



# Understanding health system resilience to inform recovery planning in Ethiopia's Tigray region

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## Editorial

Globally, 1.8 billion people live in fragile settings and this is expected to increase to 2.3 billion in 2030 (1). Wars, civil unrest, natural disasters, climate change, and disease outbreaks disrupt communities and the systems supporting the communities, including health systems with negative consequences on the health status of individuals and communities (2–4). Ethiopia's Tigray region has seen three catastrophic protracted conflicts over less than 50 years (5–7), of which the most recent started in November 2020. Tigray is also affected by drought roughly every 3 to 5 years and other climate-related shocks including frequent desert locust invasions (8), as well as local outbreaks and global pandemics such as the recent COVID-19.

The two-year long conflict which started in 2020 had profound consequences for the health system in Tigray; it has affected all the critical elements of the system starting from basic, essential ones due to the lack of electricity and connectivity (9,10). A study by World Health Organization (WHO) in 2023 showed that about 86% public health facilities in Tigray were either partially or fully damaged after the conflict (11). The collapse of the health system coupled with the disruption of livelihoods and communities has led to a stark deterioration of the health status of the population and created a new burden. Maternal mortality skyrocketed from 186 to 840 deaths per 100,000 live births (12). There was also rampant malnutrition among children (13,14), widespread sexual and gender-based violence (15), extensive civilian injuries and deaths (16).

Supporting the recovering of a health system after conflict involves several activities to restore functionality and improve health outcomes (17). This includes the rehabilitation of infrastructure, training and retaining of health workforce, ensuring the availability of essential drugs and supplies, revival of public health programs, addressing psychosocial impacts of the war, establishing sustainable financing mechanisms, involving local communities in the recovery process and establishing effective governance structures and policies, thus addressing the main elements or blocks of the health system. However, beyond the "hardware" elements of the system, it is important that, in the process of restoring and rebuilding of the health system, the goal of ensuring its resilience to potential, future shocks is considered prominently (18–24).

Despite the challenges due to the recent conflict, ongoing shocks and chronic stressors to which the health system has been subjected, a number of interrelated elements have undoubtedly played a role to ensure a level of the resilience of the health system.

Identifying these resilience capacities as well as finding approaches to support and nurture them is imperative for the recovery of the health system in a setting, such as Tigray region

of Ethiopia, subject to multiple frequent shocks and chronic stressors. With this in mind, the health system can develop a resilience of prediction, preparation, mitigation of impacts, and learning from shocks and crises (25). Moreover, the post conflict health system is expected to build a strong leadership capacity, coordinate resource mobilization, and implement strong monitoring and evaluation of recovery efforts to ensure resilience at all levels of the health system.

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