

# Innovations in Global Health: Highlighting PATH's Global Health Security work in the Democratic Republic of the Congo

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# PATH is a leader in global health innovation

We harness our entrepreneurial insight, scientific and public health expertise, and passion for health equity . . .

. . . to save the lives of women and children.



# About PATH

**150  
MILLION**

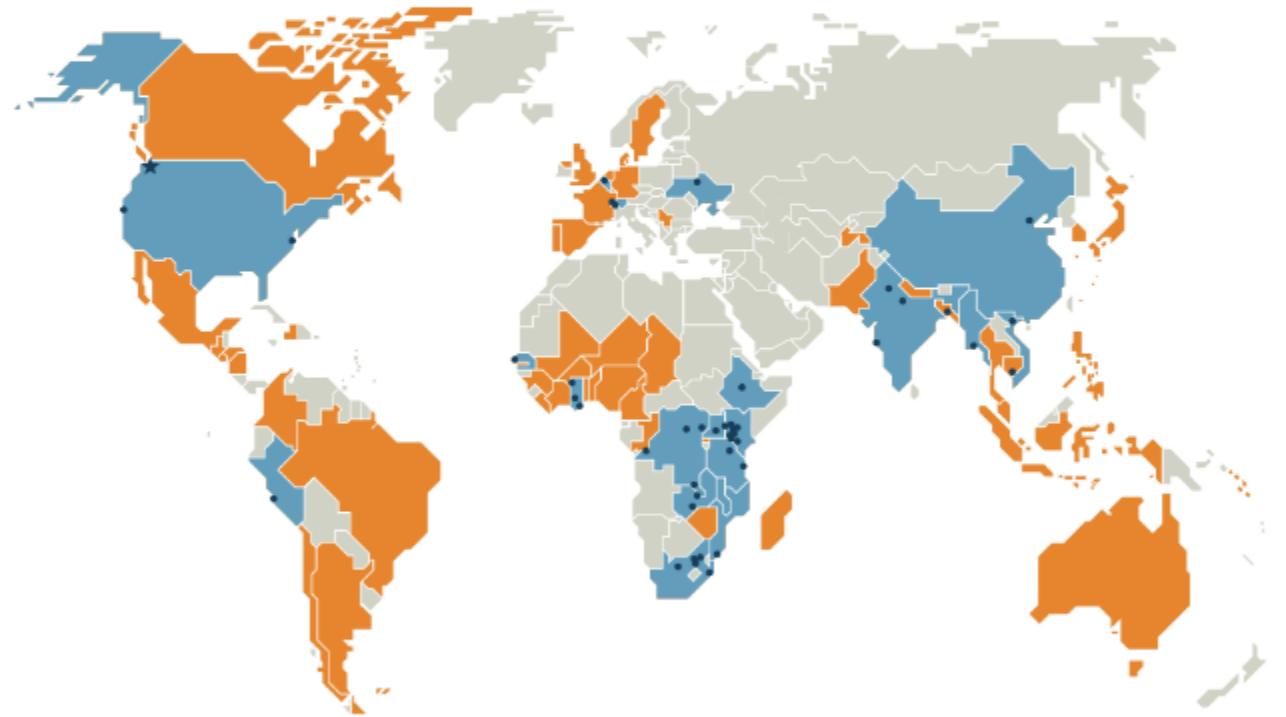
Average number of people reached by PATH and our partners per year since 2011

**70+**

Countries where PATH works

**2,000+**

PATH partners around the world— including 60+ corporate partners



## Vaccines



Meningitis A vaccine:  
235 million Africans  
immunized

Partners: Serum Institute of  
India Pvt. Ltd., World Health  
Organization



## Drugs



Semisynthetic  
artemisinin:  
51 million  
antimalarial  
treatments shipped  
to 23 African  
countries

Partner: Sanofi



## Diagnostics



New test to help  
stamp out neglected  
tropical diseases

Partner: Standard  
Diagnostics/Alere



## Devices



275,000+ doses of a  
new form of  
injectable  
contraceptive  
delivered in Africa

Partners: Pfizer, BD



## System & service innovations

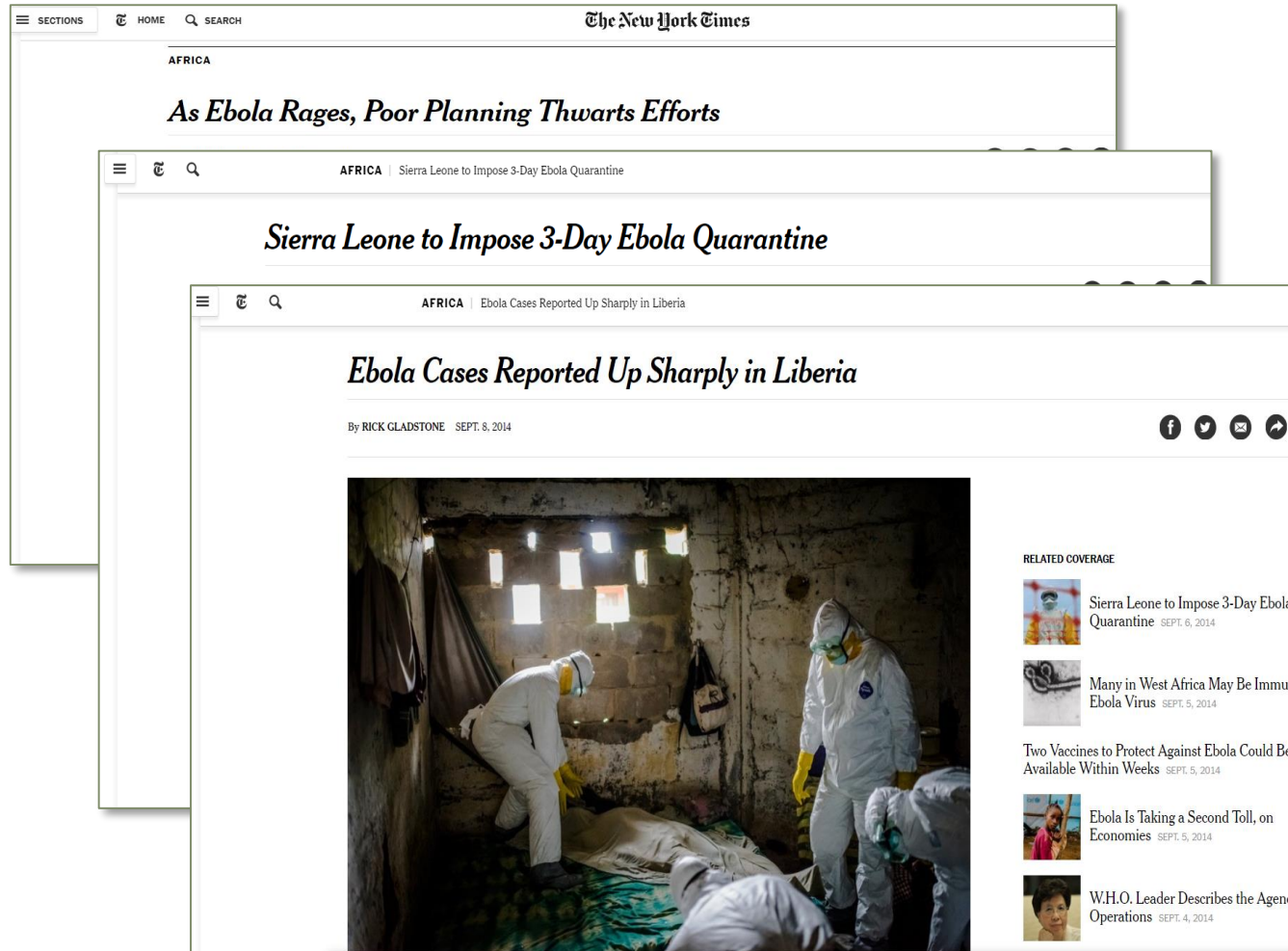


30 million+ Kenyans  
reached with  
services for HIV,  
malaria, maternal  
health, safe  
childbirth

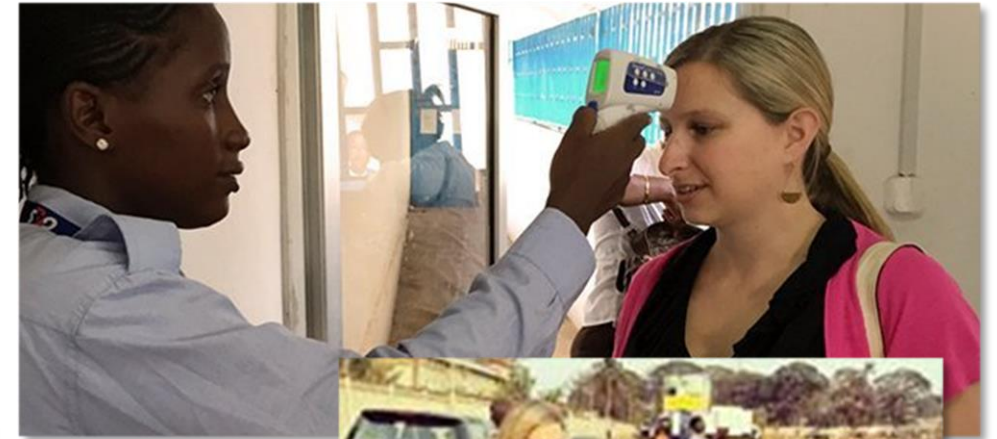
Partners: Government of  
Kenya, US Agency for  
International Development



# What is Global Health Security?



The image shows three overlapping screenshots of news articles from The New York Times website. The top article is titled "As Ebola Rages, Poor Planning Thwarts Efforts". The middle article is titled "Sierra Leone to Impose 3-Day Ebola Quarantine". The bottom article is titled "Ebola Cases Reported Up Sharply in Liberia" and includes a sub-headline "By RICK GLADSTONE SEPT. 8, 2014". Below the headline is a photograph of healthcare workers in white protective suits and masks handling a body in a dimly lit room. To the right of the photo is a "RELATED COVERAGE" section with four links: "Sierra Leone to Impose 3-Day Ebola Quarantine", "Many in West Africa May Be Immune to Ebola Virus", "Two Vaccines to Protect Against Ebola Could Be Available Within Weeks", and "Ebola Is Taking a Second Toll, on Economies".



Photos: Amanda BenDor

# Global Health Security Partnership

The **Global Health Security Partnership** helps countries strengthen their health systems by expanding infectious disease surveillance, strengthening laboratory capacity, and developing effective information systems to prevent, detect, and respond to infectious diseases and other public health threats.

- PATH has country programs and offices in Senegal, Tanzania, Vietnam, India, and the Democratic Republic of the Congo.
- PATH works alongside each country's ministry of health, as well as other ministries, in partnership with CDC and local organizations.

## *Prevent*

Improved surveillance to rapidly detect and report threats, monitor trends, and produce actionable data.

## *Detect*

Strong laboratories with rapid, high-quality diagnostics and integrated reporting.

## *Respond*

Integrated data information systems and visualization for prompt alerts, systemwide information flow, and informed decision-making.

*All activities sustained via HQ and Country Office in collaboration with CDC and other GHS organizations.*

# Global Health Security overview

**DRC**—Setting up the country's national Emergency Operations Center; now operational to support cholera outbreak response; official launch in May 2018. Pursuing drone/geospatial mapping activities.

**India**—Linking patients seeking tuberculosis care in the private sector to effective, high-quality treatment in the public sector.

**Senegal**—Strengthening surveillance and laboratory systems across all levels of the health system.

**Tanzania**—Strengthening electronic integrated disease surveillance and response. Also implementing project to improve water, sanitation, and hygiene in health care facilities to combat spread of microbial disease.

**Vietnam**—Developing, implementing, and evaluating surveillance systems; improving infection, prevention, and control in health care facilities.

# The Democratic Republic of the Congo overview

- Population of +77 million
- Fourth most populous country in Africa
- The second-largest land mass in Africa
- Wealth of natural resources including copper, cobalt, gold, tin, diamonds, petroleum, hydroelectric power, and arable land
- Around 250 languages and dialects are spoken in the DRC; French is the official language; national languages are Lingala, Kikongo, Swahili, and Tshiluba



DRC land mass when laid over Europe



# DRC context

## Political

- War from 1997 to 2006 caused “excessive deaths” of 3–5 million
- Conflict remains, displacing millions

## Health statistics

- Maternal mortality rate: 730 per 100,000 live births
- Under-five mortality rate: 105 per 1,000 live births
- Total fertility rate: 6.6 children
- Second-highest malaria cases in the world

## Health system

- 70% of Congolese have little or no access to health care
- Catholic Church health system provides 40% of facility-based care in the DRC
- Health information is transforming from paper to digital—slowly
- Significant reforms are underway at political and health system level, including decentralization



# PATH's work in the DRC

- Manage large HIV/AIDS program in Haut-Katanga and Lualaba regions, supporting over 150 health facilities
- Support elimination of human African sleeping sickness
- Second a Digital Health Advisor to the Minister of Health to advise the national strategy for eHealth
- Support the operationalization of the new national Emergency Operations Center to coordinate and support emergency response for epidemic outbreaks
- Lead evaluation of Global Fund
- Assist maternal and child health and family planning programs
- Aid response to cholera outbreak



Photo: Jessica Ilunga

# Rapid response to 2017 Ebola outbreak

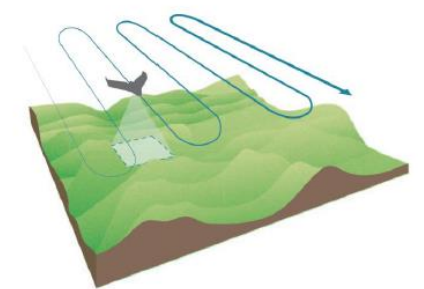
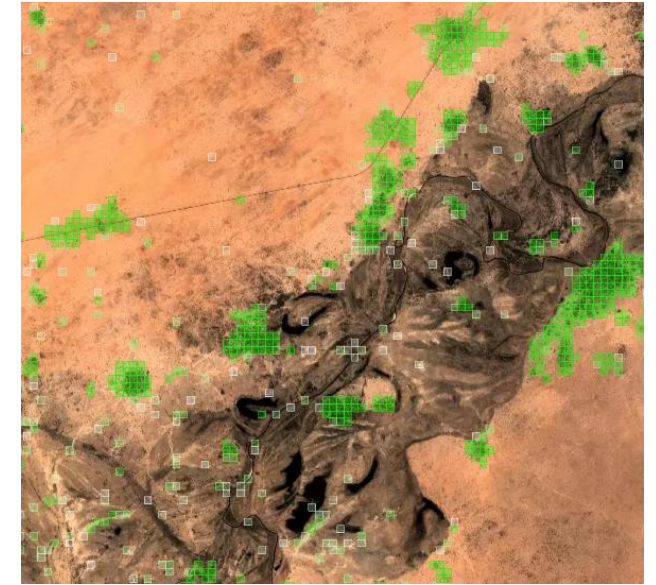
- May 17, 2017—An Ebola case was confirmed in Likati health district, a difficult-to-reach area near the Central African Republic border.
- Within days, a helicopter with supplies and the first five responders was flown into the area by WHO/MSF. PATH supported MOH by linking geospatial mapping resources of the area to responders and providing MSR Community Chlorine Makers, portable devices that produce chlorine for disinfection with minimal inputs.
- PATH worked with partners to accelerate the launch of a new Emergency Operations Center in order to coordinate the response in public health emergencies such as this Ebola outbreak.
- July 2, 2017—WHO declared end of the outbreak.



Photo: World Health Organization/S. Hawkey

# Innovative partnerships in the DRC

- Rapid deployment of **DigitalGlobe** satellites to update imagery over Likati health zone during Ebola outbreak
- Imagery provided to **Humanitarian OpenStreetMap Team** for feature extraction (roads/settlements)
- Updated maps and layers provided to **MOH, WHO, MSF,** and other responders
- Exploring a collaboration with **WeRobotics** to set up and deliver training courses on unmanned aerial vehicles (drones) in the DRC
- Collaborating on **GRID** project—mapping health facilities and population (MSH, UCSL, Gavi, BMGF, Global Fund)



# DRC Emergency Operations Center

- EOC will ensure that data are collected in real time, as well as connecting data from various sources (the national laboratory, DHIS2, EPI, and acute flaccid paralysis surveillance)
- EOC will be hub for data collected in real time, as well as connecting data points from various sources (laboratory, district, routine immunization, and acute flaccid paralysis surveillance)
- PATH support:
  - Provided MOH guidance with how to establish an EOC that will be functional and sustainable in the context of the DRC; coordinated a visit of DRC MOH and EOC staff to Senegal EOC to learn from their experience
  - Supporting procurement of equipment for physical space
  - Hiring staff—Surveillance Manager and Communication Manager
  - Training staff on emergency response and data use

# Supporting outbreak of cholera

- While we were setting up EOC, the cholera outbreak worsened—spreading into regions not endemic to cholera, such as Kinshasa.
- EOC was used to coordinate the response.
- PATH deployed 40 MSR Community Chlorine Makers, which produce chlorine using water and salt in 5 minutes for use in the field.
- Steve Davis, PATH CEO, and Linda Venczel, GHSA Director, visited the DRC in December to deliver chlorine makers.



Photo: PATH/Dr. Leon Kapenga

# Joint external evaluation

- A multisectoral external assessment of country-level health security capacity, covering 19 technical areas
- Recommendations presented in March; next, the International Health Regulations (IHR) National Focal Point will develop a multisectoral plan with a road map to strengthen the implementation of the IHR in the DRC
- Several priority recommendations:
  - Develop or adapt legislative or official documents for better implementation of the IHR 2005 under the “one health” approach.
  - Strengthen the multisectoral framework for coordination, cooperation, and collaboration for the prevention, preparedness, detection, response, and recovery of the all-hazards approach.
  - Draft, update, and apply the required procedures in all technical fields to standardize and harmonize interventions in the emergency management cycle.
  - Establish and implement operational plans for acquiring the minimum capabilities required under the IHR 2005, with particular emphasis on the adequate and ongoing training of staff in all key sectors, especially at the lower-level national health pyramid to cover the entire country.

*“One of the biggest lessons is that Congo needs to be digitized to have better surveillance systems and faster emergency response. Congo’s inability to communicate with itself is a potential risk to the world.”* —Trad Hatton, PATH DRC Country Director



Photo: PATH/Lynn Heinisch



Harnessing digital systems: PATH brings more people onto digital platforms and promotes digital innovations that improve health equity

**PATH  
vision:**

*PATH envisions a world where innovation ensures that health is within reach for everyone.*

**Digital health  
mission:**

*Ensure digital innovations improve health.*

**Guiding  
principles:**

We will ...  
*Put the user first.  
Collaborate for impact.  
Focus on sustainability.  
Uphold country ownership.  
Evaluate and evolve solutions.*



# What does digital health mean?

*Ruth and her daughter, Esther, live in a village with no electricity or health facilities.*

*The nearest clinic is one hour's walk away.*

*Ruth must take time off working her family's farm to bring Esther to the clinic for her routine immunizations.*

*Ruth owns a simple mobile phone.*



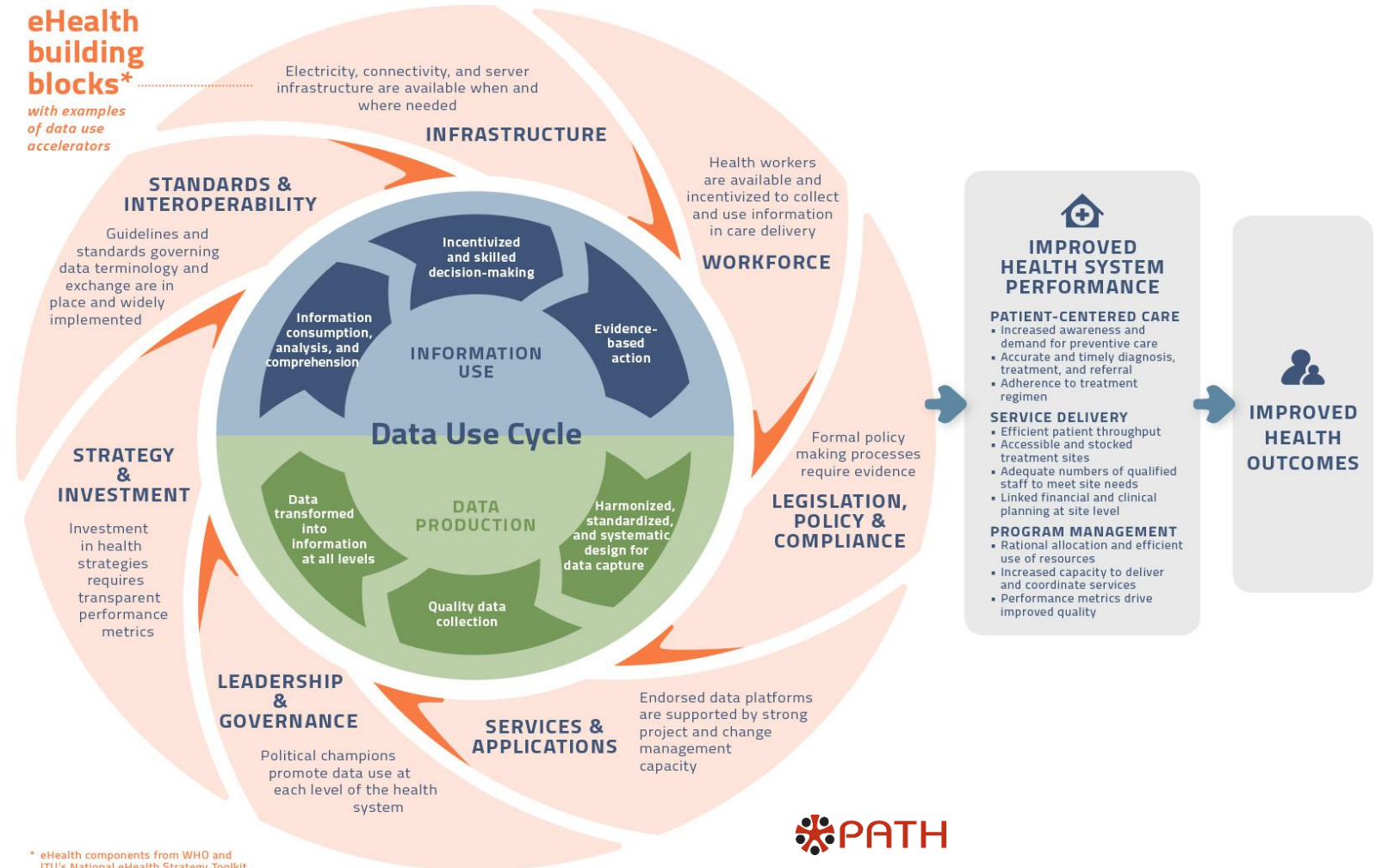
## *For Ruth and Esther digital health means ...*

- Ruth is alerted via SMS when it's time for Esther's immunizations.
- Vaccines and immunization supplies are available for Esther when they travel to the clinic.
- If Ruth moves villages and goes to another clinic, Esther's immunization records won't get lost.

**Better data systems result in better patient services.**

# Creating a data-led culture

## Digital health building blocks as *levers for change*



\* eHealth components from WHO and ITU's National eHealth Strategy Toolkit



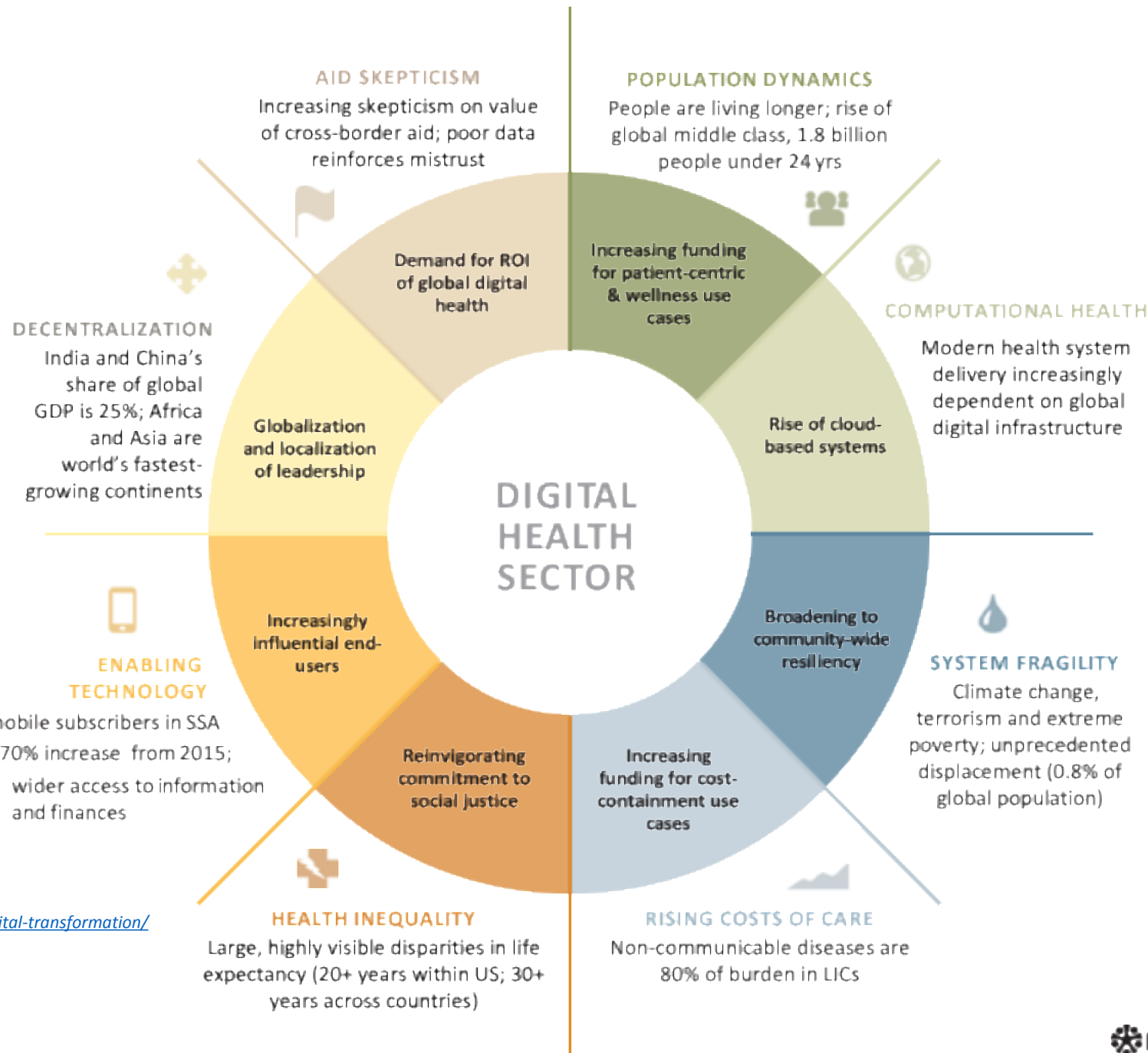
# Global trends *driving* and *impacting* the global digital health sector



EXTERNAL TRENDS



WHAT IT MEANS FOR GLOBAL DIGITAL HEALTH SECTOR



Source: <https://blog.path.org/2017/12/navigating-digital-transformation/>

# A snapshot of PATH's digital health work

- **BID Initiative:** Scaled electronic immunization registries in Tanzania and Zambia, improving immunization data quality and use.
- **Data Use Partnership:** Supporting the Ministry of Health to develop and implement a Digital Health Investment Road Map over the next 5 years.
- **Digital Square:** Coinvestment model to accelerate scalable solutions to strengthen national digital health systems and the African Alliance for Digital Health Networks.
- **Joint Learning Network for Universal Health Coverage** (partnership with WIPRO): Facilitating a learning network of 10 countries and, with those countries, codevelop guidance for IT systems supporting universal health coverage.
- **Visualize No Malaria** (partnership with the Tableau Foundation): Using data analytics to drive malaria elimination in Zambia.

# Digital health GHSA highlights

Support eIDSR system in Tanzania's Arusha and Kilimanjaro regions:

- Capacity-building to regional and district focal points, including data use skills building
- Coordinate with national and subnational government on implementation of DHIS2 for eIDSR
- Collaborate with partners to facilitate interoperability of lab and surveillance data

Work alongside MOH in Senegal to improve surveillance and laboratory systems:

- Leading training for all hospitals to use DHIS2 for surveillance
- Providing ongoing support to facilities, including laboratories, to improve surveillance systems
- Implementing a digital lab mapping assessment to identify gaps in national laboratories



Photo: Amanda BenDor

Thank you!



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