The role of digitalization during the pandemic

Derrick MUNEENE
Director ai, Digital Health & Innovation
Unit Head, Capacity Building and Collaboration
Digital Health and Innovation Department
World Health Organization
Geneva, Switzerland
COVID19 has brought about immense pressure on health systems all over the world.

Digitalization has created an opportunity for mitigation of the effects of the pandemic, helping to combat the virus and ensuring continuity of services including health services.

Digital Transformation is a cross-Industry, cross-society opportunity in the 21st Century.

Enabling technologies help with the transition from the quantified self to quantified health.

The benefits of Digital Health and digitalization in general can only be realized through collaboration and co-creation.
Digital Transformation & Digital Health

The Digital Health Ecosystem

- Leadership and governance
- Strategy and investment
- Services and applications
- Standards & interoperability
- Legislation, policy and compliance
- Infrastructure
- Workforce
Global strategy on Digital Health

2020-2025

Department of Digital health and innovation

World Health Organization
The storyline

**WHA58.28 on eHealth**
Consider drawing up a long-term strategic plan for developing and implementing eHealth services promote equitable, affordable and universal access to their benefits.

**WHA66.24 on eHealth standardization and interoperability**
Consider developing... policies and legislative mechanisms linked to an overall national eHealth strategy.

**WHA71.7 Digital health**
Develop... in close consultation with Member States and with inputs from relevant stakeholders... a global strategy on digital health, identifying priority areas including where WHO should focus its efforts.

**Global strategy on digital health**
Improve health for everyone...affordable, scalable digital health and wellbeing...support equitable access to quality health services...implication for access, cost, quality of digital solutions.
Global Strategy on Digital Health 2020 – 2025:

Vision

To improve health for everyone, everywhere by accelerating the development and adoption of appropriate digital health solutions to achieve the health related SDGs.
The 4 Guiding Digital Health Strategic Objectives

**OBJECTIVE 01**
Promote *global collaboration* and advance the *transfer of knowledge* on digital health

**OBJECTIVE 02**
Advance the *implementation* of national digital health strategies

**OBJECTIVE 03**
Strengthen *governance* for digital health at global, regional and national levels

**OBJECTIVE 04**
Advocate *people-centred health systems* that are enabled by digital health
Opportunities for Digital Health Interventions in the context of COVID19
End-to-end: Contact tracing

The COVID-19 pandemic has forced the world to relearn a critical tool of disease control on an entirely new scale.

WHO Country and Regional Offices provide direct technical support to Member States to improve contact tracing capacity in line with regional strategic plans for contact tracing.

Health workers and contact tracers supplied with Contact Tracing guidance and tools to appropriately identify and follow-up contacts.

WHO developed an operational guide for engaging communities in contact tracing in order to establish best practice principles and improve the impact in communities.

Established repository of contact tracing training materials via Knowledge Hubs to help strengthen and adapt training, networking and capacity building at local level.

In collaboration with GOARN partners, WHO has deployed Go.Data software to support countries with contact tracing and data collection in outbreak response.

WHO engages with partners in the tech and academic sectors to evaluate whether new technologies can be leveraged to expand contact tracing capacity.

WHO regularly convenes a global community of practice to advance research, analytics, M&E, ethics, and operationalization of contact tracing via peer-to-peer exchange.

80 instances of Go.Data in 60 countries.

End-to-end: Contact tracing

World Health Organization
The Strengthening Country-Level Surveillance

**EIOS**
Strengthen national health security through event-based surveillance

**EWARS**
Support rapid detection of outbreaks through establishment of an early warning surveillance system

**Go.Data**
Support outbreak investigation and contact tracing through enhanced data collection, analysis and visualization

**EMS2**
Strengthen the event management continuum from event detection, risk assessment, notification and response

**Standards and Interoperability**
- Establish and promote terminology services, data dictionaries and standards for surveillance data exchange
- Develop APIs with standards to link WHO platforms with broader national digital architecture including HMIS (e.g. DHIS2)

**Capacity Building**
- Strengthen capacity building around WHO supported tools and platforms.
- Develop public health intelligence curriculum and training material, that incorporates digital fundamentals

**Governance**
- Support Governments inventories of national digital health solutions
- Map and monitor existing solutions and tools to guide users
- Connect Governments with WHO-vetted digital health products

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DIGITAL TOOLS TO SUPPORT CONTACT TRACING DURING THE COVID-19 PANDEMIC

How WHO is supporting countries?
• Global survey on the status of implementation of digital contact tracing
• Evaluation framework to assess the public health effectiveness of DPT apps
• Guidance on digital tools for COVID-19 contact tracing
• Guidance on ethical consideration for the use of DPT apps

Next steps:
• Handbook on digital contact tracing implementation

Current landscape of digital proximity tracing (DPT) apps adoption
• >50 countries have adopted DPT apps.
• In EURO, 33 countries launched or plan to launch a DPT app.
• EU is the first region to launch a regional interoperability gateway service for DPT apps (14 September).
• Limited empirical evidence on public health effectiveness
A toolkit is for evaluating the implementation and scale-up of digital innovations across the tuberculosis continuum of care

- **Implementation research for digital technologies and tuberculosis was published in 2021**
- The Implementation research for digital technologies and tuberculosis toolkit (IR4DTB) guides users to conceptualize, design and implement IR (Implement research) studies aimed at optimizing the use of digital interventions within TB programmes.
- The three main IR4DTB objectives are to:
  - 1. encourage the use of IR as a method to evaluate the implementation of digital technologies for TB;
  - 2. build capacity within the TB workforce to design and conduct IR studies; and
  - 3. support IR fundraising efforts by supporting the development of a comprehensive study proposal.
- [Link - Implementation research for digital technologies and tuberculosis (who.int)](https://www.who.int)
Digital Health Solutions and connecting with people with WHO Health content
WHO chatbot on Messenger launched in April 2020

- 16 languages
- 79% accuracy of AI algorithm detecting intent with intent detection
- +40,000 average daily users
- 2 million unique users engaged in conversation
- 17 million messages received from the public
Adapted service to support changing pandemic needs

Gamification of learning

Localized info

Mental health skills learning

Behavioral intervention

+119K completed “Myth or Fact?” quiz - gamifying learning

~3 MIL country queries & +115k daily subscribers

+87% reported using coping skills at least 1x a week in everyday life*

Quit Tobacco 6 months challenge – 72k subscribers in first month

*How many times a week do you use the skills learned in the course? (n=4238 respondents)
Digital Channels: More health messages; into more lives; through more channels

In 2020 we launched 100 projects with 40 partners and reached billions of people

3 Pillars of work

- Raising WHO content
- Fighting misinformation
- New channels and tools
WHO has published technical specifications and implementation guidance on Digital Documentation of COVID-19 Certificates

Requirements and specifications for technology implementers

- Business processes, workflows & use cases
- **Core data elements** mapped to standard terminology code sets (including an annexed spreadsheet)
- Functional and non-functional requirements
- Overview of signing a digital certificate with PKI
- **HL7 FHIR Implementation Guide** (linked website) detailing relevant standards for consistent representation and interoperability

Implementation considerations

- Data protection principles
- Ethical considerations
- National governance considerations

Scenarios of use
- Continuity of care
- Proof of vaccination
- Proof of negative test result
- Proof of previous SARS-CoV-2 infection
OPPORTUNITIES FOR DIGITAL TRANSFORMATION

Digital & Innovative solutions that meet the needs of policy makers, public health professionals and the general population

Policy Makers and Public Health Professionals

Population/Patient care

The 4 Guiding Digital Health Strategic Objectives

**SO1** Promote **global collaboration** and advance the **transfer of knowledge** on digital health

**SO2** Advance the **implementation** of national digital health strategies

**SO3** Strengthen **governance** for digital health at global, regional and national levels

**SO4** Advocate **people-centred health systems** that are enabled by digital health
The Digital Health Ecosystem

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Digital Transformation & Digital Health
We must ensure the Digital Health transformation is safe, sustainable and leaves no one behind.

Thank you.