there has been a proliferation of efforts by researchers, organizations and countries to advance understanding of the concept of health systems resilience and its application. This is evidenced by the rapid increase in availability of the literature, including national policies and plans that promote the idea of making health systems more resilient, many triggered by global public health events like the EVD outbreak in west Africa in 2014–2016 and the COVID-19 pandemic. For this concept to make a difference in countries, it needs to be translated from concept to concrete actions, and from policies and plans to implementation by stakeholders at all levels. This operationalization requires an integrated approach to health systems strengthening and paradigm shifts in the ways public health goals and operations are prioritized and public health challenges are addressed by global, national, subnational and community-level stakeholders. For example, equal priority should be placed on all aspects of resilience-building which cut across the prevention, preparedness, response and recovery aspects of the emergency management cycle and related EPHFs. The dire consequences of prioritizing individual care over public health or some EPHFs e.g. those for emergency response, over those needed for prevention, preparedness, recovery and health promotion has been a consistent lesson from countries' experiences of public health crises, irrespective of income group. In settings with protracted conflicts and other humanitarian crises, the implementation of the humanitarian-development-peace nexus offers another opportunity to operationalize health systems resilience, by tailoring humanitarian and peace interventions towards longer-term health systems strengthening. Multisectoral engagement, including the role of community engagement and participation, is vital to impactful integrated operations that strengthen the health system for resilience to shocks.

It is at these operational and service-delivery levels that the resilience of health systems is tested and best demonstrated, for example in relation to awareness of its risks and capacities by keeping up to date on risk profiles at all levels; and preparedness by developing and regularly testing its service continuity plans with simulation exercises, and the ability to maintain quality routine health services, even during public health emergencies. The dividend of resilience is also most clearly demonstrated at this level, through incremental increases in the ability to prevent and withstand shocks and their impacts, based on the lessons learned from previous experience for sustained progress towards desired national and global health goals such as UHC and health security.

## B. Contextual considerations

Table 6 below provides a list of resources which can be used to support the operationalization of health systems resilience in countries. Their application must, however, be informed by context-specific considerations, including meeting the needs of the most vulnerable and marginalized populations. The heterogeneity within countries must also be considered in applying these resources; this includes consideration of the differences in capacities and resources between national and subnational levels and the risk profiles of various communities.

## C. Compendium of technical resources

Table 6 below lists a range of technical resources for health systems resilience at the operational level.

**Table 6.** Technical resources for health systems resilience at the operational level

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| WHO recovery toolkit: supporting countries to achieve health service resilience | Guidance | Strengthening health systems and services resilience benefits the full emergency cycle, from prevention, preparedness and response to recovery.<br><br>The recovery toolkit aims to support countries in the reactivation of essential health services in the aftermath of a public health emergency, helping to strengthen health services resilience. This is also relevant during the emergency, as it helps to minimize disruptions in essential services. While the Toolkit is framed around multiple technical service-delivery areas including, but not limited to, noncommunicable diseases, mental health, surveillance and immunization, also aims to foster integration across health-care delivery systems by coordinating approaches aimed at priority diseases and population-specific service-delivery.<br><br>While focusing on health services delivery and its resilience, the Toolkit and its associated technical resources also include material relevant to other health systems building blocks, including considerations at both national and subnational level. | Geneva: World Health Organization; 2016 *(49)* |
| An integrated approach to building health systems resilience focusing on services | Training | This training package seeks to fill the gap in the availability of comprehensive health workforce training focusing on building health systems resilience through an integrated systems approach.<br><br>Accordingly, the training was developed and tailored to foster integration between health systems and health security in public health emergency management and health systems strengthening, with inputs from all health systems building blocks and communities. The modules comprise an introduction to health systems resilience, building resilience pre-emergency, demonstrating health systems resilience during emergencies and continuous learning for improvement in recovery and transformation of health systems. It can be applied at national and subnational levels, targeting health and public health leaders, policy-makers and managers. | Geneva: World Health Organization; 2022 *(50)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Implementation guide for health systems recovery in emergencies | Guidance | This guide has been developed to provide a clear action-oriented direction for countries within the Eastern Mediterranean Region and in other WHO regions, as well as for health-sector partners, on how to take a structured approach to the recovery and resilience-building processes of national and local health systems in different types of emergencies. The guide unifies the strategic actions needed for health systems recovery and sets a standard for post-emergency health systems recovery which can be adapted to different settings. Although specific to the Eastern Mediterranean context, the principles and best practices can be adapted to any other setting. | Cairo: WHO Regional Office for the Eastern Mediterranean; 2020 *(51)* |
| Blueprint for global health resilience | Guidance | Resilient health systems can learn from emergency experiences and improve their capacity to prevent, prepare for and respond better to future emergencies. This requires documentation of the lessons learned and follow-up actions to apply the identified lessons.<br><br>This document outlines several lessons learned from the COVID-19 pandemic, past outbreaks and other health system shocks that impact service delivery. The aim is to draw on these lessons to inform actions towards improving health systems resilience to ongoing and future outbreaks, cutting across various health systems building blocks and capacities required for resilience at national and subnational levels. | Washington, DC: USAID; 2021 *(52)* |
| The essential public health functions in the Americas: a renewal for the 21st century. conceptual framework and description | Guidance | The EPHFs are a core set of collective actions implemented under the responsibility of the State; they are needed to meet public health goals, including the attainment and maintenance of the highest level of population health possible with a given set of resources. The EPHFs provide a holistic and inclusive approach to strengthening public health capacities, aligning multiple programmes and contributing to strengthening sustainable health systems resilience.<br><br>This document reviews and updates the EPHF conceptual framework for the Region of the Americas, highlighting lessons and considerations that can be scaled up to other regions. The functions adopted in the Region and highlighted in this document span across multiple health systems building blocks and help to provide and effectively mobilize resources and capacities in the event of a public health event. The integrated nature of the EPHFs is also a critical element of systems resilience and helps to increase the level of awareness of a country's existing capacities and gaps.<br><br>While this document is focused on the Americas, several of the functions and wider considerations can be applied and adapted to countries with special contexts (e.g. small island developing States, humanitarian settings or those with FCV settings). | Washington, DC: PAHO; 2020 *(53)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Health systems resilience simulation exercise package | Simulation | Simulation exercises (SimEx) are a component of the revised IHR (2005) monitoring and evaluation framework. Within the context of health systems reviews, SimEx are used for ascertaining current capacity, developing and testing plans and giving responsible authorities the opportunity to practise the delivery of those plans in a simulated environment.<br><br>Many other available SimEx materials lack an integrated health system perspective and have a limited focus on the quality of services delivered within the context of response to emergencies. This series of off-the-shelf exercises focuses on both health security and health systems resilience. This package acknowledges the functionality of and interconnectedness between the building blocks of health systems, i.e. service delivery, health workforce, access to medicines and technology, leadership and governance, financing and health information systems. To ensure a coordinated and resilient response, these different aspects of the health system not only need to work together, but also with other agencies such as law enforcement, animal health, environmental organizations and communities. | Geneva: World Health Organization; 2021 *(54)* |
| Primary health care and health emergencies | Guidance | A PHC approach is an essential foundation for building health systems resilience, particularly through three interrelated and synergistic components: (1) primary care and EPHFs as the core of integrated health services; (2) multisectoral policy-making and action for health, and (3) empowered people and communities.<br><br>This document provides an overview of the linkages between PHC and health emergencies, including the role of primary care in emergencies, challenges of health service provision in emergencies, and opportunities for action. While mainly applicable at the subnational, service-delivery level, the PHC approach also covers and touches on many aspects at national and community levels, providing the cornerstone for building resilient health systems and services. | Geneva: World Health Organization; 2018 *(55)* |
| Health workforce policy and management in the context of the COVID-19 pandemic response | Guidance | This guide consolidates COVID-19 guidance for human resources for health managers and policy-makers at national, subnational and facility levels to design, manage and preserve the workforce necessary to manage the COVID-19 pandemic and maintain essential health services. The guide identifies recommendations to protect, support and empower health workers at individual, management, organizational and system levels. | Geneva: World Health Organization; 2020 *(56)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Engaging the private sector in health systems resilience efforts: a strategic approach | Guidance | The need for private sector engagement in building health systems resilience is one of the key lessons learned from public health emergency experiences, including the ongoing COVID-19 pandemic. In this guidance document, a strategic approach to timely and effective engagement of the private sector in health systems resilience efforts, is elucidated. The actions outlined in the document are relevant to all health systems building blocks, with a focus on leadership and governance, health information and community engagement. The resilience attributes supported include awareness, mobilization of required resources, diversity in providing and sustaining needed health services and transformation to build back better following the shock events. Although USAID missions are specified as the target audience, the guidance provided in this document can be useful for informing other national and global stakeholders in their contributions to health systems resilience in collaborations with the private sector at community, subnational and national levels. | Washington, DC: Abt Associates; 2020 *(57)* |
| Ensuring a safe environment for patients and staff in COVID-19 health-care facilities | Guidance | Safety of patients and staff in any emergency is makes a critical contribution to resilient health services. Ensuring a safe environment in health facilities during emergencies improves the community trust necessary for continued care-seeking behaviour. Experiences from recent emergencies, such as EVD in west Africa and COVID-19 has highlighted the lack of community trust in the safety of health facilities as a contributing factor for the disruption of essential service.<br><br>Countries can use this assessment tool to assess and monitor the structural capacities of facilities to: (1) allow safe COVID-19 case management; (2) continue to deliver essential services; and (3) enable surge planning. The tool identifies gaps and areas of improvement to address during the emergency and in the recovery phase.<br><br>While all the building blocks are relevant in this document, the tool mostly focuses on health service delivery, within facilities. However, findings would inform the improvement of all health systems building blocks, contributing to a more resilient health system.<br><br>This tool would help to strengthen various resilience attributes, particularly awareness, self-regulation and transformation. | Geneva: World Health Organization; 2020 *(58)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Operational framework for building climate resilient health systems | Framework | Climate change affects the social and environmental determinants of health; resilient health systems will be able to cope with the health impacts of climate change.<br><br>This framework provides guidance for health systems and public health programmes to increase their capacity for health protection in the context of climate variability and change. The document lays out 10 key components the health sector should consider for building resilience; by implementing these, health systems will be better able to anticipate, prevent, prepare for and manage climate-related health risks. The 10 components are linked closely with all the building blocks of health systems, such as climate and health financing and health and climate research.<br><br>This document supports, inter alia, increasing awareness among health systems of their abilities and vulnerabilities by means of vulnerability, capacity and adaptation assessment; and facilitates integration of health systems strengthening and health security actions by investing in sustainable infrastructures and integrated risk monitoring and early warning systems. | Geneva: World Health Organization; 2015 *(59)* |
| Practical actions in cities to strengthen preparedness for the COVID-19 pandemic and beyond | Guidance | Local authorities are key stakeholders in building health systems resilience, including the continuation of essential health services in both routine and public health emergency settings. This guidance complements the COVID-19 strategic preparedness and response plan by expanding on recommendations for local authorities in cities with a checklist of actions to enhance preparedness capacity, both in the context of COVID-19 and for future public health risks and emergencies. This checklist can be adapted to enhance preparedness capacities and resilience to other public health emergency situations. The checklist of actions is closely linked to several building blocks of health systems; for example, establishing a planning and coordination structure to enhance leadership and governance; communication information on the disease and public health measures; ensuring health services for COVID-19 and other health needs. The checklist of actions also helps in the development of attributes required for resilience; for example, mobilizing resources in the community and support from multiple sectors and ensuring the continuity of a wide range of essential health services. | Geneva: World Health Organization; 2020 *(60)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Principles of health systems resilience in the context of COVID-19 response | Guidance | Health systems resilience is built over time, both in routine and emergency situations, and can be built through actions in all phases of emergency management. This brief summarizes eight key principles for promoting resilient health systems in the face of COVID-19. The principles are linked to all the building blocks of health systems; building trust with local communities will, inter alia, enhance leadership and governance; support, recognize and encourage staff; and focus on the health workforce. The key principles also support the development of attributes required for resilience, including mobilizing and coordinating resources and support from all levels of health systems with greater flexibility in resource usage, providing a wide range of services needed by patients with COVID-19 and the general population, and making necessary decisions in response to COVID-19, based on agile tracking of health information. Though this short brief has been developed in the context of COVID-19 response, these principles are applicable to building health systems resilience in other public health emergency situations, as well as routine settings. | Ager A, Toltica S, editors. London: United Kingdom Department for International Development; 2020 *(61)* |
| Quality of care in FCV settings:<br>Tools and resources compendium<br>Taking action | Guidance | Quality of care is key for building health systems resilience, especially in relation to maintenance of essential health services with good coverage and quality. Especially in FCV settings, quality of care is just as important as access to care.<br><br>The technical package comprises the compendium and the taking-action document. The latter provides complementary resources that can support countries to address quality of care in a systematic way in support of resilience.<br><br>This Toolkit represents a curated, pragmatic and non-prescriptive collection of tools and resources to support the implementation of interventions to improve quality of care in FCV contexts. Relevant tools and resources are listed under five areas: ensuring access and basic infrastructure for quality; shaping the system environment; reducing harm; improving front-line clinical care; and engaging and empowering patients, families and communities. Cross-cutting products are also signposted.<br><br>The resources in the Toolkit cover all the health systems building blocks. In the area "shape the system environment", there are resources directly linked to essential packages of health services, maintaining an effective health workforce, health financing policy and implementation, private sector engagement and health facility assessment. Applying the resources in the Toolkit, which are developed from experiences of improving quality of care in FCV settings, supports increasing awareness of health systems' abilities and vulnerabilities regarding quality of care; supports integrating quality aspect in health systems strengthening and health security actions; and facilitates providing a wide range of quality health services needed. | Geneva: World Health Organization; 2017 *(62, 63)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Investing in and building longer-term health emergency preparedness during the COVID-19 pandemic | Guidance | Investment in sustainable emergency preparedness capacity during a public health emergency is one key aspect of building health systems resilience for future public health emergencies.<br><br>The guidance describes basic considerations when prioritizing actions and funding for sustainable preparedness capacity-building; maps COVID-19 preparedness and response actions to the building of sustainable IHR (2005) core capacities; and advocates for the conscious and effective allocation of COVID-19 funds to meet countries' longer-term needs.<br><br>The document helps countries to better recover and transform all components of their health systems from the COVID-19 response to prepare for future public health emergencies and to meet basic population health needs. Though this document is in the context of COVID-19, it can also help countries to better develop their pandemic preparedness and response plans integrating health systems strengthening and health security actions. | Geneva: World Health Organization; 2020 *(64)* |
| Strengthening preparedness for COVID-19 in cities and urban settings | Guidance | Forecasting, preventing and preparing for public health emergencies is one of the capacities of a resilient health system, along with adapting, absorbing and responding to public health emergencies; maintaining essential health services; and learning and improving based on experiences. This document focuses on the strengthening of preparedness capacity and supports local authorities, leaders and policy-makers in cities and other urban settlements in identifying effective approaches and implementing recommended actions that enhance prevention, preparedness and readiness for COVID-19 in urban settings, to ensure a robust response and eventual recovery. It covers factors unique to cities and urban settings, considerations in urban preparedness, key areas of focus and preparing for future emergencies. Despite the guidance being developed to prepare for COVID-19, the key areas identified for urban preparedness are applicable or adaptable to other public health emergencies.<br><br>The considerations and key areas of urban planning for public health emergencies identified in this document are linked to several building blocks, for example, strengthening leadership and governance, adopting a coordinated multisectoral, whole-of-government and whole-of-society approach and promoting coordination and coherence in public health measures across governance levels; strengthening health information for risk and crisis communication and community engagement; and ensuring access to essential health services; etc.<br><br>The highlighted considerations for urban planning for public health emergencies support the development of certain attributes of resilience, including ensuring diversity in delivering a range of services for COVID-19 and essential health services; promoting integration by coordinating local plans in health-sector and emergency preparedness for effective responses; mobilizing and coordinating funds, and staff and logistics for effective responses. | Geneva: World Health Organization; 2020 *(65)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Systems thinking for health systems strengthening | Guidance | Health systems resilience adopts a cross-cutting, systems thinking approach that views everything in a wider framing of interconnectedness. This principle is necessary to ensure effective coordination in preventing, preparing, responding to and recovering from public health events. Moreover, it is important to ensure sustainable capacity development, allowing for an improved awareness of capacities, ability to self-regulate in times of crisis and increased capacity to transform when needed.<br><br>While this document on systems thinking is not specific to health security, its ethos and the guidance outlined are applicable in the scope of public health, contributing to more integrated approaches to health systems strengthening for resilience. Through this lens, one can apply health security, or any other public health programme as part of a wider, dynamic system, which requires a deep understanding of the linkages, relationships and interactions of the various elements of the system.<br><br>These principles can be applied with ease at all levels of the health system and in various country contexts. | de Savigny D, Taghreed A, editors. World Health Organization; 2009 *(66)* |
| WHO community engagement framework for quality, people-centred and resilient health services | Guidance | The role of communities and the critical need for their continued engagement is important for health systems resilience. Experiences from recent and ongoing public health emergencies have demonstrated the interdependency between health service providers, emergency responders, health service users and their families. One of the noted factors for essential health services disruption during emergencies has been the lack of community trust in facilities and the limited engagement and communication with communities.<br><br>This document highlights some of the important linkages and considerations necessary to achieve quality, people-centred and resilient health services in both peacetime and emergency contexts. It emphasizes the need to place communities and people at the centre of all efforts, which is pivotal in building a resilient health system.<br><br>While community engagement is largely at the local level, there is relevance and need to ensure national and subnational level principles are embedded in national health-sector and health security policies and plans, for sustainability.<br><br>The relevance of community engagement across the health systems functions is cross-cutting, spanning across health workforce (e.g. critical role of community health workers), health information systems (need to ensure adequate information is exchanged between communities and health facilities during emergencies). | Geneva: World Health Organization; 2017 *(67)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| WHO guide on integrating palliative care and symptom relief into the response to humanitarian emergencies and crises | Guidance | Integrated health service delivery spans the full spectrum of care from promotive, preventive, curative and rehabilitative to palliative care. A core attribute of health service resilience includes integration, which is needed in all contexts, including humanitarian settings.<br><br>This document provides practical guidance on integrating palliative care and symptom relief into health care systems during emergencies with humanitarian situations, such as conflict, forced displacement and natural disasters, ensuring continuity of care. Moreover, in a context that may result in the breakdown of health-care systems, the document provides guidance on integrating palliative care into the response to humanitarian emergencies and crisis. Although focusing on the response phase, the capacities developed strengthen the recovery and rehabilitation phase, where palliative care is still needed.<br><br>While the implementation of this guidance document would primarily be at subnational level, support, resources and strategic policies from the national level are needed. | Geneva: World Health Organization; 2018 *(68)* |
| New way of working | Guidance | It is important to embrace the humanitarian-development-peace nexus in humanitarian settings – humanitarian relief, development programmes and peace-building are not serial processes, but are all needed at all times The humanitarian and development actors must collaborate more effectively – plan, operate and assess together to build health systems resilience to meet population needs.<br><br>This guidance suggests a way of working towards a collective outcome that development, humanitarian and other relevant actors want to achieve in a time frame of 3–5 years. All actors need to shape their plans and interventions based on what is needed to achieve the collective outcome. Closer alignment in areas of analysis, planning and programming, leadership and coordination and financing is key. Though this document is not specifically focused on health systems, the suggested new way of working is also applicable to building health systems resilience, as a part of wider society, to promote and protect population health in humanitarian settings.<br><br>Better multisectoral collaboration between development, humanitarian and other relevant actors allows for effective and efficient mobilizing and coordinating of resources and support to tackle population health needs in humanitarian settings, as well as providing the wide range of health services needed immediately and long-term in a humanitarian crisis. | New York: United Nations Office for the Coordination of Humanitarian Affairs; 2017 *(69)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Taking a multisectoral, One Health approach: a tripartite guide to addressing zoonotic diseases in countries | Guidance | A resilient health system requires a multisectoral and multidisciplinary approach, involving all the relevant sectors such as animal and environmental sectors. The increased incidence in zoonotic infections has exacerbated the need for health and animal sectors to work closely, improve awareness of risks, develop capacities to effectively prepare, respond and recover from emergencies.<br><br>This document encourages a One Health approach, promoting a multisectoral approach to ensure that animal and human health, together with other relevant sectors at all administrative levels. This includes all health systems functions, particularly leadership and governance and health information systems where data-sharing and management is critical for surveillance and risk management. The document also outlines several principles that inform guidance to ensure sustainable coordination with several stakeholders, and outlines best practices, all in alignment with attributes of a resilient system. | Rome: Food and Agriculture Organization of the United Nations, World Organisation for Animal Health and World Health Organization; 2019 *(70)* |
| Supporting private sector engagement during COVID-19: WHO's approach | Guidance | The ability to scale up capacity rapidly is a key attribute of health systems resilience and during the COVID-19 pandemic, where national systems have been overwhelmed globally, many countries have turned to the private sector to scale up capacity. This is not without its challenges, as the activities of private providers are often not aligned with national response efforts.<br><br>This document outlines the work of WHO's Private Health Sector for COVID-19 Initiative, whose goal is to provide tailored country support to improve private health-sector engagement in the COVID-19 response. The document outlines the six pillars of the draft interim guidance for ministries of health to engage the private sector response to COVID-19, and identifies six policy challenges that need to be addressed for effective engagement with the private sector. This document is most relevant at the national level, where it can support ministries of health in development of the appropriate engagement mechanisms for their country but could be used at regional or district levels depending on the context. | Geneva: World Health Organization; 2020 *(71)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Essential public health functions, health systems, and health security | Guidance | The need to strengthen the EPHFs is increasingly recognized as an approach to strengthen the resilience of health systems. The EPHFs are a core set of collective actions implemented under the responsibility of the State; they are needed to meet public health goals, including the attainment and maintenance of the highest level of population health possible with a given set of resources. The EPHFs provide a holistic and inclusive approach to strengthening public health capacities, aligning multiple programmes and contributing to strengthening sustainable health systems resilience.<br><br>This guidance provides a reference document to support policy discussion on the EPHFs. It includes a description and evaluation of the work of WHO, the United States Centers for Disease Control and Prevention, the European Commission, the World Bank and countries on EPHFs, discussion of the critical linkage with the IHR (2005) and health systems strengthening agendas, and operational implications of the linkages, and proposed options for progressing this work. It also provides a glossary for use in framing discussions on resilient health systems and UHC. | Geneva: World Health Organization; 2018 *(72)* |
| Essential public health functions: the experience of the Eastern Mediterranean Region | Guidance | The need to strengthen the EPHFs is increasingly recognized as an approach to strengthen the resilience of health systems. This document outlines the approach taken by the WHO Regional Office for the Eastern Mediterranean to identify evidence-based recommendations for improving public health capacity and performance in the Region. The process presented includes a baseline assessment of public health services and capacities at national level including identification of gaps and weaknesses in the EPHFs, a consensus-generated action plan and the development of institutional capacity within the Region to undertake EPHF assessment. An assessment process is presented, including country examples of application. This document is most applicable at national level. | Alwan A, Shideed O, Siddiqi S. East Mediterr Health J. 2016 *(73)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Maintaining essential health services: operational guidance for the COVID-19 context interim guidance | Guidance | When health systems are overwhelmed and essential health services are disrupted, both direct morbidity and mortality from a disease outbreak and indirect morbidity and mortality from vaccine-preventable and treatable conditions increase significantly. Countries need to make difficult decisions to balance the demands of responding directly to a disease outbreak, while simultaneously engaging in strategic planning and coordinated action to maintain essential health service delivery, mitigating the risk of system collapse. Maintaining essential health services while responding to an emergency or disaster is a key attribute of resilient health systems.<br><br>This resource provides guidance on a set of targeted immediate actions that countries should consider at national, regional and local level to reorganize and maintain access to high-quality essential health services for all. Though health service delivery is the focus of this guidance, the operational strategies for maintaining essential health services involve other components of health systems, including governance, workforce, financing, information, technologies, communities and people.<br><br>Although this document was developed in the context of COVID-19, the operational guidance is applicable to other emergencies and disasters situations while planning for maintaining essential health services for resilient health systems. | Geneva: World Health Organization; 2020 *(74)* |
| Health systems strengthening for global health security and universal health coverage | Guidance | This position paper sets out the way that the United Kingdom Foreign, Commonwealth and Development Office will work with partners to build strong, resilient and inclusive health systems through five key principles. It is an example of the way that partners/organizations can strategize in an integrated manner, which would also influence the way that they invest/support countries in building health systems resilience, particularly those with weaker health systems.<br><br>This position paper outlines the Office's priorities of supporting countries in moving closer to UHC and being better prepared to deal with pandemics and infectious diseases, and more resilient to climate change. The document highlights the critical interdependencies between health systems strengthening, UHC and global health security and the reasons why strong and inclusive health systems are critical to realizing the international community's collective global health goals and the SDGs. | London: United Kingdom Foreign, Commonwealth and Development Office; 2021 *(75)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Interim guidance on public health and social measures for COVID-19 preparedness and response operations in low capacity and humanitarian settings | Guidance | Resilient health systems utilize effective measures to reduce the impact of public health emergencies, including COVID-19. These include key public health and social measures known to reduce transmission of COVID-19. This document outlines practical adaptations to four key areas of public health and social action for low-capacity and humanitarian settings: (1) mobilize all sectors and communities; (2) prevent, suppress and slow transmission; (3) find, test, isolate and treat cases, quarantine contacts; and (4) provide appropriate clinical care. Recommended measures for each area are presented with the underlying public health principles, the intervention target group and location; key actions, including adaptations, are presented. These adaptations are applicable across all administrative levels and are applicable beyond COVID-19 to other infectious diseases of epidemic potential. | New York: Inter-Agency Standing Committee; 2020 *(76)* |
| Health systems for health security: a framework for developing capacities for International Health Regulations, and components in health systems and other sectors that work in synergy to meet the demands imposed by health emergencies | Guidance | Health systems for health security is an approach that harmoniously brings together efforts to strengthen resources and capacities required for implementation of the IHR (2005), components in health systems and those in other sectors for effective management of health emergencies, while maintaining the continuity of essential health services throughout.<br><br>The purpose of this health systems for health security framework is to support countries, WHO and partners in bringing together the capacities required for the IHR (2005), and components of health systems and other sectors for multisectoral, multidisciplinary, effective management of health emergencies. It is an innovative approach that complements existing concepts and tools for global health security capacity-building, and covers different types of risks arising from biological and nonbiological hazards and events. | Geneva: World Health Organization; 2021 *(77)* |
| Enhancing access to services for migrants in the context of COVID-19 preparedness, prevention, and response and beyond | Guidance | The document provides practical guidance to United Nations Member States and other stakeholders for an improved common understanding of safe and inclusive access to services for migrants, thus making the case for enhanced access to services for migrants in the context of COVID-19 preparedness, prevention and response – and beyond. The recommendations set out in this policy brief emphasize the practical and principled importance of ensuring inclusive, people-centred approaches that leave no one behind. It emphasizes the importance of – and how best to – work better together across sectors – including health, immigration, finance, education, labour and other ministries – across government, with local authorities, civil society and other stakeholders. | Geneva: United Nations Network on Migration; 2020 *(78)* |

# Module 4. Health systems resilience in monitoring and evaluation

## A. Overview

Systematic and regular monitoring and evaluation using a contextualized and integrated measurement approach is essential for identifying areas for improvement, targeting interventions to build resilience and ensuring stakeholder accountability. There are several measurement tools available for broader health systems and health security aspects, but they are limited in their scope and focus when measuring the resilience of health systems using an integrated approach. Monitoring and evaluation of health systems resilience should take into consideration the health systems framework, which defines six core components or "building blocks", with communities and people as central to decision-making; the input-process-outputs-outcome-impact scale; the phases of the emergency management cycle (prevention, preparedness, response, recovery); and the capacities and attributes which characterize resilient health systems. This involves capacity-building for effective contribution of stakeholders at all levels, private and public sectors and communities to inform multisectoral action for health systems resilience. Ensuring consistent sharing of relevant data and interoperability within and between health and allied sectors, such as animal health and environmental health using the One Health approach, and between administrative levels within the country and across national borders is also key in informing coordinated actions including effective and efficient resource mobilization and utilization for building resilience in health systems.

It is important that indicators of health systems resilience are proactively determined and monitored and used to inform actions, routinely and during emergencies. The establishment of these functions as integral to the health information systems in countries and ahead of major public health emergencies also increases the likelihood of successful tracking and utilization of the data for evidence-informed decisions and action in contexts of emergency response and recovery. Context-appropriate digital innovations can also contribute to enhancing data collection and utilization for resilience, for example in monitoring the utilization and disruption of routine essential health services, and to collating lessons learned to inform timely action and adaptation in health systems response and recovery from shock events, while enhancing preparedness and prevention capacities against future threats. Table 7 below shows examples of health systems resilience in monitoring and evaluation.

## B. Contextual considerations

The feasibility in terms of technical and financial capacity and resources required to monitor and act on the findings of each indicator varies by context; accordingly, contextual considerations must guide the development, selection and use of measurement approaches at national, subnational, community and service-delivery levels. For example, these considerations should allow adequate attention to equity for all, including vulnerable and marginalized populations in FCV and other settings. It is important to ensure that monitoring and evaluation focusing on health systems resilience are developed and applied in synergy with other monitoring and evaluation activities, for example as part of routine health information systems, which may vary from country to country.

## C. Compendium of technical resources

Table 7 lists a range of tools and resources for health systems resilience in monitoring and evaluation.

**Table 7.** Tools and resources for health systems resilience in monitoring and evaluation

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Primary health care measurement framework and indicators: monitoring health systems through a primary health care lens | Assessment tool | A vision for primary health care in the 21st century is a whole-of-government and whole-of-society approach to health that combines three core components: multisectoral policy and action; empowered people and communities; and primary care and essential public health functions as the core of integrated health services. While monitoring, evaluation and review of health progress and performance are essential to ensure that priority actions and decisions are implemented as planned against agreed objectives and targets, there has traditionally been siloed approached to these efforts.<br><br>This M&E framework supports countries to determine priorities, assess gaps, establish baselines and targets, and track progress and performance to strengthen the three PHC components, through a holistic approach that breaks down the siloes, including those across the health system administrative levels (national, subnational, community). | World Health Organization & United Nations Children's Fund (UNICEF); 2022 *(79)* |
| Assessing the resilience of health systems in Europe: an overview of the theory, current practice and strategies for improvement | Assessment tool | The increasing global recognition of the need for health systems resilience has also brought to the fore the gaps in assessing this critical aspect of health systems. This report provides insights into the concept and operationalization of health systems resilience, with a focus on assessing health systems resilience in Europe. It highlights the need to systematically monitor and evaluate the resilience of health systems and suggests strategic changes needed for improvement in this area. Although the context is Europe, the content of this document is also applicable to other settings, since it seeks to address system-wide issues across which are common requirements in all contexts, including those related to governance, financing, service delivery, workforce, information management and medical supplies and technologies at national, subnational and community levels. Its utilization can support the development of health systems resilience attributes required for effective preparedness and response to public health challenges. These include awareness of health systems' abilities, risks and vulnerabilities; ability to mobilize required resources effectively for effective preparedness, and response and maintenance of services in the face of acute and chronic shocks. | Luxembourg: European Commission Expert Group on Health Systems Performance Assessment; 2020 *(80)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Monitoring the building blocks of health systems – a handbook of indicators and their measurement strategies | Assessment tool | Sound monitoring strategies are a key aspect of health systems resilience; the information gained from monitoring and evaluation can make it possible to track health progress and health systems performance accurately, evaluate impacts of health systems resilience-building activities, ensure accountability at subnational, national and global levels and enable decision-makers to carry out evidence-based action, building resilience and ensuring population health.<br><br>This assessment tool for monitoring health systems performance identifies a set of core indicators, sources of information and a monitoring system for each health system building block. Though each building block is discussed separately, the dynamic interlinkages between them and the cross-cutting nature of building blocks are also recognized.<br><br>Monitoring the building blocks of health systems increases awareness of health systems performance (both strengths and vulnerabilities), facilitates mobilization of resources based on results and evidence, and allows self-regulation by means of evidence-based decisions to strengthen health systems and prepare for public health risks and emergencies. | Geneva: World Health Organization; 2010 *(81)* |
| WHO resource mapping (REMAP) tool | Assessment tool | The REMAP tool supports the identification of financial and technical resources for implementation of country priority actions with relevance for health security. The tool is used to map the health security investment and activities in countries, allowing health authorities, policy-makers and partners to see where the gaps exist and where more investment is needed. The tool has been used in countries to support implementation of national action plans for health security as well as national COVID-19 Preparedness and Response plans. | Geneva: World Health Organization; 2019 *(82)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| International Health Regulations monitoring and evaluation framework | Framework | The International Health Regulations (IHR 2005) are an overarching instrument for global health security. Embedding IHR (2005) core capacities in health systems functions can contribute to developing greater health systems resilience.<br><br>The IHR (2005) monitoring and evaluation framework outlines guiding principles for IHR (2005) monitoring and evaluation and consists of four components – mandatory annual reporting by States Parties and three voluntary components, i.e. after-action review, simulation exercise and voluntary external evaluation.<br><br>This document is key for monitoring and evaluating some of the core public health capacities of health systems (all building blocks) and especially for preventing and managing major international public health threats, for example the capacity to detect, assess, notify and report public health events and the capacity to respond promptly and effectively to public health risks and emergencies. Monitoring and evaluation of these public health capacities will increase health systems' and decision-makers' awareness of abilities and vulnerabilities in IHR (2005) core capacities; support health system transformation by identifying and applying lessons from public health risks and emergencies; facilitate integration of health systems strengthening and health security actions; and inform the decisions required in response to public health events. | Geneva: World Health Organization; 2018 *(4)* |
| Public health system resilience scorecard | Assessment tool | The health system is responsible for both individual and public health services and functions in collaboration with allied sectors and stakeholders. This scorecard complements and expands on the public health aspects of the Disaster Resilience Scorecards for Cities in order to draw attention to public health capacities, including the multisectoral collaboration required to build health systems resilience. It includes resilience-relevant indicators which cut across various health systems components, such as governance, finance, workforce, information, infrastructure and services. Application of the scorecard can support efforts towards developing health systems resilience attributes such as awareness of risks and vulnerabilities, mobilization of resources, maintenance of essential functions and services during crises and application of an integrated approach. The document can be applied at the national and subnational levels of various contexts to inform integrated policies, plans and actions for more disaster-resilient health systems. | Geneva: United Nations Office for Disaster Risk Reduction (UNDRR); 2019 *(83)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Disaster resilience scorecard for cities: preliminary and detailed assessments | Assessment tool | A key attribute of resilient health systems is their ability to recover quickly and transform for the better after experiencing a shock event. This improvement, with application of lessons learned from emergencies, allows a higher level of resilience to future potentially disruptive public health events. This document provides action-oriented guidance for local and national health sector officials and partners to address post-disaster challenges related to health-sector recovery and transformation. It lays out the policy, planning, financial and operational considerations and actions to be incorporated into health-sector recovery, taking into account lessons learned from emergency experiences. It also promotes the application of a systems approach in immediate, medium-term and long-term recovery action, which is essential for building health systems resilience. | Geneva: UNDRR, 2019 *(84)* |
| Rapid hospital readiness checklist: interim guidance | Assessment tool | Hospitals are key stakeholders in building health systems resilience. The performance of hospitals is one of the most visible outputs of a health system. This checklist helps assess the overall readiness of hospitals and identify a set of priority actions to be taken to prepare for, be ready for and respond to the COVID-19 pandemic. Though the scope of the document focuses on COVID-19, this checklist can be updated to cope with other public health risks and emergencies, especially those in relation to infectious diseases.<br><br>The checklist highlights 12 key components that are essential to managing COVID-19 in a hospital setting. These components are linked to the health system building blocks, including the leadership and incident management system, community engagement, health information management, health workforce and surge capacity, health service delivery for COVID-19 cases and other patients, and financing, all supported by health technologies. The components also support development of resilience attributes, including making required decisions in response to public health emergencies based on health information; mobilizing and coordinating resources and support in hospitals, other health facilities and the community; and providing a wide range of health services needed by the population served by the hospital. | Geneva: World Health Organization; 2020 *(85)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Guidance for conducting a country COVID-19 intra-action review (IAR) | Guidance | As countries move from the acute to the protracted phase of emergency response to the COVID-19 pandemic, there is an opportunity to inform further adaptation or transformation with current and recent learning. The capacity to adapt and transform both during and post-event are key attributes of resilient health systems. This document presents guidance on the conduct of an intra-action review – a facilitated country-level discussion between national and subnational stakeholders about the response to date, with a view to improving and strengthening the continued response in the short term, while improving long-term emergency management.<br><br>This guidance defines IARs, including their scope and purpose, and guides the identification of participants, the phases of the IAR (design, preparation, conduct, results, follow-up), format, documentation and follow-up. The guidance includes a set of practical tools that users can adapt when conducting an IAR in their setting. This guidance can support the conduct of IARs at multiple levels, from national to subnational, as well as in specific settings with unique considerations. | Geneva: World Health Organization; 2020 *(86)* |
| Continuity of essential health services: facility assessment tool | Assessment tool | Continuity of essential health services is a critical element of resilient health systems. This ensures that the communities are still able to access and receive health services during emergencies. This document is useful for countries to rapidly assess the capacity of health facilities to maintain the provision of essential health services during the COVID-19 pandemic. It can help to alert the authorities and other stakeholders about where service delivery and utilization may require modification and/or investment. While focusing on the COVID-19 pandemic, the same considerations can be used and applied in other public health emergencies.<br><br>The document focuses mostly at the service-delivery level, although the implications are cross-cutting at the national and subnational levels, spanning across other health systems building blocks. Moreover, this tool can be used from the early stages of an emergency to recovery and continuity after recovery. | Geneva: World Health Organization; 2020 *(87)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Assessment of essential public health functions in countries of the Eastern Mediterranean Region: assessment tool | Assessment tool | The EPHFs provide a synergistic approach to strengthening public health capacities, regardless of the specific programme, helping to improve the resilience of a health system. This assessment tool aims to assess the performance of the EPHFs in countries of the WHO Eastern Mediterranean Region. This supports national authorities in understanding the level of capacities – a key characteristic of a resilient health system – and use it to make informed decisions and policies.<br><br>Although focusing on the Eastern Mediterranean Region, this tool can be adapted to other settings. The EPHFs being assessed operate across various health systems functions and all administrative levels (national, subnational and local). The Eastern Mediterranean Region has several countries that are experiencing fragility, conflict and vulnerability, and the key considerations applied in using the tool in these settings can also benefit other regions with similar settings. | Cairo: WHO Regional Office for the Eastern Mediterranean; 2017 *(88)* |
| Hospital safety index evaluation forms, 2nd edition | Assessment tool | A safe hospital is a facility whose services remain accessible and functioning at maximum capacity and within the same infrastructure immediately following an emergency or disaster. Safe hospitals are key to maintain essential health services for protecting the lives and well-being of the affected population – a critical attribute of health systems resilience. The Hospital Safety Index is a tool used by health authorities and multidisciplinary partners to gauge the probability that a health facility will continue to be safe and operational in emergency situations. The tool includes evaluation forms, a guide for evaluators and a safety index calculator.<br><br>Two forms are included in this resource. Form 1 is on "General information about the health facility". Form 1 should be completed prior to the evaluation by the hospital's disaster committee; it includes information on the health facility's level of complexity, the population it serves, specialty care and other available services, and health staff. Form 2 is the "Safe hospitals checklist". A trained team of evaluators then uses Form 2 to assess the level of safety of 145 areas of the health facility, grouped by location, structural, nonstructural and functional components. The evaluation areas cover all the components of health systems.<br><br>Evaluation can contribute to several resilience attributes, for example increasing awareness of facilities' vulnerability and ability to remain safe and operational during emergencies; supporting self-regulation and decision-making with adequate information; and mobilizing resources and support to make facilities safe and operational during emergencies. | Geneva/ Washington, DC: World Health Organization and Pan American Health Organization; 2015 *(89)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| Hospital safety index: guide for evaluators, 2nd edition | Guidance | A safe hospital is a facility whose services remain accessible and functioning at maximum capacity and within the same infrastructure immediately following an emergency or disaster. Safe hospitals are key to maintaining essential health services for protecting the lives and well-being of the affected population – a critical attribute of health systems resilience. The Hospital Safety Index is a tool used by health authorities and multidisciplinary partners to gauge the probability that a health facility will continue to be safe and operational in emergency situations. The tool includes evaluation forms, a guide for evaluators and a safety index calculator.<br><br>This resource provides a step-by-step explanation of the use of the Safe Hospitals Checklist and ways in which the evaluation can be used to obtain a rating of the structural and nonstructural safety, and the emergency and disaster management capacity, of the hospital concerned. The results of the evaluation enable the hospital's individual safety index to be calculated. Once the evaluation is complete, the evaluation team presents its findings to the hospital's senior management and staff; the reports from individual hospitals are usually integrated into a report of a group of hospitals to policy-makers in the health, finance or other allied ministries.<br><br>Like other resources in the Hospital Safety Index tool, this resource involves evaluation of areas covering all components of health systems, such as health services delivery, workforce, financing and governance. This guide for evaluators supports the building of several resilience attributes, for example raising awareness of health facility capacities and vulnerabilities in emergencies and disasters and supporting self-regulation of ministries and health facilities in making required actions based on evaluation results. | Geneva/ Washington, DC: World Health Organization and Pan American Health Organization; 2015 *(90)* |
| Suite of health service capacity assessments in the context of the COVID-19 pandemic | Assessment tool | Forecasting is an essential capacity of resilient health systems, which supports the maintenance of essential health services alongside response. Rapid and accurate assessments of health service capacities are essential to plan and maintain high-quality service delivery in the context of responding to the COVID-19 pandemic and other public health emergencies. This package is an update to the Harmonized Modules for Health Facility Assessment modules in the context of the COVID-19 pandemic, and contains a suite of tools to support capacity assessment in health facilities, as well as tools to assess the capacity of facilities to maintain essential health services. This package is tailored specifically to the health facility level, and contains tools to assess management structures and processes, health worker capacity and protection, resources, supply-chain management and community needs. | Geneva: World Health Organization; 2020 *(91)* |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| State Party self-assessment annual reporting tool – IHR (SPAR) | Assessment tool | The IHR (2005) provide a unique global framework to shape the way countries prepare for and respond to emergencies of any type, in order to protect people from health emergencies. By strengthening the core capacities of the IHR (2005) and interlinkages between health emergencies and health systems, countries are improving their health systems resilience.<br><br>The self-assessment and reporting tool is one of the four components of the IHR (2005) monitoring and evaluation framework. This tool includes indicators and criteria for monitoring the 13 IHR (2005) core capacities of health systems and the whole society. This assessment tool is for countries and WHO to fulfil the requirements under Article 54 of the IHR (2005), which states that "States Parties and the Director-General shall report to the Health Assembly on the implementation of these Regulations as decided by the Health Assembly". There is also an electronic platform for countries to report online and for WHO to monitor annual submission reporting (e-SPAR at https://extranet.who.int/e-spar/).<br><br>The IHR (2005) core capacities monitored by this tool involve several of the building blocks of health systems, for example, legislation and financing, governance for IHR (2005) coordination, information systems for surveillance, multisectoral workforce to enable early detection, prevention, preparedness and response to emergencies, delivery of services for IHR (2005) relevant hazards and essential health services and risk communication and community engagement. Assessing IHR (2005) core capacities also contributes to developing certain resilience attributes, for example providing diversified national, subnational and local-level health service delivery to prevent, detect, respond to and recover from public health events; raising awareness of health systems abilities and vulnerabilities for preparing for and responding to emergencies; mobilizing resources and support for emergency management; and integrating health systems strengthening and IHR (2005) core capacity-building efforts for resilience. | Geneva: World Health Organization; 2018 (*92*) |

| Technical resource | Resource type | Relevance to health systems resilience | Source and publication year |
|---|---|---|---|
| On the resilience of health systems: A methodological exploration across countries in the WHO Africa Region | Guidance | There is a recognized dichotomy in the literature between the conceptualization of health systems resilience and its application in practice. This knowledge product proposes two mutually reinforcing categories of resilience, representing resilience targeted at potentially known shocks, and the inherent health system resilience, needed to respond to unpredictable shock events. The paper determines capacities for each of these categories and explores this methodological proposition by computing country-specific scores against each capacity, for the 47 Member States of the WHO African Region. The paper contributes to the growing body of empirical evidence on health systems resilience, which is of critical importance to the functionality and performance of health systems, particularly in the context of COVID-19 and beyond. It provides a methodological reflection and practical approach to monitor health system resilience, revealing areas of improvement in the provision of essential health services during shock events, and builds a case for the need for mechanisms, at country level, that address both specific and non-specific shocks to the health system, ultimately for the attainment of improved health outcomes. It can be utilized and adapted in various national and subnational contexts for the monitoring of health systems resilience. | PLoS One; World Health Organization; 2022 (*93*) |

# Challenges and limitations

While efforts have been made to ensure a systematic approach in the development of this Toolkit, several limitations were noted that were beyond the writers' control. Some of these limitations are described below.

- Health systems resilience is an emerging technical area with a limited number of dedicated documents specific to its operationalization. Within the scope of this Toolkit, categorization of various relevant materials is undertaken according to the identified pillars of (1) policy-making and planning; (2) operations and service delivery; and (3) monitoring and evaluation, which provide a readily available fix to address a foundational gap, orient the system and promote skills to ensure a collaborative approach for efficiency and synergies.
- Understanding of the concept of resilience and its implementation and operational implications varies greatly, and there are still no comprehensive examples or lessons learned in the global community.
- There is a very limited number of country case studies in terms of setting resilience as a top national priority in the health sector; in the meantime, designing policies, orientation and operations centred on health systems resilience are a priority.
- There may be valuable technical resources in languages other than English that are not included in this Toolkit, but may have significant implications for countries.
- Although the development of the Toolkit has involved technical experts with various types of expertise at global, regional and national levels, there is a need to involve the global partners and national stakeholders further in the application of resilience in health systems strengthening for UHC and health security.
- While the available material for monitoring health systems resilience was already limited, the community perspective was even more limited in the available monitoring tools.

## Priority areas for further development of resources

The development of this Toolkit has highlighted gaps in the availability of technical resources focusing on health systems resilience. This is not surprising, since health systems resilience is still an emerging field of work.

Table 8 below categorizes the areas that are most lacking in technical resources and tools to support an integrated approach to sustained resilience-building in health systems. This is based on a comparison between the availability and scope of resources under each of the modules in this Toolkit and health systems resilience requirements for each building block. The list is not exhaustive; however, it indicates areas to prioritize in research and development of tools and other technical products to expand the evidence base and inform decisions and actions for making health systems more resilient. Future editions of this Toolkit will also benefit from such technical advancements.

**Table 8.** Example of priority areas for further development of technical resources

| Toolkit module | Priority areas for further development of technical resources | Additional details |
|---|---|---|
| Understanding health systems resilience | • There is need for additional technical guidance on the interface between health systems resilience and other public health priorities e.g. climate resilience, antimicrobial resistance, noncommunicable diseases, population-specific programmes. | Health systems resilience as a concept has a growing literature base: however, technical resources on its linkages with other public health programmes are needed. This will ensure common understanding of health systems resilience in the context of broader public health challenges, and avoid fragmentation. |
| Integrated policy-making and planning for health systems resilience | • There is a gap in available practical technical resources on how countries can develop legislative instruments, policies and plans to enable an integrated approach to building and sustaining health systems resilience. | Countries need to have policies and legislative frameworks to anchor and support health systems resilience within their national and subnational programmes. While there is a lot of technical material on the need to have integrated approaches to legislation, policy-making and planning, few of these resources provide practical guidance on "how to" at the county level. |
| Health systems resilience at operational level | • The application of health systems resilience still requires additional work, to move from conceptual to operational guidance. | Health systems resilience and the available technical resources has for the most part been conceptual. More tools on the application of health systems resilience at the operational and service delivery level is needed e.g. health systems financing to strengthen resilience:<br>• improving and capacitating health workforce competencies for public health<br>• strengthening the resilience of supply-chain systems for essential medicines<br>• ensuring the value of interoperable information systems to ensure effective surveillance<br>• building community trust for effective and sustainable implementation of public health capacities. |
| Monitoring and evaluating health systems resilience | • There is need for dedicated, consolidated approaches to monitor and evaluate health systems resilience, including better alignment of existing tools and resources | Fragmented approaches to monitoring and evaluation has been a persistent challenge in public health. There is more work needed to better streamline and align existing and new approaches to the monitoring of public health capacities, to avoid fragmentation of efforts and improve the evidence sources for sustainable health systems resilience. |

# Conclusion

The need to shift the approach of health systems resilience from a conceptual to an operational framing has become evident in recent years. Applying the health systems resilience concept in the various contextual settings is neither simple nor straightforward, owing to the way the health system is set up; governed to meet both individual and population-based services; maturity; and interaction with needed sectors. However, creating the needed enabling environment through policy, operational frameworks and appropriate evaluation mechanisms would ensure that the key attributes of resilience are realized, using policy, service delivery and evaluation as key entry points. Strengthening capacities in ensuring an integrated approach to policy-making and planning provides a cascading ripple effect, creating a conducive environment for health systems strengthening and health protection efforts aligned from the national to the subnational level.

With the support of the technical resources contained in this Toolkit, better conceptual and operational clarity can be provided for stakeholders involved in policy-making, capacity development and monitoring at the various levels. While the Toolkit, with the support of its preceding reviews, aimed to address some of the technical gaps in operationalizing health systems resilience, there still exist gaps in the global pool of resources, and this technical document acknowledges those gaps. The development of a health systems resilience toolkit is thus an ongoing process that will undergo continuous improvement as the literature and experiences in this technical area continue to evolve.

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# Annex 1. Consultation template

## Guiding questions for the consultation

i. To capture the understanding of the scope of resilience concept in relation of the Toolkit. What would you consider as the objectives and applications of the Resilience Toolkit?

ii. What should be the scope and contents of the Toolkit?

iii. Based on known gaps what would you like the Resilience Toolkit to entail under (i) policy-making & planning (ii) operational & service delivery (iii) monitoring and evaluation etc.?

| | Policy-making & Planning | Operational & Service Delivery | Monitoring and evaluation |
|---|---|---|---|
| Pre-Emergency Phase (prevention & preparedness) | | | |
| Emergency Phase (response) | | | |
| Post-emergency Phase (recovery) | | | |
| | | | |

iv. Please provide a rationale for inclusion of your proposed products, and how they complement other technical products in the Toolkit?

v. What special considerations do you propose for adaptation of the Toolkit to various contexts?

# Annex 2. Scoping review

The overarching aim and scope of the review was to explore the conceptual framing and application of health systems resilience within the context of disruptive public health events, including the linkages with and implications for service resilience. To support this aim, the following objectives were defined:

1. explore the evolving conceptual framing of resilience, including its scope and definition, in relation to health systems in the context of disruptive public health emergencies;
2. describe health systems resilience in the context of different types of public health emergencies, including infectious disease; acute and protracted conflict; economic stressors; and climate-related disasters; and
3. apply emerging experiences and lessons from the COVID–19 pandemic across the conceptual and operational understanding and framing of health systems resilience.

A combination of search terms was adopted, and the sources used were peer-reviewed publications from scientific databases such as PubMed and grey literature derived from the websites of international, regional and national public health agencies.

The inclusion criteria for the review were limited to human species and the English language in line with the capacities of the reviewer. The timeline was limited to technical materials dated between 2014 and 2020, to align with the recent disruptive events that have created the momentum in resilience and the integrated approach to health systems and health security, reflecting on experiences, data and material from recent public health emergencies.

The scoping exercise focused the exploration and analysis in two major areas – (1) understanding the concept of resilience in relation to health systems; and (2) applications of resilience in strengthening health systems and health security.

# Annex 3. Call for material: request for tools and resources

**Call for material:**

**Health Systems Resilience Toolkit**

**Request for tools and resources for inclusion, and to support the development of the WHO Global Public Health Good 924 – Health Systems Resilience Toolkit**

A. Overview

Experiences from recent and ongoing public health emergencies (acute and protracted), have demonstrated the need for an integrated approach to health systems strengthening, with essential public health functions, for sustainable resilience. As part of GPW 13, a global public health good in the form of a Health Systems Resilience Toolkit with a focus on health service delivery, is being developed. This aims to provide a focused, concise and consolidated reference package of technical resources that can be adapted to local contexts, including in countries with FCV settings. This Toolkit will support WHO country offices to support integration between health systems, health security and other allied programmes; from policy-making & planning, implementation and operationalization, as well as with monitoring – promoting objectives of universal health coverage (UHC) and health security in the respective countries.

Objectives of the Toolkit

- Provide a source of technical resources on health systems resilience, to address identified gaps and bottlenecks at country level;
- Guide countries policies, planning and strategies to promote an integrated approach for building resilience with essential public health functions;
- Provide context considerations for adaptation of the Toolkit, including in FCV settings;
- Facilitate application of lessons learned from country experiences during COVID-19 and other public health emergencies, to contribute to health systems strengthening

A scoping exercise of available technical resources is in progress, encompassing review of published scientific and academic resources, as well as products from global, regional and local technical partners and organizations. This 'call for resources' serves to collate published and unpublished material that can complement or be considered as part of the Toolkit.

B. Criteria of material to be considered

The technical resources to be considered for inclusion in the Health Systems Resilience Toolkit (in varying degrees) will be based on the following parameters:

- technical resources with strong linkages and relevance to health systems resilience, based on the three modules (policy-making and planning; operational and service delivery; monitoring and evaluation);
- technical resources that can be adapted to various local settings, including FCV settings;
- technical resources released within the past 10-years (however older source documents may be considered on a case-by-case basis if it still addresses critical gaps)
- technical resources developed and supported by the latest available evidence; and
- technical resources that have been implemented at country level.

C. Questions

1. Submission contact details (Name; Department; Office (HQ, RO, WCO); Country; Email address)

2. What is the title of the technical resource?

3. What is the year of publication or release? (YYYY)

4. What languages is it available in?

5. Please provide a description that includes a (1) brief context of the resource including its objectives; (2) its use/application; and (3) any considerations or adaptations for the application of the material.

6. Who is/are the audience for this technical resource? (Policy-makers; Health authorities (national, subnational); Health service providers, including managers; Patients/communities; Local, regional or global technical partners; Other.

7. In which countries or settings has it been implemented?

8. Please provide the link or reference for the technical resource.

9. Alternatively, please kindly upload the document as a PDF, Word or Excel file.

Thank you for your time in contributing to the Health Systems Resilience Toolkit. If you have other tools that you would like to submit, please feel free to submit multiple entries.

FCV: fragile, conflict-affected and violent; HQ: WHO headquarters; PDF: Portable Document Format; RO: WHO regional office; WCO: WHO country office.

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