Health system resilience in Ethiopia's Tigray region: preliminary findings from a document review

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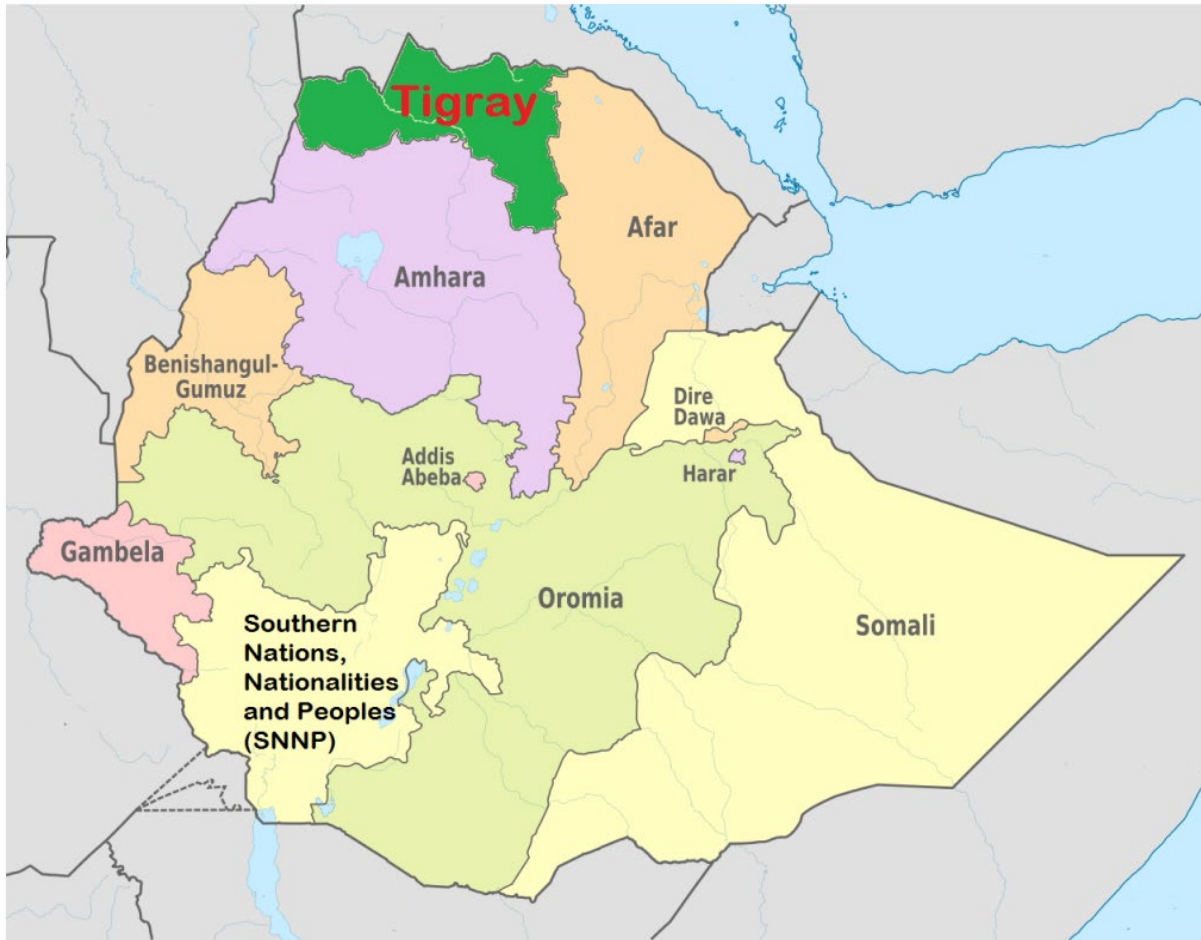**Maria Bertone & Sophie Witter – ReBUILD for Resilience**
 & Queen Margaret University, Edinburgh, UK
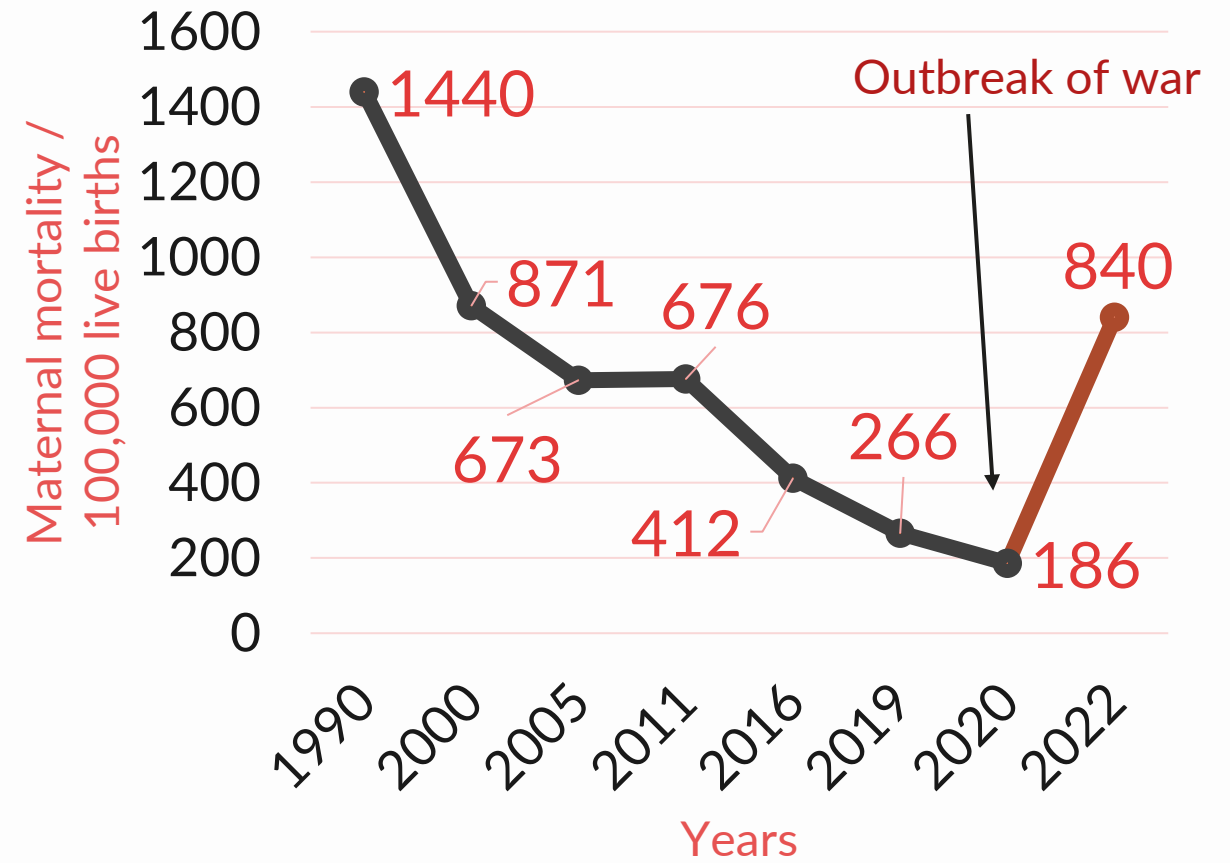
Broader context and fragility

Tigray region
- Fifth most populous, and fifth largest in landmass
- Home of ancient civilization
- History of war and bravery
- Frequent locust infestations
- Stricken by drought every 3 to 5 years
- Three major catastrophic wars in 50 years
- Most recent war (began in 2020) was preceded by COVID-19 pandemic

Broader context and fragility

- Life expectancy jumped from 45 years to 64 years over recent decades

- Remarkable achievement on key health indicators (ex. maternal mortality)

- The war negatively impacted on these achievements

Broader context and fragility

- Tigray is uniquely situated in a geography where:
    - Natural and man-made disasters frequently occur
    - Chronic stressors on the health system

- Identifying and nurturing resilience capacities is not a luxury, but a mandatory responsibility

Aim of the study

The study aims to **explore the resilience of the health system in Tigray**, adopting a longitudinal approach focused on three time periods:

i) Before the 2020 conflict

ii) Immediately after the conflict / humanitarian phase (November 2022 to September 2023)

iii) In the early recovery phase from September 2023

Research objectives:

- Map the health system in relation to its key elements and the "resilience nodes and pathways" (described in conceptual framework) at three critical points in time.

- Understand how the system has changed over time, and how legacies and resilience capacities in previous periods have supported (or hindered) processes of absorption, adaptation and transformation, which might have allowed continuity of service delivery and/or the rebuilding of the health system.

- Draw lessons on how resilience capacities found in the health system can be deployed and supported in the recovery phase for the reconstruction of the health system.

Study methodology

Design: mixed-methods approach, longitudinal perspective

Data sources:

- Document review & secondary data analysis   ✓   May-Aug 2024
- Interviews and FGDs with key informants   Sept-Oct 2024
    ✗

Data analysis:

- Narrative, thematic synthesis   Nov-Dec 2024
- Development of Causal Loop Diagrams (CLD)   Dec 2024

Presentation of early findings and **validation**   Early 2025

Conceptual framework

- **ReBUILD's resilience framework**

- It identifies key **resilience nodes** and **resilience capacities**, which the study will explore to understand how they informed processes of absorption, adaption and transformation
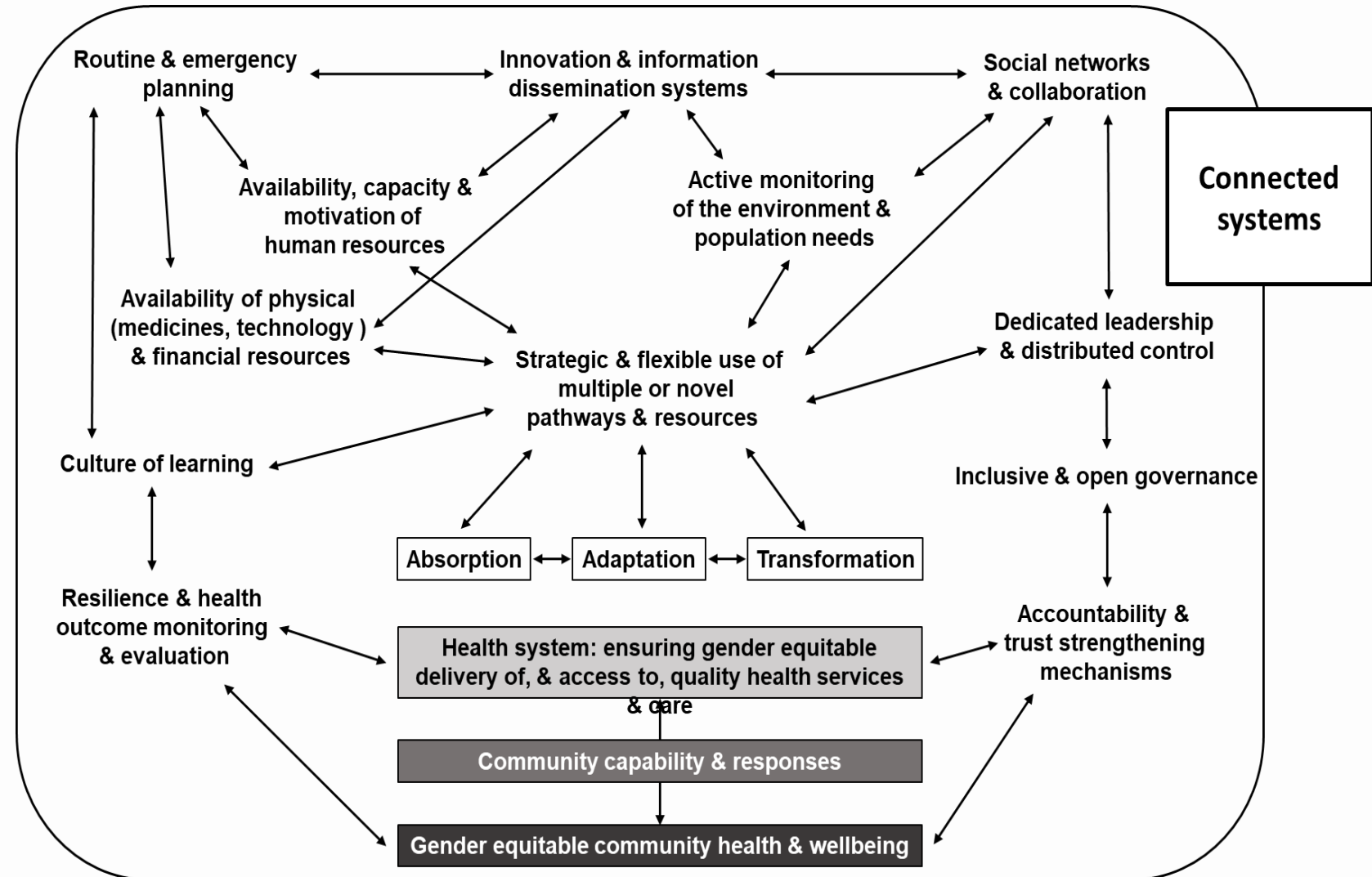
Methods – document review

Search strategy
- Government reports and partners' online sources
- Unpublished research findings through snowballing
- Mainstream media and newspaper
- Published articles

Study selection
- About **131** relevant documents identified and reviewed
- Included both published and grey literature

Data extraction and analysis
- Thematic analysis conducted based on **key themes** drawing from conceptual framework
- Narrative synthesis of information, presented by theme

Preliminary findings
from document review

Health networks and service delivery

Public sector

- Original network of 2 tertiary hospitals, 14 secondary hospitals, 24 primary hospitals, 224 health centres and 741 health posts
  → 8 months into the war: 80% of public facilities fully or partially damaged
  → immediately after the conflict: 86% partially or fully damaged, due to deliberate destruction, looting, supply chain blockade, electricity cuts, etc.

→ Stark impact on service delivery: collapse of services, for ex community services.

Health networks and service delivery

Post-conflict

- Essential role of **humanitarian actors** in rehabilitating damaged facilities and supporting service provision (either directly or supporting remaining systems) based in public facilities or through MHNTs

- Efforts focused on **some services** (e.g. vaccination, child health), due to the mandate of external actors

- **Mobile Health and Nutrition Teams** proved key in the initial response:
  - Efforts to standardise their functioning
  - MHNTs' role in the reconstruction (*resilience capacity or hampering the strengthening of formal/non-mobile systems?*)

Full vaccination coverage

Chart: Full vaccination coverage (Percent) over Time

- 2000_EDHS: 43.5
- 2005_EDHS: 32.9
- 2011_EDHS: 58.9
- 2016_EDHS: 67.0
- 2021_Survey: 20.0
- 2024_Survey: 68.8
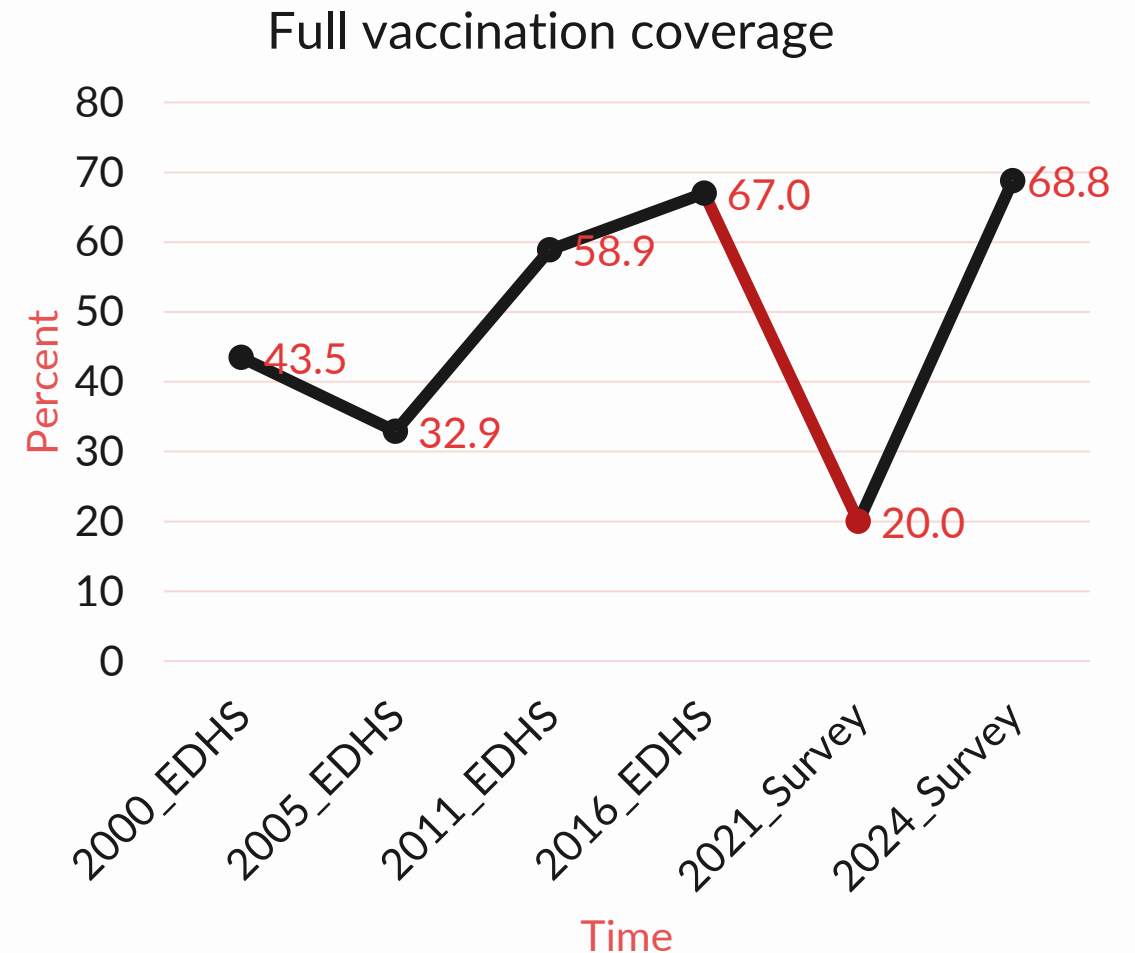
Health networks and service delivery

Private sector

- After the conflict, found to have increased from 835 to 1142 facilities (+37%), ranging from rural drug vendors to specialized clinics
- Reason for **proliferation**:
    - The collapse of the public health system
    - Financial capability
    - Flexible procurement policy (e.g. on drug supplies)
- **Challenges**
    - Affordability and equity
    - Quality and safety in the lack of regulation and low regulatory capacity in the post-conflict phase

→ *Role of private sector in relation to resilience: potential to regulate and strengthen to support resilience service delivery, or too many challenges?*
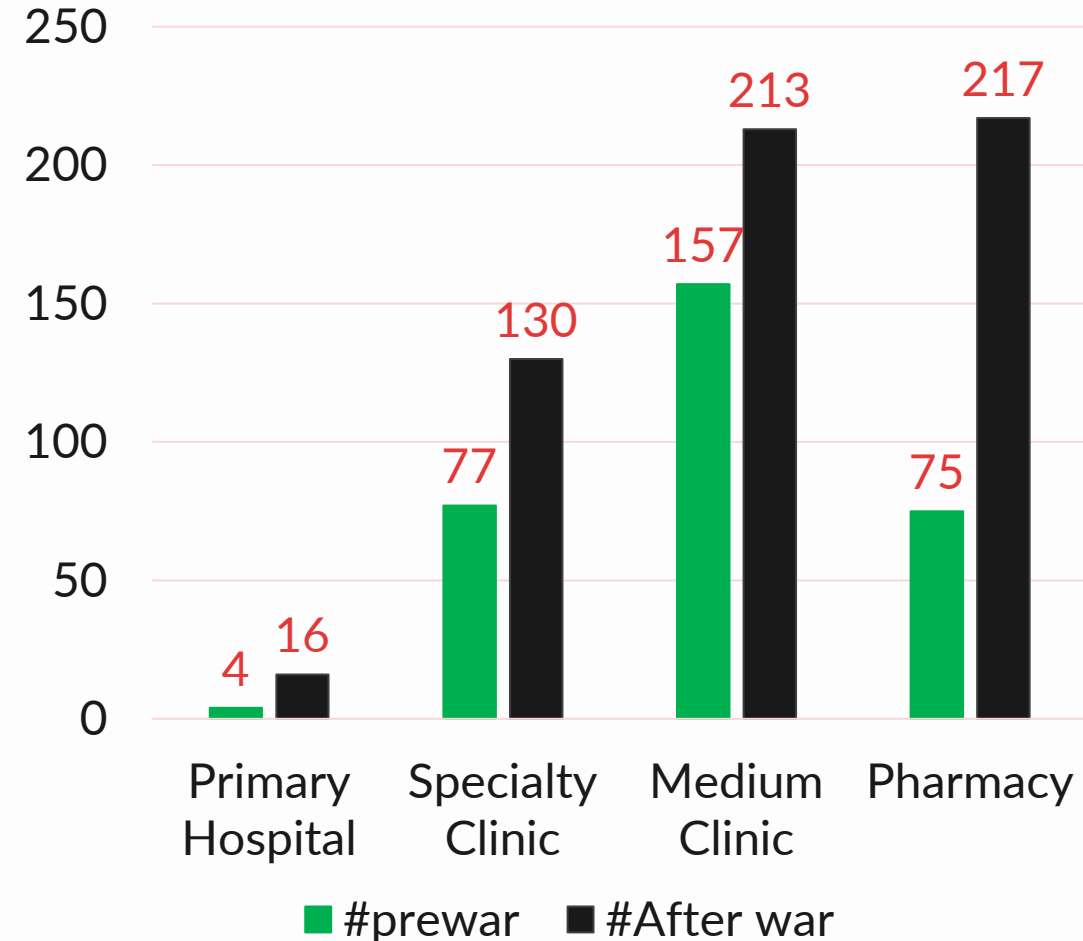
Leadership, governance and decision-making

During the conflict

- Collapse of local administration in Tigray, from regional to lower levels (health centers with governing boards 93% → 32%, hospitals: 75% → 30%)

- Interim administrations imposed by central government with no local legitimacy, frequent changes of head/staff in administrative roles, cutting of block budget from federal govt → **weak and unstable leadership**

Immediate post-conflict phase

- **Health Cluster** as main decision-making and coordination body (co-led by TRHB and WHO)

- *Role of decentralised actors and decision-spaces at local level: to be explored as areas of resilience*

Post-conflict reconstruction

- Rebuild of trust and legitimacy of **TRHB**

- Strengthening of coordination and leadership with the creation of the Resources mobilization and partnership management Team (RMPM)

Health workforce

During the conflict

- Health workers have faced **immense suffering** through the conflict. Studies found them affected by malnutrition, vicarious trauma, burnout, dissatisfaction with their job, and some form of mental disorder.
- The conflict led to **high attrition** (7.10% in 2023) but many HWs continued working despite the issues and **without salaries** for nearly two years
- Only 11% of Health extension workers still working/engaged during the conflict.
- **Coping mechanisms** included: family support, sale of important house items, borrowed money from friends and received donation from the government; **Mental health support for HWs** programme implemented

→ *Health workers at all levels showed incredible resilience (absorption) and strong ownership of the health system that they serve*

Health workforce

After the conflict

- **Mental health support for HWs** programme implemented

- TRHB has re-trained and deployed unemployed health cadres in the **health extension program** to restore the program rapidly → *A possible effective strategy or draining resources (trained HWs) away from facilities?*

- **Facility-based outreach programme**: to deploy staff from tertiary/general hospitals to primary hospitals in rural areas facing critical shortages of staff, to provide services and capacity building. Initial pilot then scaled up by TRHB with external support.

  - Opportunity for highly skilled health professionals for retention and re-integration, also shown to create learning collaborations between facilities, and increase specialised health care provision in remote areas.

  - Challenge: financial sustainability in the long term

Medicines, supplies and technology

During the conflict

- Declining budget, blockade → collapse of the IPLS (Integrated Pharmaceuticals Logistics System)
    - Availability of essential medicines: 70% (2020) → 48% (2023)
- Coping strategies:
    - Insufficient supplies air-lifted by humanitarian partners
    - Use of expired drugs
    - Locally-made or improvised options for peritoneal dialysis solutions and catheters, surgical gauze, needles, …

After the conflict

- External support and high priority to pharmaceutical sector
- Building on existing workforce (pharmacists) with relatively low attrition (2.98%)

Financial resources

Before the conflict

- Attempt to increase health funding and decrease OOP expenditures
- **Community based health insurance (CBHI) enrolment** in Tigray = 57.9% (2019), about three times higher than the national level (20%)

During the conflict

- Government budget (federal and local) stopped flowing to all public institutions including health facilities
- Complete donor dependency although aid did not meet needs (for ex, 17% of total needs were funded in Dec 2021)

After the conflict

- Govt budget started flowing, facilities started collecting fees from patients
- Ongoing assessments to re-instate CBHI based on interesting in enrolling and willingness to pay

Information and innovation dissemination systems

Strong health information system collapsed during the conflict

Humanitarian phase

- Partners collecting own information with own systems, but insufficient sharing and coordination
- Health Resources and Services Availability Monitoring System (HeRAMS): regular assessment conducted with external support on availability of services during humanitarian phase

Recovery phase

- Ongoing efforts by external partners and government to re-establish the HMIS starting with ICT equipment

Preliminary reflections on health system resilience

Some early reflections emerge in terms of **resilience strategies**:

- **Absorption processes** in place for example in terms of coping strategies of health workers (community support, borrowing, …), as well as in relation to drugs and supplies (expired drugs, locally-made options). Also humanitarian interventions supported absorption of the shock by providing (limited) supplies, mental health support, coordination structures
- Some adaptation strategies emerging in the medium-term such as re-training of health staff as HEWs, the implementation of the "facility-based outreach program". The role of some nodes require further exploration (for ex, decentralised governance and decision spaces)
- Limited examples of radical transformation strategies, perhaps given the scale of the destruction – but will be further probed in the next study phase. Use of MHNTs and role of private sector could point to potential transformative elements. Reflections on role of different actors in supportive transformation.

Need for further insights on **resilience capacities** (what are the resources of the health system that support resilience?) and **resilience pathways** (what are the relations and causal dynamics between nodes?)

Next steps

Complete data collection

- Interviews and FGDs with key informants

Sept-Oct 2024

Data analysis

- Narrative, thematic synthesis
- Development of Causal Loop Diagrams (CLD)

Nov-Dec 2024

Dec 2024

Presentation of early findings and validation

Early 2025

**We look forward to being in touch
and sharing our final findings early next year**

Thank you

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