World Health Organization

Off-the-shelf exercise handbook

Health systems resilience exercises

WHO/UHL/IHS/2021.01

Suggested citation. Health Systems Resilience Simulation Exercises. Geneva: World Health Organization; 2021 (WHO/UHL/IHS/2021.01). Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

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Acknowledgements

This simulation exercise package was developed by Gillian Dacey, Zandile Zibwowa, Frederik Copper, Redda Seifeldin, Andrew Black, Yu Zhang and Geraldine McDarby, under the overall supervision of Sohel Saikat.

Appreciation goes to colleagues at WHO headquarters, the WHO Regional Office for Africa and the WHO Country Office in Zimbabwe: Ed Kelley, Prosper Tumusiime, Stella Chungong, Alex Gasasira, Shams Syed, Raj Sreedharan, Ali Yahaya, Ambrose Talisuna, Mary Stephens, Dirk Horemans, Jennifer Nyoni, Tarcisse Elongo, Juliet Nabyonga, Gertrude Avortri, Mekdim Ayana, Pierre Kariyo, Nonso Ejiofor, Louis Ako-Egbe, Faiqa Ebrahim, Moses Bolongei, Abiy Girmay and Haroon Khan.

Special thanks to WHO partners: Public Health England (Dr Neil Squires, Charles Turner, Paul Sutton and Dr Elena Skryabina), Department of Health, United Kingdom of Great Britain and Northern Ireland (Helen Tomkys) and the United Kingdom Foreign, Commonwealth and Development Office (Martin McKenna, Sam Beckwith, Meredith Bradbury, and Lisha Lala) for their support in the development of the package.

Appreciation also goes to local and national authorities from the nine countries as well as the respective WHO country office colleagues (from Cote d' Ivoire, Ethiopia, Ghana, Kenya, Liberia, Nigeria, South Sudan, United Republic of Tanzania and Zimbabwe) who participated in the review and pilot workshop held in Harare, Zimbabwe on 19–21 November 2019. Special thanks go to Martin McKenna and Sam Beckwith for representing the United Kingdom Foreign, Commonwealth and Development Office at the workshop, along with Charles Turner of Public Health England. We also appreciate the participation of Rhea Bright from the United States Agency for International Development office in Washington, D.C.

This work was undertaken in the context of the Tackling Deadly Diseases in Africa Programme, funded by the United Kingdom Foreign, Commonwealth and Development Office, which seeks to strengthen collaboration between the health system and health security clusters to promote health security and build resilient health systems.

1. Health systems resilience overview

1.1 Introduction

In the context of emergencies, 'resilient health systems' refer to the capacity to provide an effective health response to a public health emergency (PHE) while also maintaining core health services.

This resilience relates to the capacity of health actors, institutions, and populations to prepare for and effectively respond to crises; maintain core functions when a crisis hits; and, informed by lessons learned during the crisis, reorganise if conditions require it (1). Functionality of a resilient health system can be based on its ability to provide:

- quality routine health services at all contexts (typical day to day routine care, including immunisation)
- emergency-specific healthcare (when the population suffers from an unanticipated outbreak or emergencies such as Ebola, MERS CoV, injuries, mass-casualty)
- a response to emergencies with public health authorities in the country (e.g. outbreak investigation, disease diagnosis between clinical and public health laboratories, patient safety and community protection with infection prevention and control, surge capacity to maintain essential health care)
- services to individuals and populations with changing epidemiology (e.g. non-communicable diseases, ageing)

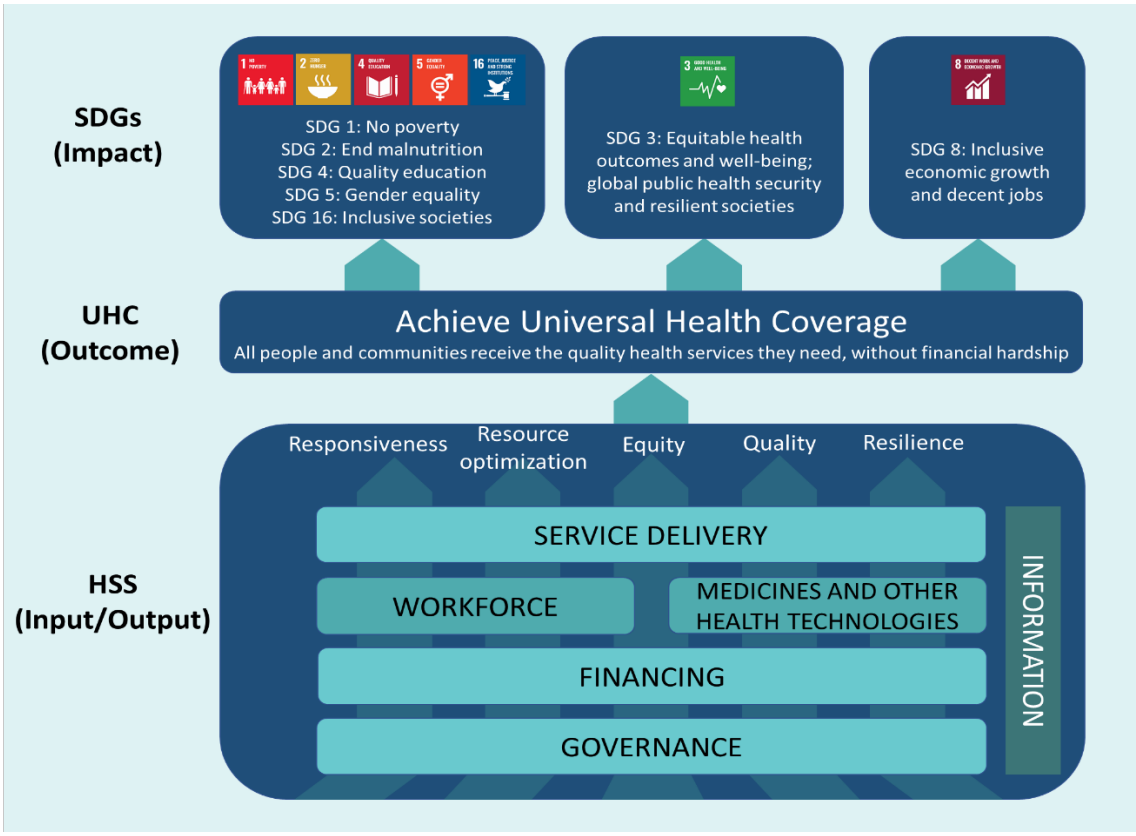
Achieving universal health coverage by 2030 is an important objective of the United Nations Sustainable Development Goals for all countries, and health systems strengthening contributes to this objective (Fig. 1). One way that it does this is by promoting global public health security and increasing the resilience of health systems to respond to health threats that spread both within and across national borders. This requires systematic and targeted consideration of emergency preparedness in all six building blocks of health systems. Service delivery demonstrates functionality and a systems approach in the provision of high-quality health services (Fig. 2).

In an emergency, examples of system aspects could include: activation of an established connection between health care facilities and public health authorities; timely surveillance and contact-tracing involving clinical laboratories, public health laboratories, emergency operations centres, national disease surveillance, rapid response teams and health management teams; provision of a service continuity plan covering mutual aid; surge capacity to access additional resources, medicines and supplies; and clear roles and responsibilities, planned delegation and contact details of all those who need to communicate in a fast evolving emergency situation while avoiding lengthy bureaucratic procedures.

Simulation exercises are a component of the revised International Health Regulations (2005) monitoring and evaluation framework, and are also used extensively in defence, health security and emergency response. Within the context of health systems reviews, simulation exercises are used for:

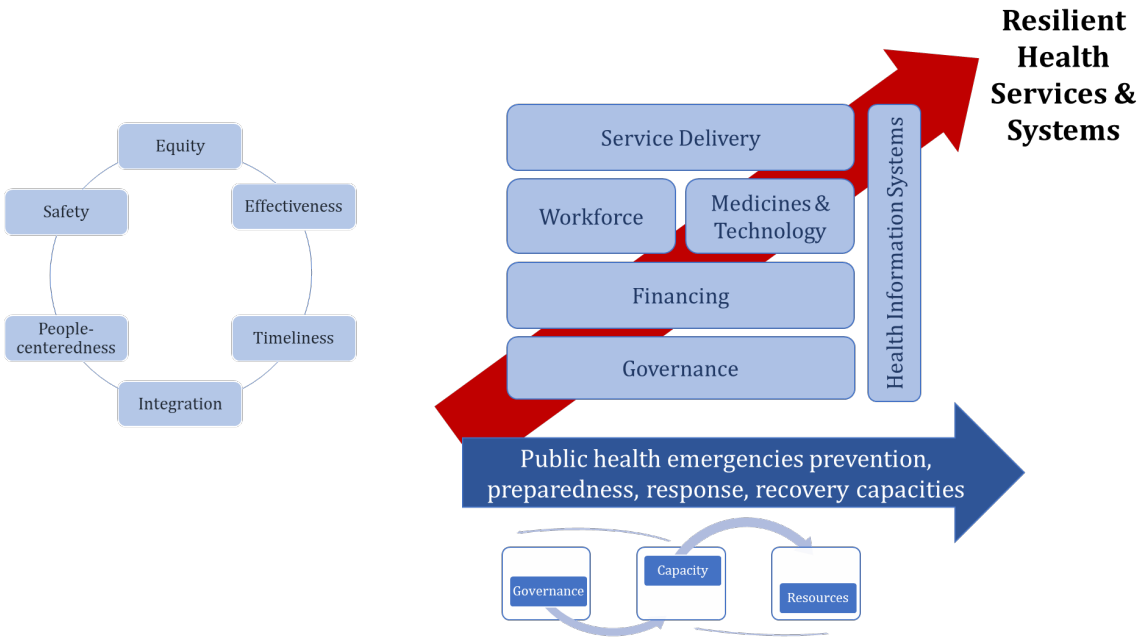
- ascertaining current capacity to maintain the health services during emergency response;
- developing and testing plans;
- giving responsible authorities the opportunity to practise the delivery of these plans in a simulated environment.

Fig. 1. Health system strengthening – universal health coverage and the Sustainable Development Goals



Source: WHO Health Services Resilience Team, adapted from (4).

Fig. 2. Health systems framework showing preparedness and high-quality health services as underpinning requirements for resilience



Source: WHO Health Services Resilience Team.

Simulation exercises can be used to test health system functionality and interconnectedness between different health systems building blocks, making them suitable for supporting health systems strengthening as well as for developing preparedness, response and recovery capabilities.

Currently available simulation exercise materials lack an integrated health systems perspective and have a limited focus on the quality of services delivered in response to a public health emergency (*2*). Such materials should also focus on the ability of systems to maintain core services effectively during a response (*2*). The present handbook of off-the-shelf exercises (OTSE) focuses on health services resilience in an emergency environment. It provides a ready-prepared tabletop exercise for health systems personnel to conduct simulation exercises. This OTSE package complements the existing WHO simulation exercise manual (*3*), which describes other forms of exercise (including tabletop exercises) in detail. Without explicit references, this package also looks at the functionality of and interconnectedness between the six building blocks of health systems as required in an emergency response:

- service delivery
- health workforce
- health information systems
- access to medicines and technology
- financing and
- leadership and governance.

The package includes a list of roles and responsibilities for the suggested participants (Annex 1), templates for required documents (Annex 2), an action plan for the exercise (Annex 3) and a checklist of preparations (Annex 4).

To ensure a coordinated and effective response, these different aspects of the health system not only need to work together, but must also be coordinated with other agencies, such as law enforcement, animal health, port health, environmental health and communities.

1.2 Resilience attributes in the health systems building blocks

The functions of a resilient health system are shown in Table 1 (*2*). The present series of short simulation exercises focuses on resilience in the six health systems building blocks, which are considered pertinent for maintaining high-quality health services alongside the health systems contribution to an emergency response. However, as this package is a series of short exercises, not all aspects of resilience in the building blocks can be covered in detail.

Table 1. WHO health systems building blocks – components and resilience attributes

Health System Building Blocks	Examples	Resilience Aspects
Service Delivery	• Case management • SOPs • Facilities • Equipment, Transport	• System aspects of delivery • Impact of Public Health Emergency on routine services • Integrated functional capacities • Quality of care
Workforce	• Number of staff • Training/knowledge • Surge capacity	• Quality of surge workforce • Capacity remaining for routine services • Health & safety of workforce
Medicines & Technology	• Access to medicines and supplies	• Emergency procurement systems & plan • Functional capacity/timeliness of delivery • Supply chain considerations
Leadership & Governance	• National/local plans, structures • Roles and responsibilities • Guidelines • Risk identification	• Governance & coordination structures • Well defined Command & Control structures • Alignment with national plans/guidance • Implementation at facility level
Financing	• Identification of contingency resources • Access to contingency resources	• Mechanisms to access contingency funds • Ability to meet multiple Public Health Emergencies
Information Systems	• Surveillance systems • Information sharing	• Integration of surveillance • Activation of plans • Risk communication • Command Incident System

Source: adapted from (2).