

# Health Systems Resilience: Key Concepts and Strategies

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**HSRM**  
Capacity-building in Health Systems  
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on Health Systems and Policies



# Academic interest in resilience is in increasing



Foroughi et al. *BMC Public Health* (2022) 22:287  
<https://doi.org/10.1186/s12889-022-12496-3>

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Toward a theory-led meta-framework for implementing health system resilience analysis studies: a systematic review and critical interpretive synthesis



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Zeynab Foroughi<sup>1</sup>, Parvaneh...

PLOS ONE

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Social Science & Medicine

Volume 232, July 2019, Pages 168-180

Review article

Conceptual analysis of health systems resilience: A scoping review

Charlotte Paillard Turenne<sup>a</sup>, Lara Gautier<sup>b,c,d</sup>, Stéphanie Degroote<sup>a</sup>, Etienne Guillard<sup>e</sup>, Fanny Chabrol<sup>a</sup>, Valéry Ridde<sup>a,f</sup>

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 RESEARCH ARTICLE

On the resilience of health systems: A methodological exploration across countries in the WHO African Region

Humphrey Cyprian Karamagi<sup>✉</sup>, Regina Titi-Ofei, Hillary Kipchumba Kipruto, Aminata Benitou-Wahebine Seydi, Benson Droti, Ambrose Talisuna, Benjamin Tsofa, Sohel Saikat, Gerard Schmets, Edwine Barasa, Prosper Tumusiime, Lindiwe Makubalo, Joseph Waogodo Cabore, Matshidiso Moeti

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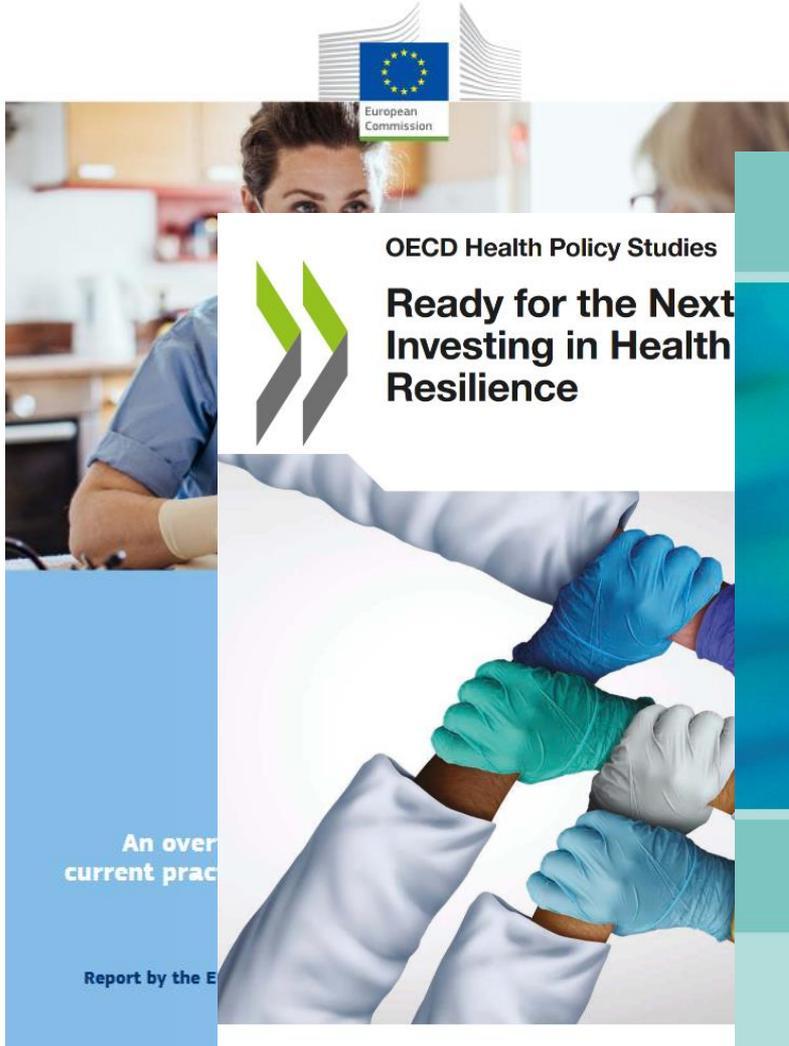
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1929

1995: 88

2023

# Recent policy guidance on improving health system resilience



# Outline



1. What is a health system?
2. What is resilience?
3. How to improve resilience?
4. How is resilience related to One Health?

# What is a health system?



People, institutions and resources, arranged together in accordance with established policies, to improve the health of the population they serve, while responding to people's legitimate expectations and protecting them against the cost of ill-health through a variety of activities whose primary intent is to improve health.

European Observatory for Health Systems and Policies  
(2007)

# The WHO Building Blocks framework



## System Building Blocks

SERVICE DELIVERY

HEALTH WORKFORCE

INFORMATION

MEDICAL PRODUCTS,  
VACCINES & TECHNOLOGIES

FINANCING

LEADERSHIP /  
GOVERNANCE

## Intermediate Goals / Outcomes

ACCESS  
COVERAGE



QUALITY  
SAFETY

## Overall Goals / Outcomes

IMPROVED HEALTH  
(level and equity)

RESPONSIVENESS  
(level and equity)

SOCIAL & FINANCIAL RISK  
PROTECTION

IMPROVED EFFICIENCY

Source: World Health Organization (WHO). (2007) *Everybody's business: Strengthening health systems to improve health outcomes. WHO's framework for action*. Geneva: WHO Document Production Services.

# Resilience: concept, origins, and relevance



- Origins of the concept in environmental sciences, engineering, psychology, more recent in health systems/public health
- Surprisingly wide variation in the utilization of the term:
  - Health system responses to sudden shocks vs. responses to long-term crises/structural changes
  - More narrow focus on crisis preparation, response, recovery vs. broader focus including anticipation and/or growth
  - Recognition of one or several strategies, i.e. absorption, adaptation, and/or transformation
- Confusion whether resilience is an attribute of the system, an outcome (performance) or a mediator.

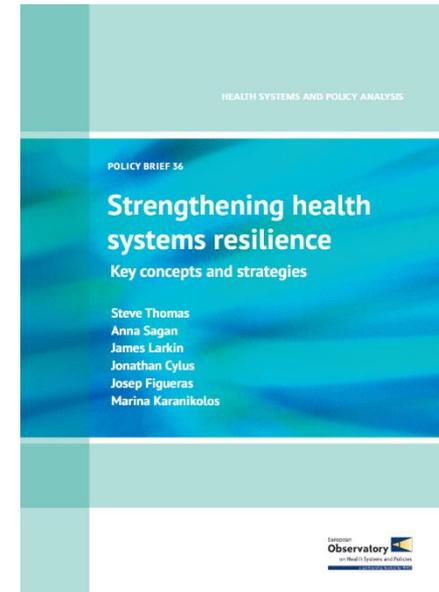
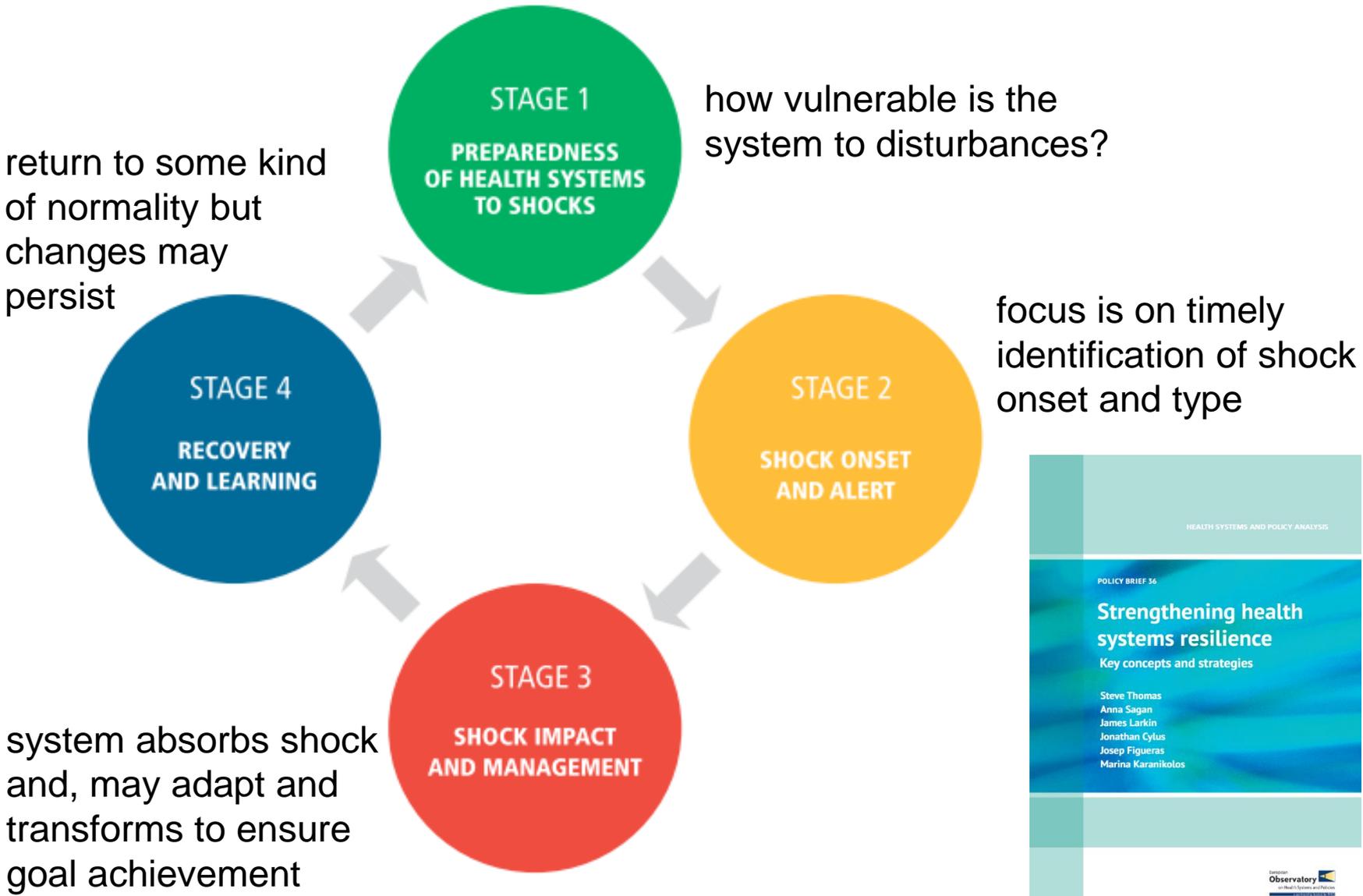
# Definition examples



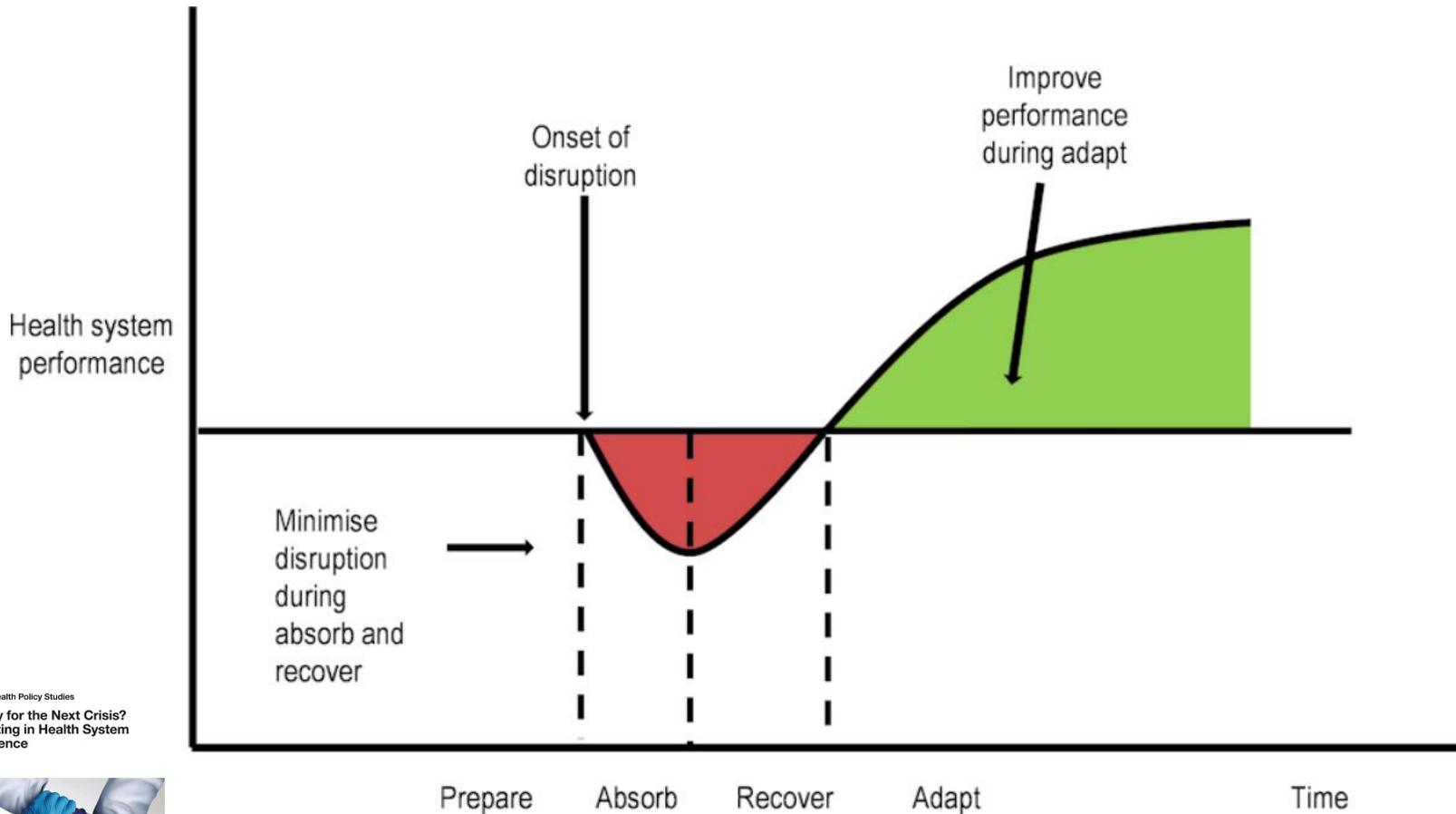
Health system resilience describes the **capacity of a health system** to (a) proactively foresee, (b) absorb, and (c) adapt to **shocks AND structural changes** in a way that allows it to (i) sustain required operations, (ii) resume optimal performance as quickly as possible, (iii) transform its structure and functions to strengthen the system, and (iv) (possibly) **reduce its vulnerability** to similar shocks and structural changes in the future



# Stages of the shock/disruption cycle



# The shock/disruption cycle and health system performance



OECD Health Policy Studies  
Ready for the Next Crisis?  
Investing in Health System  
Resilience



# Or five health system resilience phases?



- 1. Anticipation:** acknowledging vulnerability, performing risk-analysis, risk assessment...
- 2. Preparation:** improving essential capacities, establishing governance structures, planning, legal preparations...
- 3. Response:** reacting to changing circumstances, involves all health system building blocks, depends on anticipation and preparation
- 4. Recovery:** reducing performance deterioration (to which level? how quickly?), long-term view
- 5. Growth:** health systems should improve/change as a result of learning from shock to become more resilient

... based on Foroughi et al. 2022

# Characteristics of a resilient health system



**Aware**—recognizes population health needs and risk drivers, detects threats, and maps strengths and weaknesses. E.g.: through investments in multi-sectoral disease surveillance.

**Agile**—responds to evidence and changing needs and uncertainty, e.g., pre-positioned resources, procurement, and essential supplies; incorporation of risks in planning (including preparedness plans).

**Absorptive**—manages crises and maintains core functions despite a need for redistribution of resources, e.g., emergency operation centers, capacity for contact tracing, and upskilling health workers.

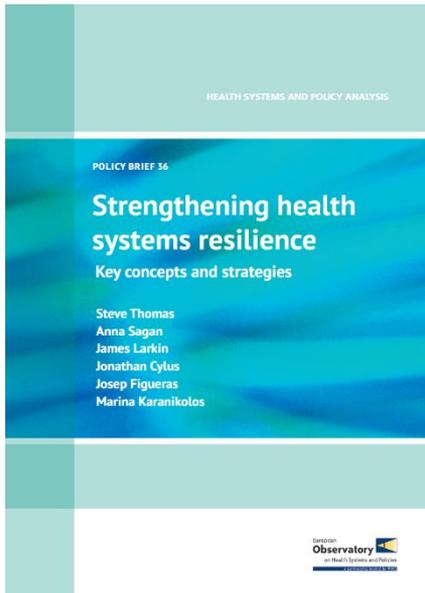
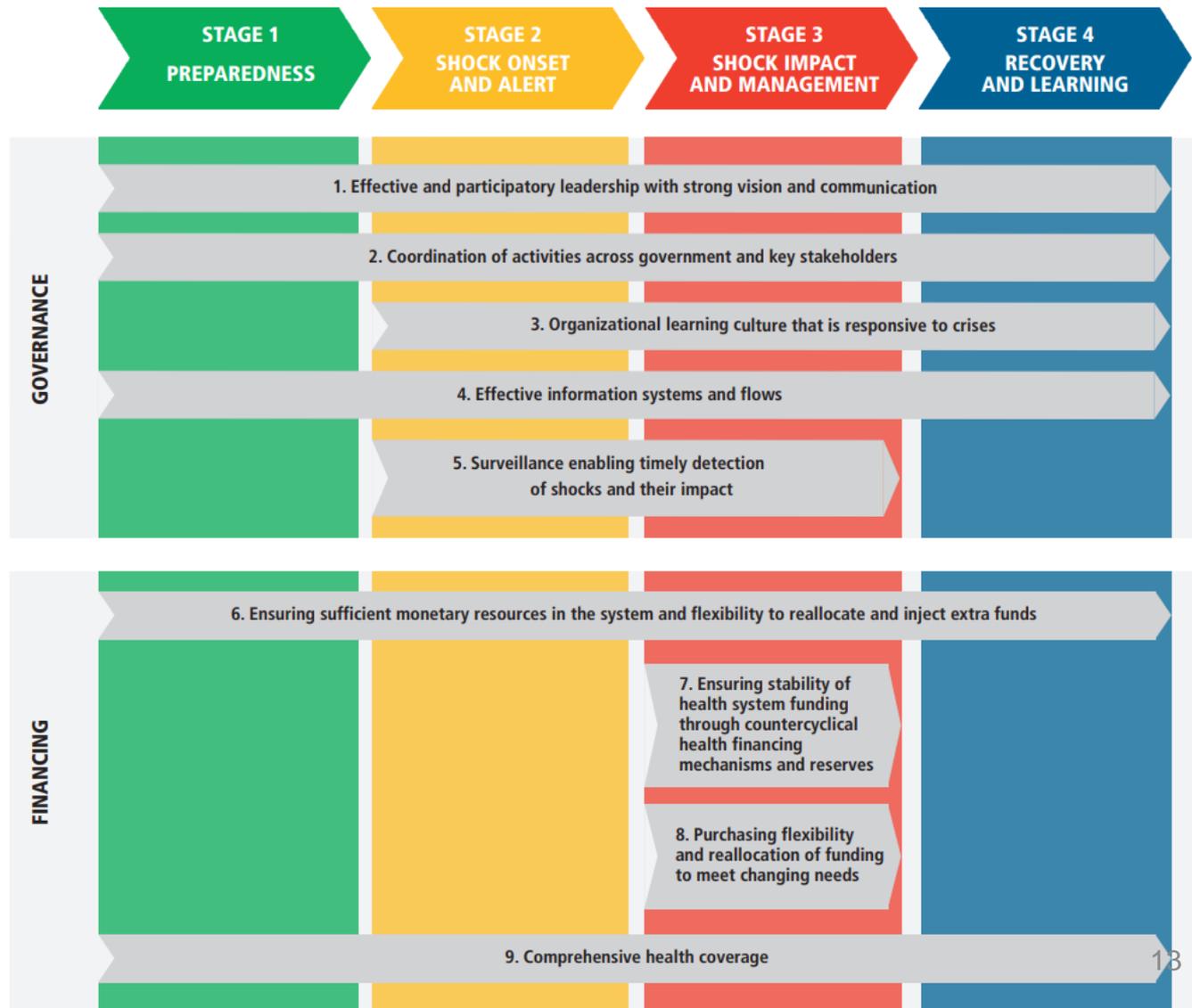
**Adaptive**—minimizes disruptions and maintains essential individual and population-based health services despite change in resources, e.g., reallocation of resources, use of telemedicine, altered standards of care, and rational use of personal protective equipment (PPE).

**Transformative**—innovates and reorganizes structures and operations based on lessons learned during a crisis to reduce risk and improve function, e.g., the enactment of reforms based on lessons learned, simulations, and evaluations.

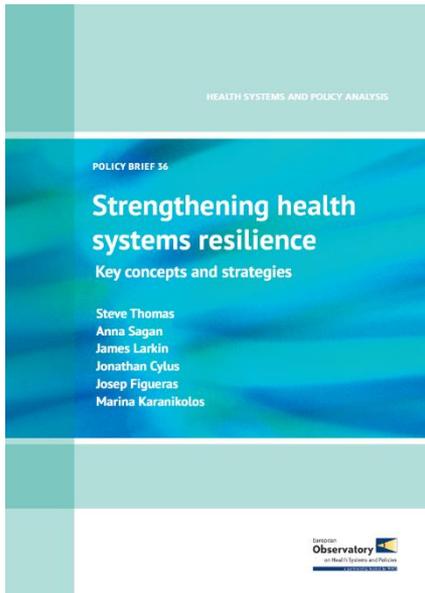
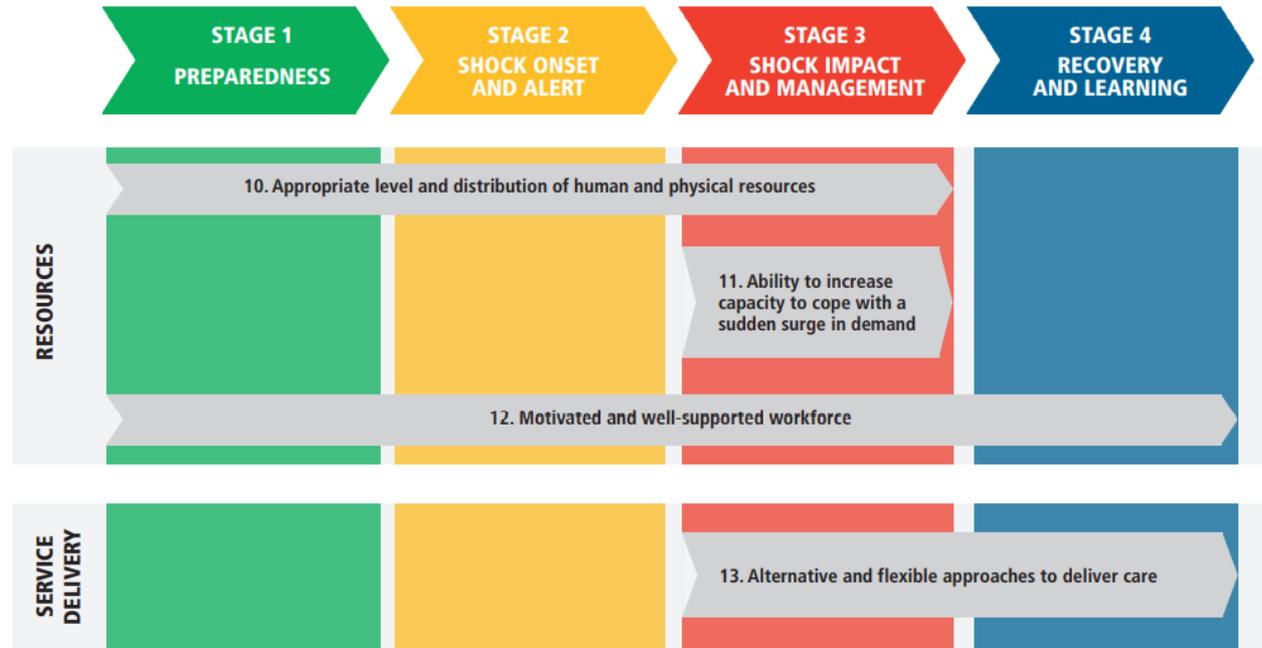
**Integrate**—integrates essential public-health functions with individual and clinical service delivery through investments; integrates health security, and disease-specific planning with health systems-strengthening initiatives.

**Multi-sectoral**—coordinates and draws value from partnerships to implement resilience-sensitive and specific interventions with allied health (e.g., environmental and animal health) and beyond the health sector (e.g., education; finance; transport; media, communications, and the private sector).

# Strategies to strengthen resilience by health system function and stage of shock cycle



# Strategies to strengthen resilience by health system function and stage of shock cycle



# How to strengthen resilience



## Governance:



- i. Review and strengthen decision-making processes based on evidence.
- ii. Invest in national public-health institutions and update legal and regulatory frameworks.
- iii. Update preparedness plans and strategies to incorporate risk drivers and leverage learning from prior experiences.
- iv. Ensure leadership and command structure by enabling clarity of roles, capacity building, and establishing emergency operation centers (EOCs).

## Partnerships:



- i. Leverage regional institutions and partnerships for coordination, capacity building, and harmonization of policies.
- ii. Institutionalize whole-of-government approaches by setting up multisectoral and One Health platforms for planning and coordination of cross-sectoral activities.
- iii. Develop a fit-for-purpose private-sector engagement strategy and establish agreements to facilitate the private sector's role during crises.

# How to strengthen resilience



## Financing resilient health systems:



- i. *Prioritize, ring-fence, and track investments in pandemic prevention, preparedness, and response (PPR).*
- ii. *Leverage catalytic, complementary investments in resilience (e.g., joint planning tools).*
- iii. *Reduce financial barriers to access crisis interventions and essential health services.*
- iv. *Develop diverse and agile crisis-ready financing—create contingency funds and use innovative financing for disaster-risk layering.*

## Human resources:



- i. *Map health workforce needs and develop an evidence-based human resources for health strategy.*
- ii. *Diversify and repurpose the health workforce.*
- iii. *Develop and sustain cadres of community health workers (CHWs) and train them for frontline PPR roles.*
- iv. *Build multi-disciplinary competencies for PPR through pre-service and in-service trainings.*
- v. *Protect frontline staff by providing access to infection, prevention, and control (IPC) training, personal protective equipment (PPE), and information, education, and communication (IEC).*

# How to strengthen resilience



**Change  
Cannot Wait**

## Innovation:



- i. Update preparedness plans and national health strategies to include mechanisms for research and regulatory review processes during emergencies.
- ii. Spur people-centered innovation by engaging communities and supporting intermediary innovation platforms.
- iii. Invest in an agile regulatory system to accommodate and fast-track new medical technologies.
- iv. Build research, regulatory, and monitoring and evaluation capacity.

## Health intelligence:



- i. Strengthen early-warning surveillance and epidemic intelligence functions.
- ii. Strengthen inter-connected laboratory capacity and regional networks.
- iii. Strengthen and integrate information systems, including for monitoring of service provision and disruptions at facilities.
- iv. Leverage digital tools and new technology.

## Health service delivery:



- i. Assess readiness of health facilities for shocks and invest in crisis-ready facilities.
- ii. Develop plans for continuity of essential services during crises and leverage alternate health service delivery sites and adapted models of care during crises, including through maintenance and broadening of successful telemedicine platforms.
- iii. Strengthen patient referral systems and develop coordinated networks of health facilities.
- iv. Build partnerships between public-health agencies, health facilities, the private sector, and humanitarian agencies to scale service delivery in crises.
- v. Invest in community-centered primary health care (PHC) with integrated public-health functions.

## Risk communication and community engagement:



- i. Strengthen risk communication procedures, build capacity to communicate risks, and enable two-way communication.
- ii. Empower communities by involving them in decision-making.
- iii. Strengthen rumor monitoring, address misinformation, and build community trust in public-health interventions.

## Crisis-ready supply chains:

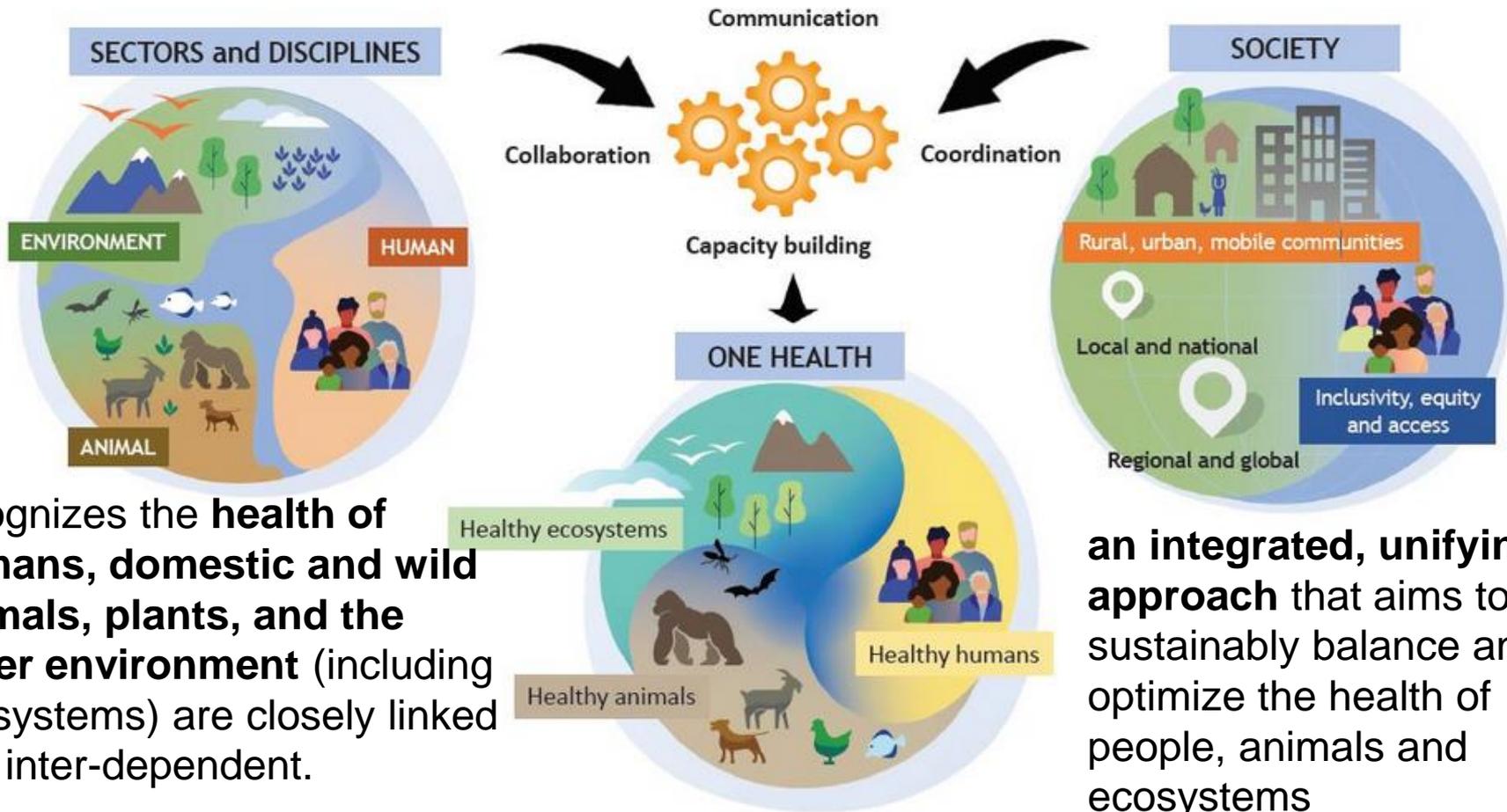


- i. Develop forecasting capacities, emergency logistics and supply chain management plans, rational-use guidance, pre-positioned contingency procurement plans, and acquisition flexibilities for health emergencies.
- ii. Leverage regional cooperation and domestic production for key medical goods.
- iii. Tackle human-resource and infrastructure gaps to upgrade supply chains.

# One Health Definition by the One Health High-Level Expert Panel (OHHLEP)



mobilizes multiple sectors, disciplines and communities



recognizes the **health of humans, domestic and wild animals, plants, and the wider environment** (including ecosystems) are closely linked and inter-dependent.

**an integrated, unifying approach** that aims to sustainably balance and optimize the health of people, animals and ecosystems



Food and Agriculture  
Organization of the  
United Nations

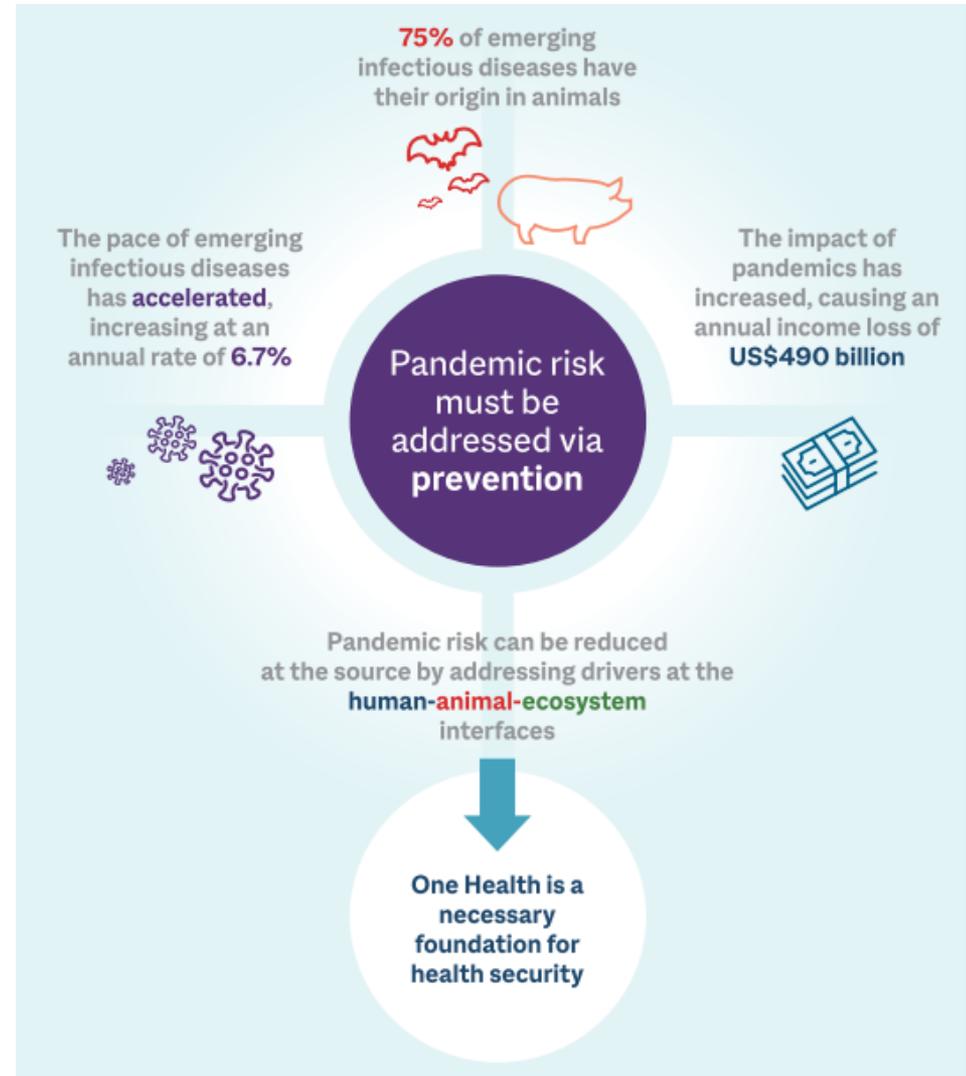


World Health  
Organization

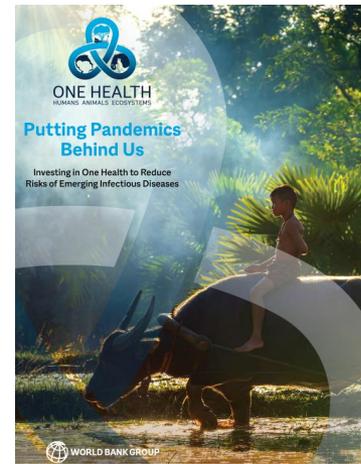


World Organisation  
for Animal Health  
Founded as OIE

# Why so much attention on One Health approaches?



# One Health approaches can reduce risk of future shocks



## PREPAREDNESS

Ex ante actions to mitigate losses when a disease outbreak occurs

### PREVENTION

Actions to reduce the likelihood or consequences of spillover events



Strengthen animal health, veterinary services



Improve on-farm biosecurity

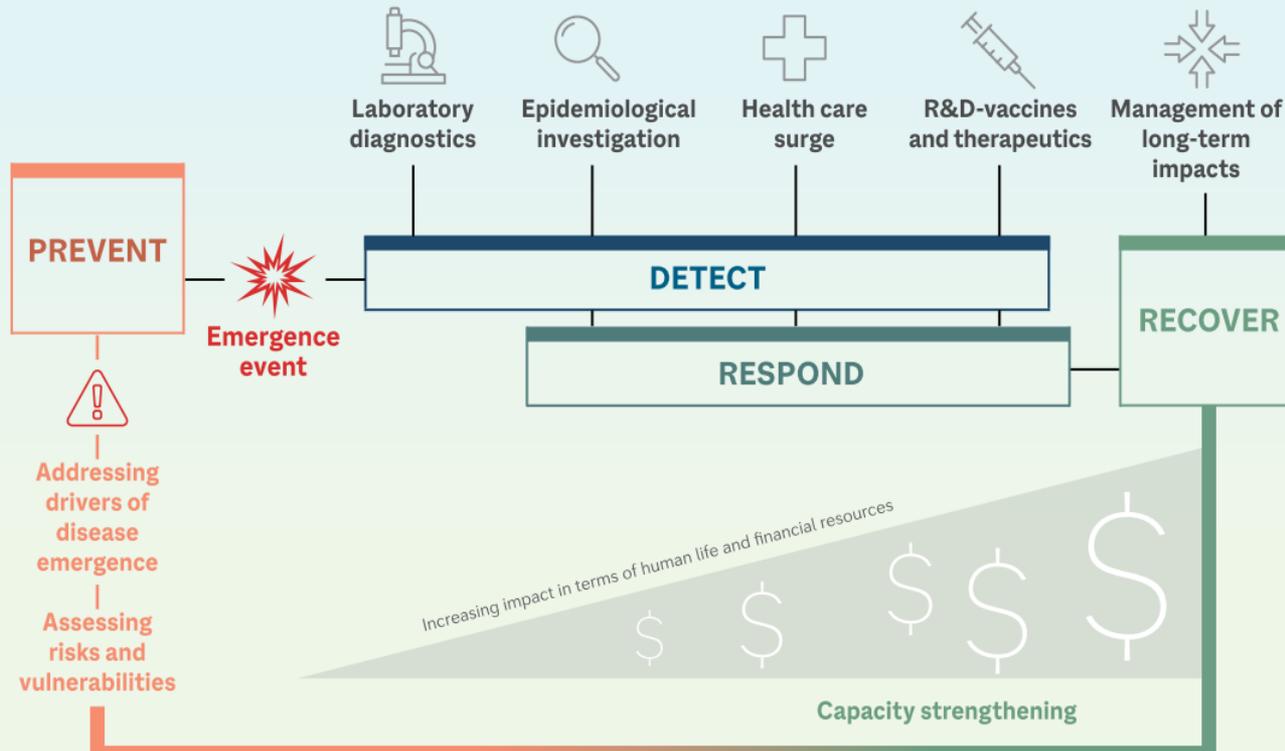


Reduce deforestation and/or forest degradation, improve conservation



Improve urban planning

**Note:** Animal health systems are a core element to prevention. Prevention also relates to interventions at the farm, forest, and city levels. Examples given here are indicative. Priority actions that constitute prevention are risk-based and related to the local context. Adapted from Carlin et al., 2019.



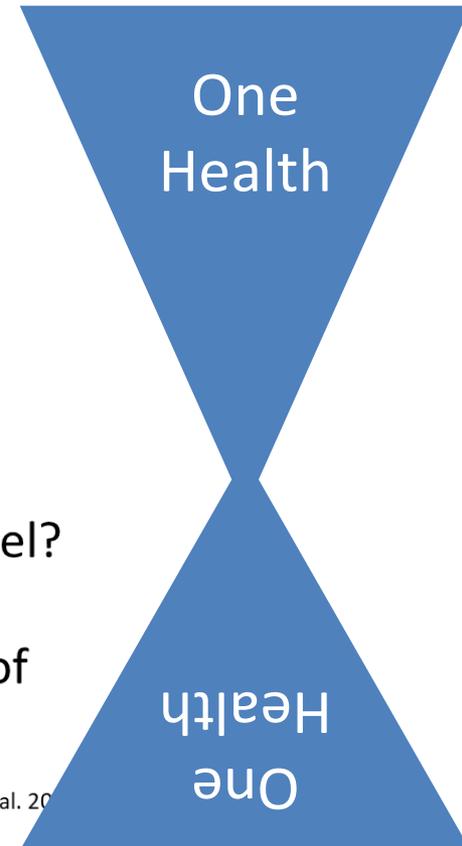


# One health and the five health system resilience phases



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4. **Recovery:** reducing performance deterioration (to which level? how quickly?), long-term view
5. **Growth:** health systems should improve/change as a result of learning from shock to become more resilient

... based on Foroughi et al. 20



# Improving health system resilience through One Health approaches?



## System Building Blocks

**SERVICE DELIVERY**

Building One Health capacity to be used flexibly in case of shock

**HEALTH WORKFORCE**

Strengthening the One Health Workforce to be deployed flexibly in case of shock

**INFORMATION**

Integrated one health surveillance systems, data sharing between ministries, joint health-risk assessments

**MEDICAL PRODUCTS,  
VACCINES & TECHNOLOGIES**

One health approach for laboratory diagnostics

**FINANCING**

Ring-fencing budgets for One Health actions

**LEADERSHIP /  
GOVERNANCE**

One Health strategies, cooperation between ministries, building partnerships, establishing joint working groups, ...

# Summary



- Health systems are people, institutions and resources arranged together in accordance with established policies...
- Health system resilience refers to the ability to prepare for, manage (absorb, adapt and transform) and learn from shocks.
- Resilience can be strengthened by improving health system building blocks (clarifying roles, ring-fencing budgets, diversifying supply-chains, improving surveillance, strengthening workforce capacity and service delivery)
- One health approaches are key for global health security and pandemic prevention
- One health approaches can contribute to greater resilience of health systems

Thank you very much!

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<https://g-wac.org/>

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