

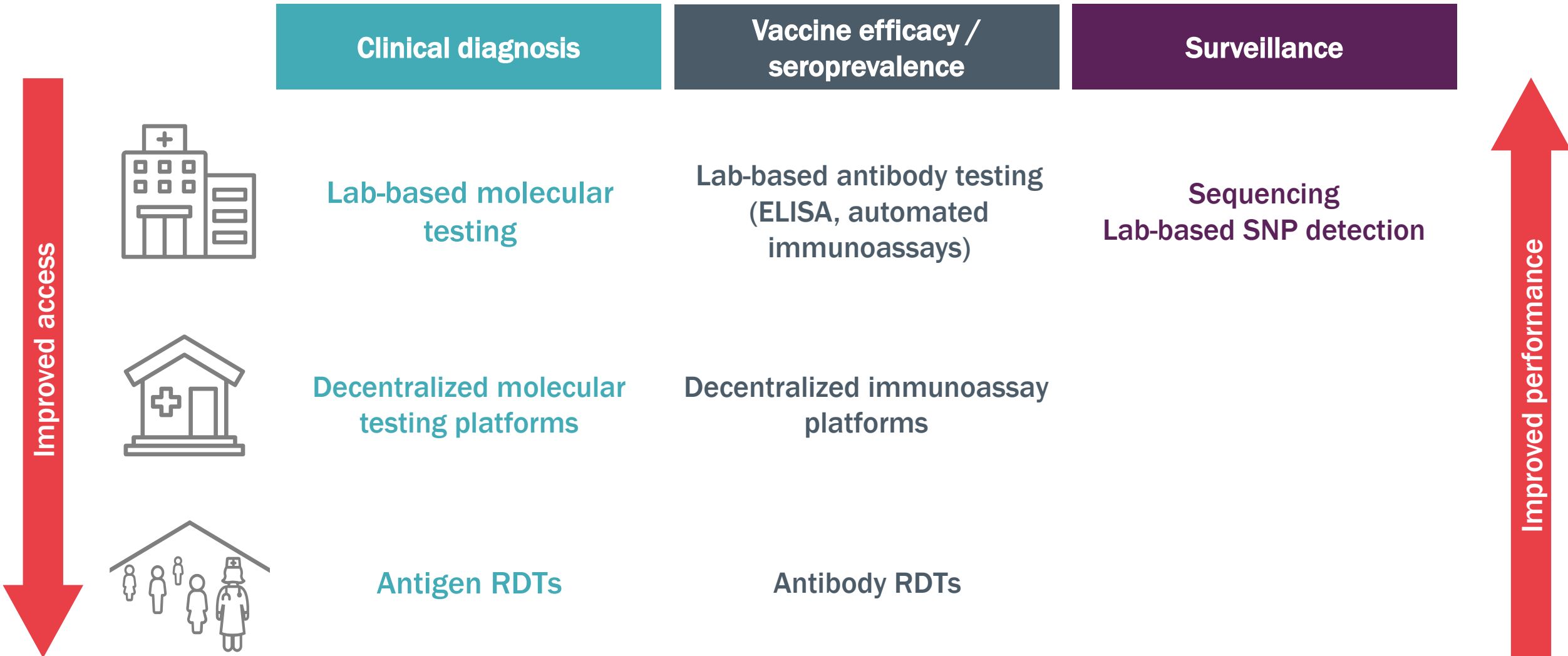


IMPLICATIONS FOR INNOVATIVE DIAGNOSTICS IN GLOBAL HEALTH EMERGENCIES

◆ Bill Rodriguez, CEO



RAPID DEVELOPMENT AND DEPLOYMENT OF AN ARSENAL OF DIAGNOSTIC TESTS IS ESSENTIAL TO PANDEMIC RESPONSE

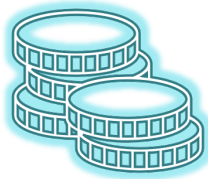


DIAGNOSTIC ROADMAP ACCESS FOR LMICS AND SURVEILLANCE



Working with industry and wider partners to:

Decrease the
cost of rapid
diagnostic tests
to < \$1.00¹



Support the
expansion of
manufacturing
bases in LMICs²



Work towards modular
manufacturing processes

Within 12 months



Achieve ACT-Accelerator
target in LMICs:
100 tests per 100,000 people
per day³












FIND and industry will continue to work with the WHO IPSN to enhance diagnostics capability and capacity for global genomic surveillance of key endemic diseases

IPSN, international pathogen surveillance network.

1. FIND (2021b). COVID-19 & pandemic preparedness [online]. Available at: <https://www.finddx.org/pandemics/>; 2. FIND (2021a). Accelerating access to diagnostics [online]. Available at: https://www.finddx.org/wp-content/uploads/2019/03/FIND_Access-overview.pdf; 3. World Health Organization (2021b). ACT-Accelerator Strategic Review. [online] [www.who.int](https://www.who.int/publications/m/item/act-accelerator-strategic-review). Available at: <https://www.who.int/publications/m/item/act-accelerator-strategic-review>

MULTIPLE, COMPLEX DRIVERS CONTINUE TO IMPACT ROLL OUT OF COVID TESTS AND TESTING STRATEGIES ACROSS THE WORLD

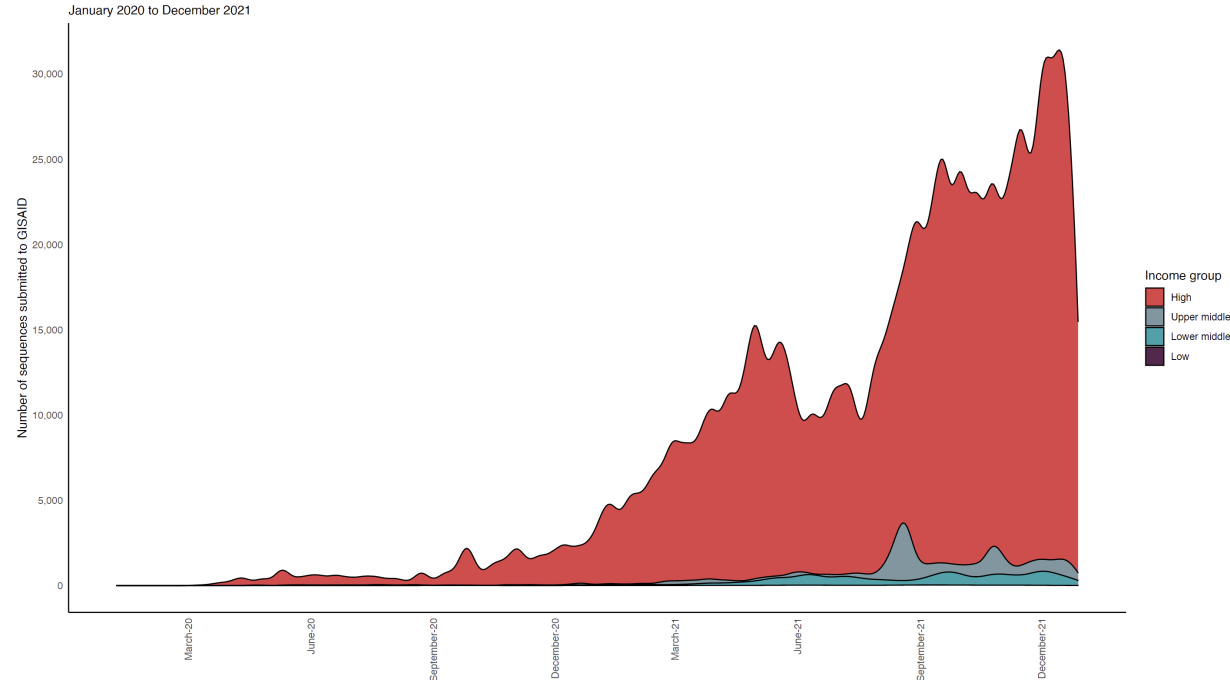
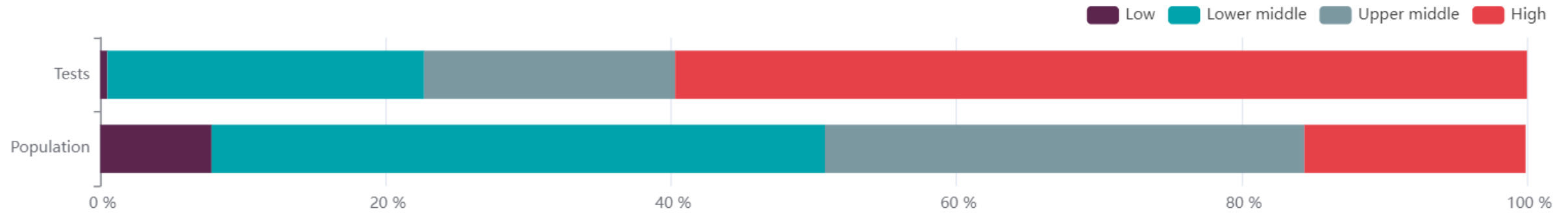


• Tools		Good, except near-patient molecular
• Pricing		Good EXW prices, except near-patient molecular
• Logistics		Shipping costs are high, stock outs are challenging
• Manufacturing		Reagent and full kit manufacturing for RDTs and PCR all in China, Korea, North America, Europe
• Lab infrastructure		Sequencing needs more investment, and PPE has been an intermittent problem
• Human capital		More community-based sample collection needed
• Community-based testing		Testing remains too centralized, self-testing policies not established in LMICs
• Testing policy		Evidence on use of Ag RDTs slow to build, policies slow to adopt
• Country ownership		More two-way engagement needed to close testing gaps

LOW TESTING RATES IN LMICs

THE WORLD REMAINS BLIND TO EMERGENCE OF POTENTIAL NEW VARIANTS

Percentage of performed tests and percentage of population across income groups worldwide



Today, HICs are testing at **80-fold** higher rates than LICs, and submitting nearly **1000** times more sequences to GISAID

COVID-19 HAS ACCELERATED GAME-CHANGING TECHNOLOGY ADVANCES

Artificial intelligence & machine learning

Quality diagnosis in areas without specialist healthcare workers

Mobile devices & connectivity

Reach the hard-to-reach; enable real-time monitoring of health status

Next-generation technologies (genomics, CRISPR)

Sequencing for disease surveillance and rapid response

Wearables & home-use tools

Self-monitoring, early detection and ambulatory management

Sustainability

Minimize environmental impact of single-use tests



Diagnostic testing is
**no longer confined
to clinics and hospitals**



ACCELERATING ACCESS TO COVID-19 SELF-TESTING

Self-testing in LMICs is far behind HICs

A limited number of LMICs are implementing self-testing, including **India, Malaysia, Thailand, Georgia**

Most of the access is over-the-counter in pharmacies, with little programmatic implementation

Examples of governmental programmes: Thailand: 8.5M free self-tests nationwide; school testing in Malaysia

Self-testing policy likely to lag 6-15 months in best case scenario

TO BUILD A COMPREHENSIVE 'TEST-TRACE-ISOLATE' RESPONSE (TTI)



Community engagement

- Digital **connectivity for self-testing** initiatives
- **Open-access, reusable** digital module for professional use RDT-linked data capture at a decentralized level



Connecting communities to health systems

- Linking **communities with their lab-based test results**, including advice on clinical management
- **End-to-end mobile digital solutions** for TTI teams integrating WhatsApp-based screening and decision support, decentralized testing & data analysis

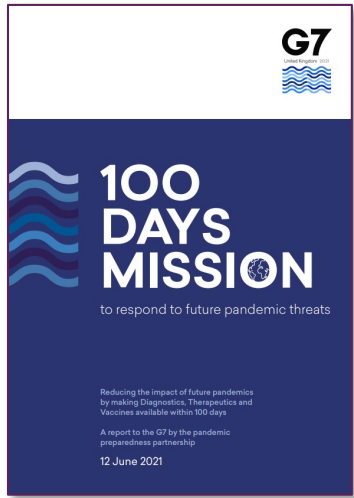
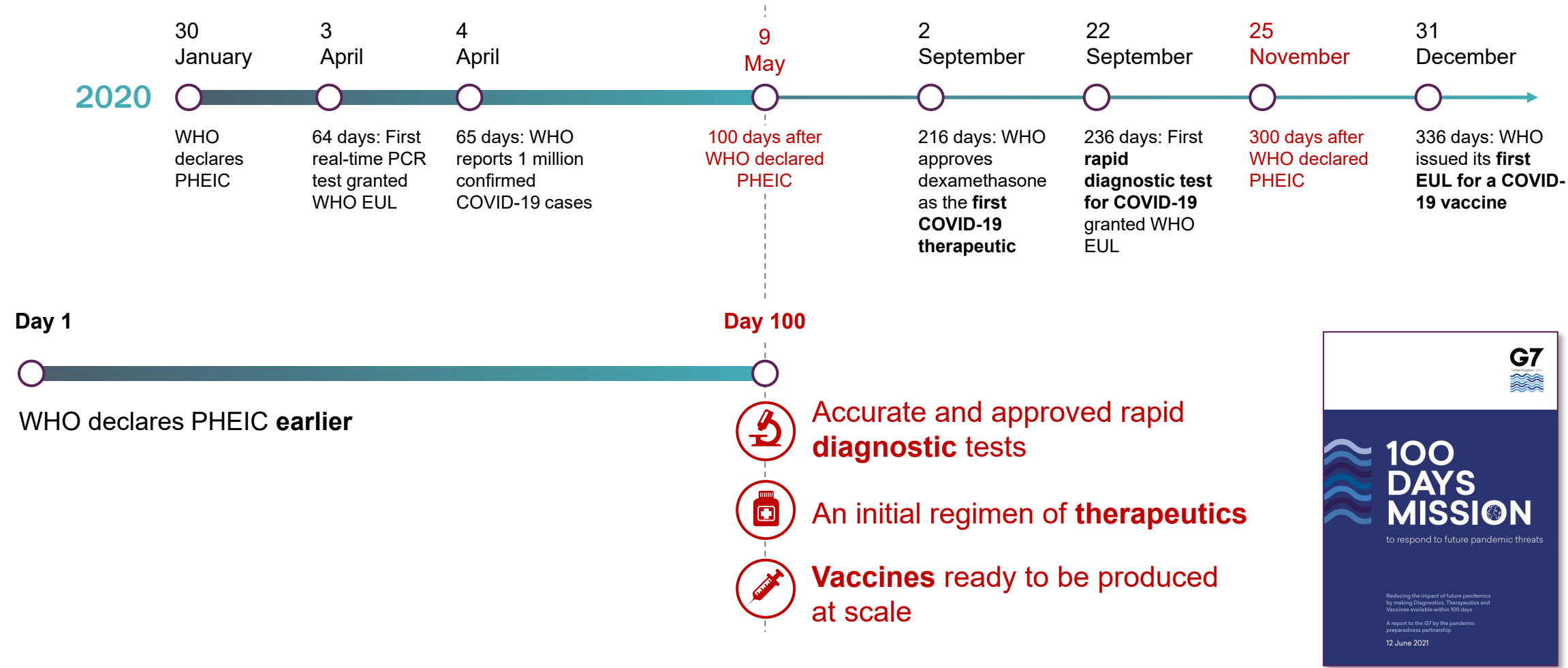


Health system strengthening, including support for surveillance

- **Improved disease surveillance using interoperability** across different health information systems
- **Evidence generation on the use and impact of digital tools**
- **Strategic implementation** of digital tools to enable effective diagnosis and surveillance

LESSONS FOR THE FUTURE

CRITICAL NEED FOR A FASTER, COMPREHENSIVE, COORDINATED RESPONSE: THE 100 DAYS MISSION



EUL, emergency use listing procedure; PCR, polymerase chain reaction; PHEIC, public health emergency of international concern.

G7 100 Days Mission to respond to future pandemic threats.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/992762/100_Days_Mission_to_respond_to_future_pandemic_threats_3.pdf



Together, we can
ensure that everyone
who needs
a test can get one

