ReBUILD for Resilience Framework and Hypotheses

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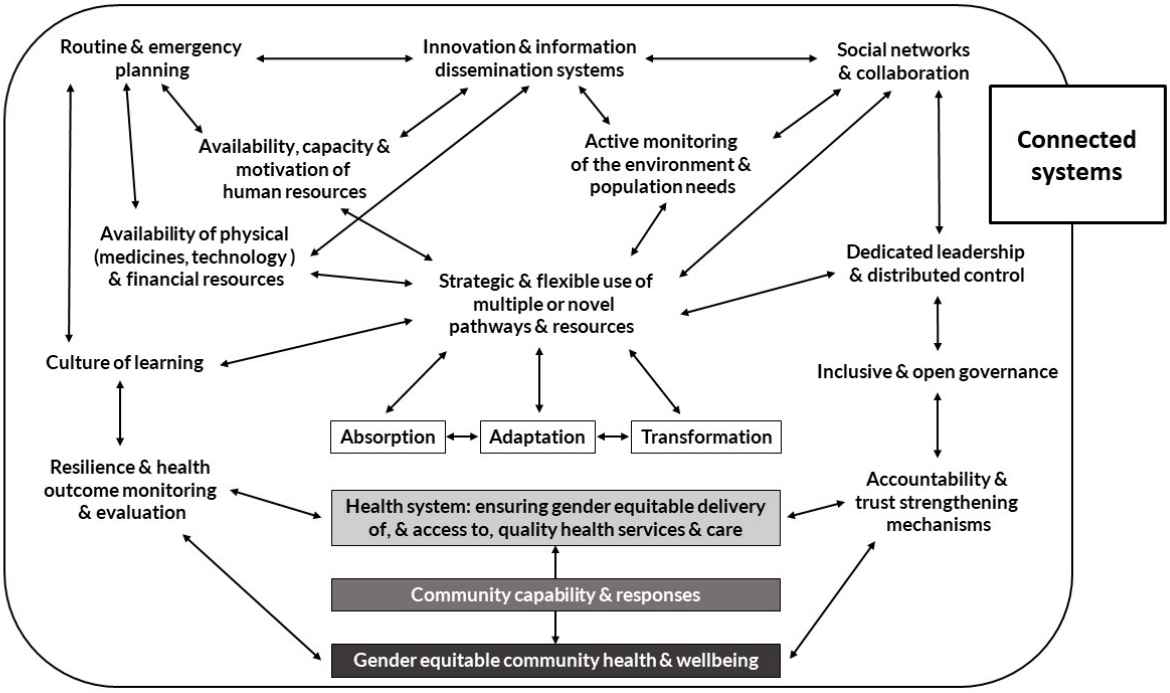

Figure 1: ReBUILD for Resilience Framework (updated 2022)

Definitions and ReBUILD for Resilience approach

According to WHO, developing resilient health services and systems ensures countries can effectively prevent, prepare for, detect, adapt to, respond to and recover from public health threats while ensuring the maintenance of quality essential and routine health services in all contexts, including in fragile, conflict and violence settings[1].

Resilience has traditionally been studied in relation to extreme events or shocks (1,2), however has recently also been acknowledged in relation to chronic stressors. In ReBUILD for Resilience we discuss shocks and stressors at macro-levels predominantly (i.e. we are concerned with populations and systems), however acknowledge that families and individuals themselves may also be impacted by shocks/stressors (this is the field of individual resilience research – e.g. as per (3)).

Drawing on the initial work of the OECD (4), we therefore define the following:

- Shocks: these are events of significant magnitude which affect populations and health systems alike. We distinguish:
    - Covariate shocks – these are infrequent events, but which have significant impacts on all persons and organizations within a setting (e.g. war, earthquakes);
    - Seasonal shocks – these are predictable and recurring events, which similarly have high impacts (e.g. floods, frequent displacement due to violence)
- Stressors: these are "long term trends, weakening the potential of a system and deepening the vulnerability of its actors, like increased pollution, deforestation, exchange rate fluctuations and electoral cycles." (pg. 5 of (4))

[1] https://www.who.int/teams/integrated-health-services/health-service-resilience

Per Jamal et. al (5), we further define a typology of approaches which can be mobilised in response to shocks and stressors:

- Absorption: is defined as a system's ability to respond to population needs using available resources and organizational processes

- Adaptation: is defined by a system's ability to adjust how its resources operate without changing system structures

- Transformation: when needed, the system is able to change its structure, organisational processes and the way it uses resources to address population needs, both pre-existing and new.

We emphasize that the above conceptualizes absorption, adaptation and transformation as *dynamic processes or approaches*; i.e. the strategies that a system enacts in response to either routine stressors or extreme shocks. In the figure, we depict this by placing the central absorption, adaptation and transformation blocks above the red blocks; the latter speak directly to service delivery and access as well as outcomes of interest (wellbeing, health literacy and health).

In ReBUILD for Resilience we further discuss absorptive, adaptive and transformative *capacities*. In these cases, we refer to the underlying broader capacities that the health system must have in place in order to deploy specific approaches. In the figure, we depict these broader capacities as surrounding the central absorption, adaptation and transformation boxes. Capacities refer both to specific elements: e.g. the presence of a culture of learning within the health system; as well as interlinkages between capacities (e.g. we hypothesise the effectiveness of the learning processes within a system are related to inclusivity and open governance and decision-making).

How does the framework relate to other work in the field?
Similarities: The above framework is grounded in a broader view of health systems as complex adaptive systems. This is in line with most recent research on resilience and emphasises the dynamic nature of relationships and interactions in health systems and beyond (5–10). While we therefore acknowledge elements which are similar to those in other health policy and systems research, e.g. as per the framework of Sheikh et al.(11), these are placed into the overarching context of complexity systems research (12,13). Further, though we acknowledge that routine stressors affect systems differently to shocks, our current framework intends to be generic and prompt wider reflections on resilience similar to the OECD's guide to resilience appraisal (4) or other frameworks (14).

Unique points:
- First, unlike predecessor frameworks, where dynamic interactions are acknowledged but not explicitly defined (7,8,14), the ReBUILD for Resilience framework identifies links between different capacities and enables us to identify feedback loops which can drive or inhibit the emergence and implementation of resilient approaches (see hypotheses below).
- Second, the framework explicitly sets out a normative position in relation to population health, which is inclusive of an equity position. The framework acknowledges that resilience is not an end in itself (similar to (8,15) but a step towards securing gender equitable community wellbeing, health literacy and health.
- Third, by depicting feedback loops, the framework also sets out normative positions in relation to health systems, emphasising for example inclusive and open governance and the existence of learning health systems.
- Fourth, by including explicit mention of governance, leadership and wider social and collaborative structures, the framework highlights the need to identify stakeholders shaping health system

responses to shock or stress, including their power, values and positions, as well as their ultimate goals and aspirations for the system overall. Consequently, we highlight the need to study the presence and shape of accountability and trust strengthening mechanisms between populations and the health system (professionals, institutions and leading actors).

Hypotheses and associated questions for investigation

Drawing on the above framework, we have specified ten preliminary hypotheses on resilience, for discussion, elaboration, testing and refinement in ReBUILD for Resilience.

1. The majority of reactions to stressors or shocks can broadly fit into one the following categories: collapse (i.e. the system is unable to respond and its structure is compromised) or adaptive/maladaptive response (absorptive, adaptive or transformative).

Relating to the above it is also helpful to monitor and explore how policy and practice stakeholders best respond to the communication of research results. For example, does framing research findings around resilience capacities and the core concepts above (absorption, adaptive and transformation) make it easier for policy makers and other health systems actors to understand and act upon research findings? For researchers, does this framing help tease out lessons and/or testing of interventions?

2. In relation to shock response, we typically observe systems deploying absorptive capacities first, with adaptive and transformative responses deployed after longer periods (typically three months or more).

Associated research questions: What level of shock would disrupt the above pattern? Prompting planners to think through different scenarios can assist with emergency preparedness.

3. Despite the pattern observed above, absorption, adaptation and transformation are not linearly dependent and can, and will be, deployed simultaneously in response to diverse shocks. The level to which systems draw on one or multiple approaches is likely dependent on the systems' previous exposure to shock or stress, as well as underlying organisational culture and history.

4. Absorptive capacity is critically dependent on the availability of human, physical and financial resources and/or the ability to secure these at short notice. Systems that are most agile in the deployment of absorptive response have reflected on the material and financial buffer stock they require to operate in case of shocks (likely as part of emergency and routine service planning), and further have put in place flexible mechanisms for securing these resources (drawing on wider social networks and partnerships) and moving stock between areas.

5. Absorptive response is likely to be sustained by the availability of diverse health professionals, and further by high levels of human resource motivation, support and health workers' dedication to their role in the short term. However, in the case of prolonged shocks/chronic stressors, motivation is likely to be depleted, leading to attrition and diminished performance (absenteeism, reduced quality of care, etc.), and alternative (adaptive) mechanisms for securing staff wellbeing and motivation are likely to be needed.

6. Adaptive capacity is critically dependent on dedicated leadership structures and distributed control. Systems that have open and inclusive governance structures, within which local leadership and distributed control of resources is both emphasised and nurtured, are likelier to quickly put in place, test and revise adaptive solutions to delivering services in times of shock. Especially for fragile

and shock prone settings experiencing inaccessibility to specific areas, the wider social and collaborative networks of district level actors are key to securing service delivery.

7. Of the three approaches outlined, transformation is the most difficult to deploy as it requires systems making strategic and flexible use of multiple and novel pathways and resources, using most of the capacities identified. If deployed successfully, transformation usually sets the ground for future absorptive capacity of systems.

8. Approaches deployed in response to stressors or shocks may at times be maladaptive (meaning that the health system becomes more inequitable or ineffective over time). Where this is the case, we hypothesise that this is due to governance challenges, within the health system and beyond, including institutions, actors, leadership and power structures guided by self-interest and limited accountability to populations, and the absence of prosocial values in core institutions. Fragile settings run higher risks of maladaptive responses, given their social, economic and historic legacies, which can perpetuate their fragile and shock prone condition.

9. For all three approaches (absorptive, adaptive and transformative), active monitoring of socio-political environments, as well as population needs, is essential. Available information systems, as well as social and collaborative networks within the health system and beyond, are critical influences on the effectiveness of monitoring and transmission of information to relevant stakeholders.

The ability of systems to openly reflect on, and learn from, previous responses to shock and stressors, is critical to the deployment of transformative approaches. I.e. systems with inclusive and open governance, which actively monitor the results of their care delivery strategies and have put in place accountability mechanisms between health systems and communities, are likeliest to implement transformative approaches.

10. We further hypothesise that the shape of the social and collaborative network that actors have access to has a direct impact on the comprehensiveness, inclusivity and equity of the resilience approaches enacted.

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