A Global Early Warning System for Pandemics

Perspectives from the Front Lines

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About the Milken Institute

The Milken Institute is a nonprofit, nonpartisan think tank focused on accelerating measurable progress on the path to a meaningful life. With a focus on financial, physical, mental, and environmental health, we bring together the best ideas and innovative resourcing to develop blueprints for tackling some of our most critical global issues through the lens of what's pressing now and what's coming next.

About FasterCures

FasterCures, a center of the Milken Institute, is working to build a system that is effective, efficient, and driven by a clear vision: patient needs above all else. We believe that transformative and life-saving science should be fully realized and deliver better treatments to the people who need them.

About Market Access Africa

Market Access Africa is a mission-driven health-care organization that works with the public, private, and third sectors to design and deliver transformational health-care solutions for Africa. We envision an Africa where world-class health care is the standard, and where deep-rooted inequities are a thing of the past. To solve complex problems on the ground, we curate and advance bold ideas that accelerate access to the best innovations and appropriate solutions for Africa's health systems. We are daring to raise the level of ambition for what is possible in African health care. We do this by partnering with organizations across the health-care ecosystem to develop bespoke solutions that recognize and leverage the uniqueness and dynamism of the different African countries where we work.

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Introduction

The COVID-19 pandemic exposed critical gaps in the world's ability to detect, track, and analyze pandemic threats. The international community has responded with a renewed push for a globally coordinated early warning system that is capable of detecting pathogenic threats at their earliest stages.

In July 2022, FasterCures, a center of the Milken Institute, in collaboration with Market Access Africa (MAA), hosted two roundtables to solicit additional perspectives about the future of a global early warning system. The roundtables, conducted under the Chatham House Rule, were attended by participants representing scientific, research, and community-based organizations based in Africa. Countries represented by the individuals at the roundtables included Cameroon, Liberia, Mali, Nigeria, Senegal, and South Africa. This report is a summary reflecting the perspectives of those who participated.

The roundtable discussions were focused around the following questions:

- What can we learn from the COVID-19 pandemic?
- What are the on-the-ground considerations that any global early warning system should take into account in order to be successful?
- What are the challenges we are not seeing?

Background

Climate change, population growth, and urbanization are changing the patterns of animal and human interaction. Along with increased international trade and travel, these factors are creating more opportunities for new and dangerous epidemic and pandemic risks to emerge. COVID-19 has underscored the likely consequences if we discover these threats only after they circulate.

In the midst of the COVID-19 pandemic, the Milken Institute engaged its community to outline some of the key considerations for a global early warning system that can detect pandemic threats. These considerations are summarized in two reports: *A Global Early Warning System for Pandemics: Mobilizing Surveillance for Emerging Pathogens* and *A Global Early Warning System for Pandemics: A Blueprint for Coordination*.

The Milken Institute and MAA sought to bring more voices into ongoing conversations about how best to advance an early warning system. In this report, we share learnings from experiences and sentiments on the ground during the COVID-19 pandemic, with the aim of bringing new thinking and perspectives into the development of international strategies to strengthen pandemic prevention.

Roundtable Discussion Takeaways

The perspectives shared below are those of the roundtable participants.

We must build a value proposition for an early warning system for governments and communities

Early warning system activities, as they relate to pandemic prevention, preparedness, and response, must be considered in the context of existing needs and priorities.

Many countries continue to combat endemic diseases, making it challenging to focus on additional (and less pressing or relevant) diseases. Negative consequences, such as the travel bans that followed the identification of the omicron variant of COVID-19, only intensify the stigma, secrecy, and fear around disease reporting. The fracturing of global partnerships, as seen during the current pandemic, has also damaged the shared goal of "international solidarity" as a motivation to collaborate on pandemic preparedness. Instead, we must develop an investment case for participation in an early warning system that connects the impact of these investments to matters that resonate with a government. It will also be critical to address the "denial orientation" when it comes to hearing bad news and conveying the understanding that outbreaks are not the fault of a single country.

> **"We have to be able to explain why we need to have [a global early warning system]."**

By the same token, ordinary citizens confront health challenges in everyday life that carry greater urgency—and will naturally take precedence—over the threat of a future, unknown pandemic. Framing an early warning system as a means of pandemic prevention may not resonate at the community level. We must learn how to bring local communities to the table by understanding the values and priorities of a community and incorporating those learnings into how we talk about an early warning system.

This is particularly important because early detection and warning typically occur first at the community level. Long before a potential threat is perceived as one of pandemic potential, there will be community occurrence and spread. Strong and resilient systems will therefore depend on the willingness of communities to engage with and report to health authorities what they are seeing around them and why it worries them. Enduring relationships of trust will require sustained investment on the part of health authorities.

> **"We need to budget for the prep time for community engagement and participation."**

"How do we build trust while we are dismantling trust?"

An early warning system can only be successful if there is trust in the way the data are shared, collected, stored, protected, used, and analyzed. Where such trust previously existed, it was undermined during the pandemic and continues to erode in Africa, where inequities in access to COVID-19 vaccines, therapeutics, and diagnostics serve as fresh reminders of the fragility of global commitments.

Even in well-established regional data networks, lack of trust in how data are used and the threat of consequences to reporting "negative" data hinder sharing.

> **"We have to do quite a bit of advocacy [with countries] to be able to share the information that we collect. The information we are allowed to share is not all the information that we collect because countries are not comfortable. They fear that if they [share everything], it might hurt them ... there might be financial implications or other implications."**

At the community level, too, a lack of transparency about why their data are being collected and how these data will be used has led to an erosion of trust and confidence in organizations that seek to collect data.

Building a governance structure and processes that are transparent and inclusive will be essential to earning trust in a global early warning system. Stakeholders from all levels of society—and from the global north and south—must be consulted in the development of a governance framework. Within societies, it is equally important to ensure inclusive governance with otherwise marginalized or vulnerable communities, as they are most likely to be proximate to infection hotspots.

> **"These bodies need to include community voices ... Are those voices being heard? And is what those people are saying being interpreted into action?"**

> **"Communities and workforce are not part of the discussion."**

There have been several instances throughout the COVID-19 pandemic in which global governments have not fulfilled their promises. A governance framework for an early warning system must include mechanisms for accountability regarding data collection, use, and ownership. In addition, public agents and community leaders (e.g., police, religious leaders, chiefs), otherwise responsible for social order, may need to be integrated to ensure accountability.

Strategies must also be in place to combat mis- and disinformation spread by players who benefit from sowing seeds of mistrust. False information has made it challenging to communicate and demonstrate the benefits of data sharing to ordinary citizens.

We must treat communities as active determinants of success rather than passive generators of data

We need more focus and investment at the community levels, especially the individuals who collect and submit the data.

> **"The most important person is the one closest to the action point of generating data."**

Community health workers and those collecting data must be integrated into the planning for an early warning system. They should be compensated for their time, as local communities should not be asked to subsidize a global early warning system.

Mechanisms for data collection should take advantage of the tools that are already accessible and used within communities. In areas with limited infrastructure, simple tools—SMS, phone calls, WhatsApp, and so on—have been used to great effect in engaging communities. Where literacy is low, audio and visual tools can be employed.

> **"We try to use simple tools. We have to use the tools that the people understand: SMS, phone calls, WhatsApp, social media."**

There is a lack of connection between the data collected and the actions the data inform. For the individuals who generate the data, there is often no feedback loop, which can dampen data collection efforts.

> **"People who generate the data often don't get any feedback on the data generated. As you get to the ground level, it's back-breaking work to collect the data, and often it's sent up with no feedback. It leads people to stop caring about what's in what they submit. It becomes about pure compliance."**

We do not need to build a system from scratch

Attention tends to focus on the role of technology in solving problems, but we must give preeminence to the human factor. Lines of communication, feedback loops, and alignment of goals should be firmly established before we introduce new technologies.

> **"Before we think about interoperability of systems, it's interoperability of people."**

> **"We have good examples to build on to implement an early warning system at national and regional levels in diseases like yellow fever, polio, measles ... What we lack sometimes is good communication and data sharing between the different ministries [of health, livestock, agriculture, and so on]."**

Even when strong communication processes are in place, the dominance of paper-based systems can make it difficult to share information at the speed necessary to generate close-to-real-time signals. Digitization of data is a primary need for efficiency in data exchange and can also limit the susceptibility of data to errors and manipulation.

> **"A lot of data is not digitized, so by the time data reaches central authorities for decision-making, it's irrelevant and siloed."**

The emphasis must not always be on designing and deploying new technologies. Without mechanisms for appropriate vetting, an influx of technology solutions can muddle and undermine efforts. Especially during a pandemic, leveraging familiar technologies and adjusting to the local context (e.g., using audio where literacy is low) is more impactful.

Conclusion

As countries around the world continue to work toward strengthening pandemic prevention, preparedness, and response capabilities, perspectives like those shared in this report must be included in discussions at national and international levels. Thanks to these perspectives, we can begin to define and prioritize the essential: connecting the potential value of an early warning system to the priorities of governments and communities; earning trust with transparent and inclusive governance and processes; bringing to greater focus what works for communities and the individuals charged with collecting data; and strengthening and building upon capacities that are already in place, rather than continually introducing new systems, approaches, and technologies.

These conversations are intended to serve as starting points for meaningful community and local participation in global pandemic prevention efforts. Moving forward, the Milken Institute and MAA will continue to use forums such as these to identify and better understand the values, priorities, and perspectives that must be brought to bear. We call on the international community and other convening organizations to join us in providing a platform to community and local leaders so that we can deepen our collective understanding of their experiences and integrate these learnings into future pandemic prevention efforts.

Appendix: Participants

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