

JAMEEL OBSERVATORY
FOR FOOD SECURITY EARLY ACTION

Policy Brief

Health systems and anticipatory actions for resilient drylands

Summary

In marginalized dryland areas of East Africa, environmental shocks and disease can create surges in needs for health care. These can often overwhelm health systems leaving people without access to adequate care.

The challenge is most acute when 'upstream' factors that increase demands for health services are compounded by 'downstream' constraints that limit system capacities to deliver necessary services.

Since many surges can be forecasted or identified early, 'anticipatory' health systems can help reinforce wider societal efforts to manage risks and shocks.

Such 'anticipatory' systems must intervene upstream – through preventive and responsive actions – while also building 'downstream' systems and capacities that can reliably anticipate coming needs and quickly adjust and apply resources to meet those needs.

Achieving the necessary results benefits from holistic approaches built on integrated community and formal health structures as well as integrated approaches that span human, animal and environmental health.

Key messages

- Holistic approaches that incorporate human, animal and environmental health (One Health) offer a robust and valuable framework to model and anticipate 'upstream' drivers of surges in demand for health services in the drylands of East Africa.
- Community health actors – such as Community Health Promoters (CHPs), Community Disease Reporters (CDRs) and traditional health experts – play essential roles in monitoring upstream causes and they provide important capacities for response, reporting and health education.
- Greater integration of One Health approaches and interconnections with community health actors can improve practitioners' abilities to anticipate stressors on health systems, allocate resources efficiently to mitigate health system demand surges and build capacities across the health system.
- This integration can also connect broad geographical areas, include marginalized or low resource health settings and help take preventative actions that reduce stress on healthcare systems.

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Opportunities to act

- Formal systems to integrate, enable and empower community health actors for more resilient health systems.
- Funders and implementers to create transparent and flexible funding for local health responses, based on community health structures, and able to respond to health dynamics across human, animal and environmental fields.
- Governments to create adequate funding and policy environments that integrate community and formal health, and facilitate collaboration across human, animal and environmental domains.
- Capacity building and training on systems thinking and broader health paradigms is needed to shift mindsets, align resilience thinking across the social-ecological system and build resilient health systems.

Facing surges in need for health care services, this brief frames anticipatory action as a strategy that reduces the magnitude of surges through 'upstream' interventions and develops health systems that can anticipate coming needs and quickly adjust 'downstream' capacities to meet those needs.

Upstream interventions are typically more local, often taking place at individual, household or community levels. They target the causes of poor health along direct (e.g., heat, flooding), ecosystem mediated (e.g., infectious diseases, food insecurity, poor water, sanitation and hygiene) or indirect pathways, such as conflict, displacement, or loss of livelihoods (Whitmee et al., 2015).

For good upstream results, a holistic understanding of the inter-sectoral interconnection between and among ecosystem, animal and human health is necessary so resources and health services are allocated to local, causal factors that achieve poor health and anticipate health service demands (Osman et al., 2019).

Further downstream, health systems respond to poor health by providing healthcare in formal and community health contexts including hospitals, clinics and local, informal arrangements.

Being able to respond to demand shocks and quickly adapt to changes in healthcare needs are essential attributes contributing to the resilience of these health systems.

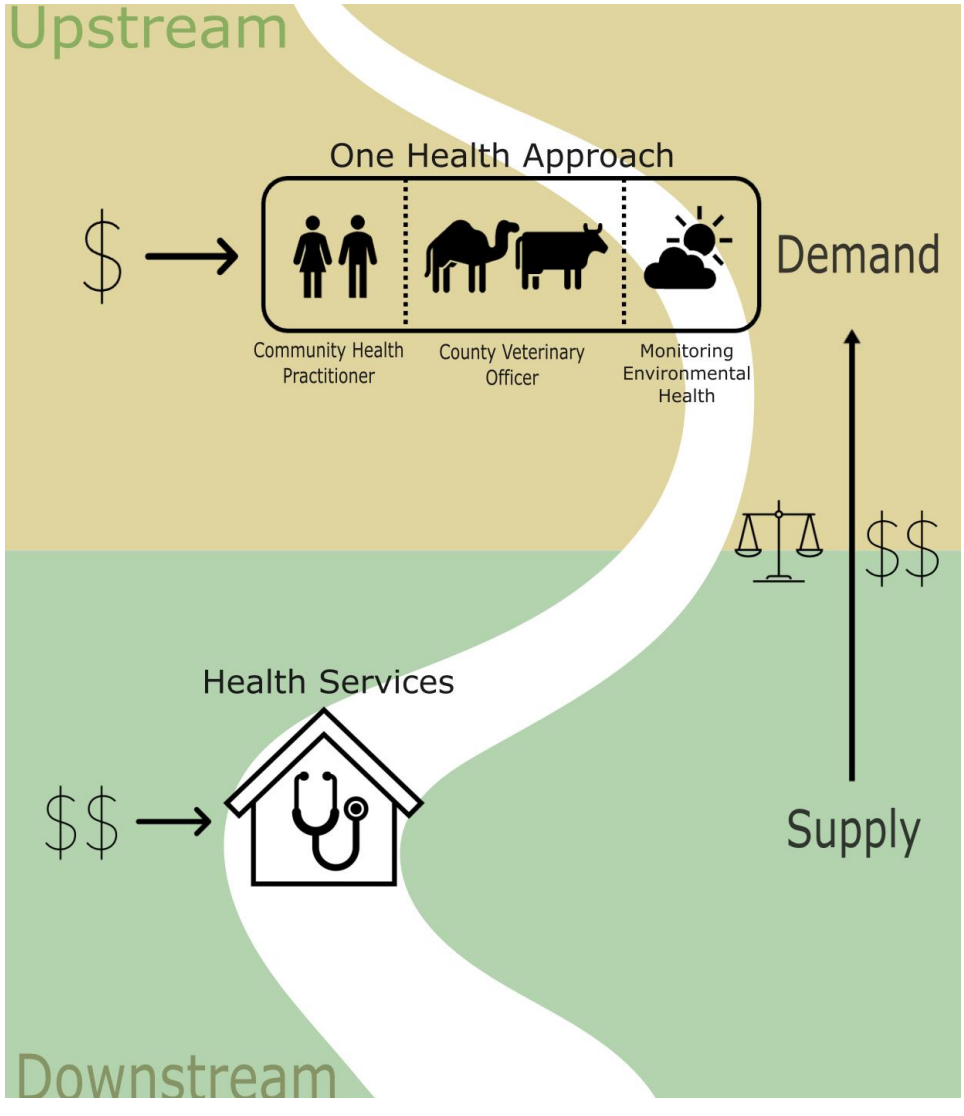
This brief argues that better inclusion and empowerment of local community health infrastructure can help to deliver this health system resilience; such resilience is also a key anticipatory action in the fight against poor health outcomes.

Integrated formal-community health

In pastoral drylands, health system are insufficient to meet dynamic surges in demand for health services, mainly due to chronic underinvestment in financial and human resources.

These surges arise from disease outbreaks driven by seasonal changes in environment, exposure and migration patterns. Better integration among community health structures and formal health systems provides one solution.

The figure visualizes relations between upstream demand for health services and downstream supply of healthcare. By re-allocating resources upstream, downstream demands on formal healthcare can be managed.



Health service providers include both formal state or private actors (static or mobile health facilities) as well as community actors such as alternative (traditional) medicine, local pharmacies and traditional forecasters. These are usually anchored on social welfare and draw on grassroots and local knowledge and resources.

Despite some overlapping roles such as community health promoters/volunteers, the different systems are often disconnected with formal health privileged in policy and practice.

Community health is minimally integrated into health systems, with current efforts mostly limited to formalized structures such as poorly-paid Community Health Promoters (CHPs), usually attached to a static health facility and expected to scale formal health services to grassroots levels. The focus on CHPs tends to draws attention away from other community health actors, such as traditional birth attendants and alternative medicine providers, leaving gaps in oversight and regulation.

Key **opportunities from interconnecting diverse health providers** include:

- Surveillance: Improving community health capacities to detect and manage diseases and other health issues helps drive early actions. Community-based Management of Acute Malnutrition, for example, trains mothers to monitor the nutrition status of their children so they can alert CHPs to act.
- Surge response: The abilities of community health actors to respond rapidly and to scale up health services to meet demand creates the foundations of a flexible and responsive healthcare system that can act early on health threats and absorb demand surges without compromising service provision.
- Health care access: The embeddedness of community health actors means they can contribute significantly to basic healthcare provision for many people, especially in remote locations.

One Health integration

In pastoral contexts, health is fundamentally connected across human, animal and environmental domains. Community health actors exist across these domains, with CHPs for human health and CDRs for animal health. One Health recognizes this interconnectedness; a framing that is inherently known by pastoralists but one that external actors and governments are just implementing.

One Health offers ways to manage demands on health systems through interdisciplinary collaboration and interventions.

Promising **opportunities from an integrated One Health approach** include:

- Early warning: Recognizing transdisciplinary drivers that shape health in the drylands helps to identify upstream drivers and pathways of crises and therefore opportunities for anticipatory actions. This was the case for zoonotic disease outbreaks in northern Kenya, including Rift Valley Fever and Middle East Respiratory Syndrome.
- Improved effectiveness: One Health helps to recognize diverse, inter-scalar dynamics across domains. The HEAL project, for example, created One Health Units to facilitate more targeted and effective health interventions across human, animal and environmental domains in East Africa.
- Improved efficiency: Working across human, animal and environmental health sectors provides opportunities to share costs and reduce duplication, as was shown by several vaccination programs across pastoral regions in Africa.
- Transdisciplinary communication: People operating in the drylands are often trained in specific sectors, and within reductionist, scientific epistemologies. This often leads to interventions that duplicate or undermine each other, ultimately undermining the resilience of the health system and the supply of health services. In Kenya, the Zoonotic Diseases Unit creates an inter-ministerial policy and collaborative framework to facilitate this interdisciplinary collaboration.

Looking forward

Health systems in pastoral drylands of the Horn of Africa can benefit both from upstream interventions that reduce surge demand for health services, and from downstream interventions that enhance health system delivery capacities.

Anticipatory action for both supply and demand elements can build early warning systems and intervene upstream to mitigate surges in demand and build resilient and flexible health systems that can function through shocks and demand surges.

Two key areas provide opportunities. Including community structures in health systems helps build more accessible systems and provides opportunities for preventive and early health interventions that are not possible from centralized medical facilities.

Implementing a One Health approach that spans human, animal and ecosystem health helps to identify upstream drivers and causal pathways and provides opportunities for collaborative health service delivery. More holistic, inclusive, community-based health systems can better anticipate and respond to shocks, ultimately improving health and wellbeing for pastoralists in the Horn of Africa.

More

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In April 2026, the Jameel Observatory for Food Security Early Action convened an 'evidence capitalization workshop' with partners to synthesize insights and key messages on issues and opportunities that can advance early action for dryland resilience and prosperity in the Horn of Africa. This brief and accompanying short video are products of this exercise.

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