Welcome!

Better Data for Better Health

Investing in Country Health Information Systems to Accelerate Progress Towards Health-related SDGs.

#HealthData #HDC #SDG3 #Partnerships #DataGovernance #InvestInData #LeavingNoOneBehind

May 18-19
Register to attend in person or virtually.

Health Data Collaborative

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Better Data for Better Health

Investing in Country Health Information Systems to Accelerate Progress Towards Health-related SDGs

18 and 19 May 2023, Geneva, Switzerland (in-person and virtual)

Venue: Château de Penthes, Chem. de l'Impératrice 18, 1292 Pregny-Chambésy, Geneva, Switzerland

Virtual: Zoom Webinar

Health Data Collaborative

Welcome & Introductions

Thursday, May 18

Welcome & Introductions

Health Data Collaborative

Welcome: facilitated by Samantha Bolton

Edwin Dikoloti (Minister of Health and Wellness, Botswana)
Claire Melamed (Chief Executive Officer, Global Partnership for Sustainable Development Data)

Opening remarks: WHO

Samira Asma (Assistant Director General, Division of Data Analytics and Delivery for Impact, World Health Organisation)

Health Data Collaborative

Setting the stage: Keynotes

Thursday, May 18

Setting the stage: Keynotes

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Enterprise architecture: Enabling the convergence of delivery and data

Alain Labrique (Director Department of Digital Health & Innovation, World Health Organisation)

Every country should have robust data and health information systems: A wiser investment for achieving equity and health SDGs

Lia Tadesse Gebremedhin (Minister of Health, Ethiopia)

Yoon Seok Ko (Executive Principal, National Information Society Agency, Former Leader of Data Department & Data Dam Project, South Korea)

SCORE as a framework for country health information systems and improving access to technical solutions, understanding and investing in where the gaps are

Steve MacFeely (Director Department of Data & Analytics, World Health Organisation and co-chair of the HDC)

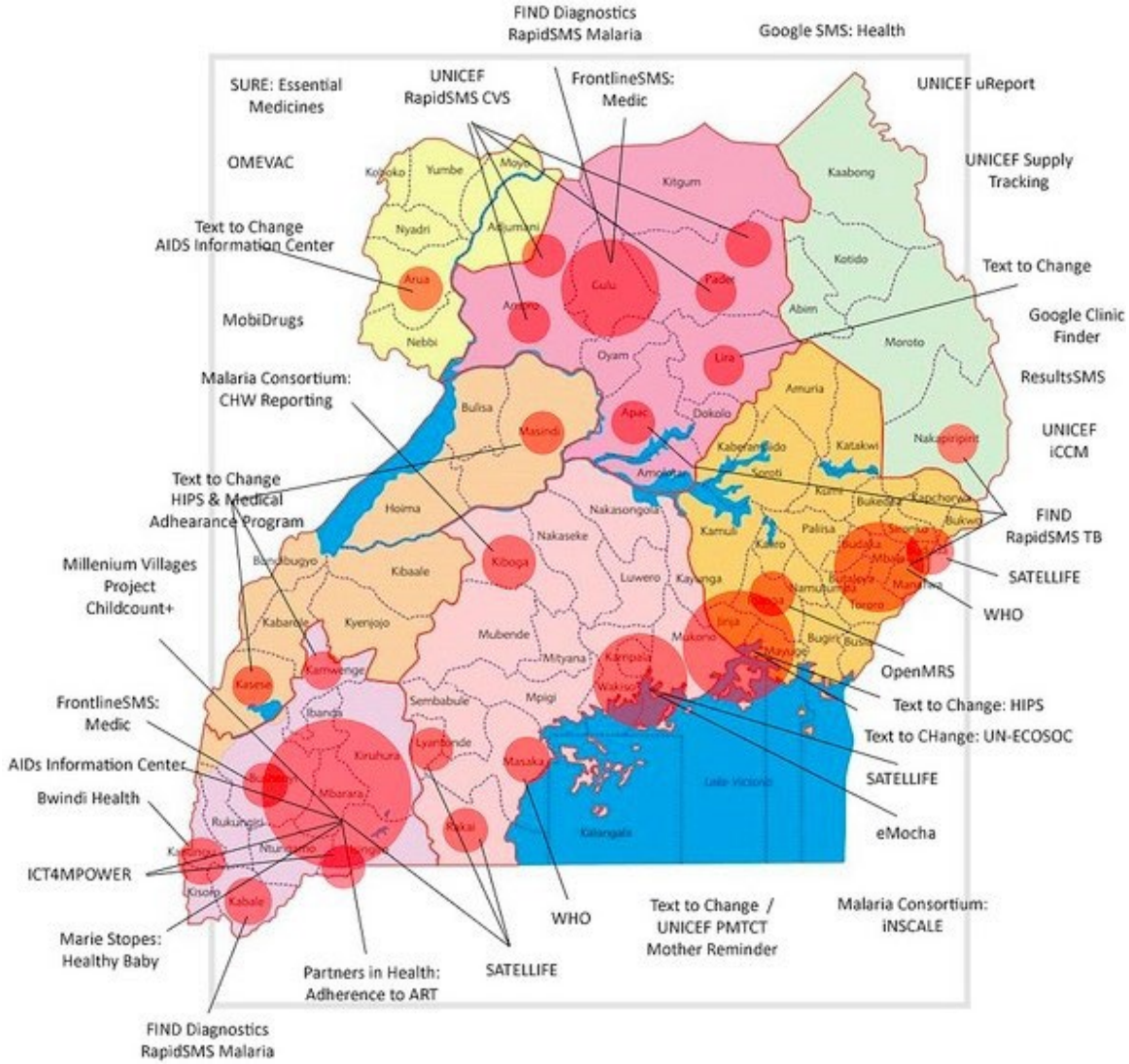
Enterprise Architecture: Enabling the Convergence of Delivery and Data

Prof. Alain Labrique
Director
Department of Digital Health & Innovation
Science Division
WHO HQ

World Health Organization

2010-2023:

Moving from discordant "*pilotitis*" to planned national digital health architecture – with government in the driver's seat.



Source: Sean Blaschke, UNICEF

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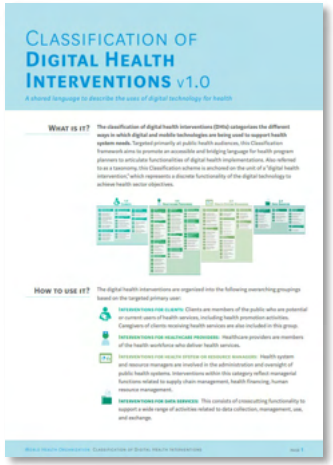
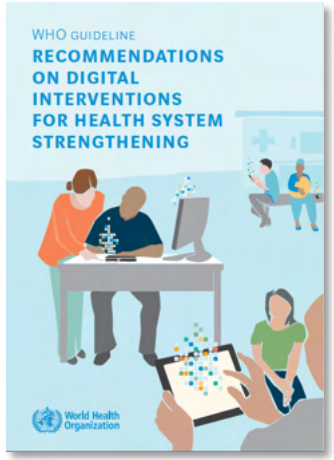
Shifting from "projects" to "transformation"





2012

ITU & WHO National eHealth Strategy Toolkit

2018

- World Health Assembly (WHA) Resolution on Digital Health
- Formation of Global Digital Health Partnership (GDHP)
- WHO Classifications of Digital Health Interventions

2019

WHO Guidelines: Recommendations on digital interventions for health system strengthening

2020

- Global Strategy on Digital Health 2020 - 2025
- Digital Health Investment Implementation Guide (DIIG)

World Health Organization

WHO Digital Health Priorities are shaped by the Global Strategy on Digital Health 2020-25

To improve health for everyone, everywhere by accelerating the development and adoption of appropriate digital health solutions to achieve the health-related SDGs

Strategic Objectives

- **Promote global collaboration & advance the transfer of knowledge on digital health**
- **Advance the implementation of national digital health strategies**
- **Strengthen governance for digital health at global, regional and national levels**
- **Advocate people-centered health systems that are enabled by digital health**

World Health Organization

What does the digitized future look like for WHO, countries, technologists and health providers?

WHO

- ✓ Increased fidelity and **uptake of evidence-based guidelines**
- ✓ **Facilitated data reporting** from countries

MoH

- ✓ **Reduced costs and time** required to develop and adopt digital solutions to **Reinforce quality of care** & facilitate **data –driven public health decision making**

Technology partners

- ✓ Quicker **development** & **adoption of digital solutions** and interoperability standards
- ✓ Increased **opportunity to compete** in health tech sector, allowing for greater reliance on local talent

Health workers

- ✓ **Greater support** for day-to-day workload
- ✓ **Reduced reporting burden**

Health service users

- ✓ Receives **higher quality health services**
- ✓ Gains access, control, and autonomy over personal health data and decision making
- ✓ Experience continuous care

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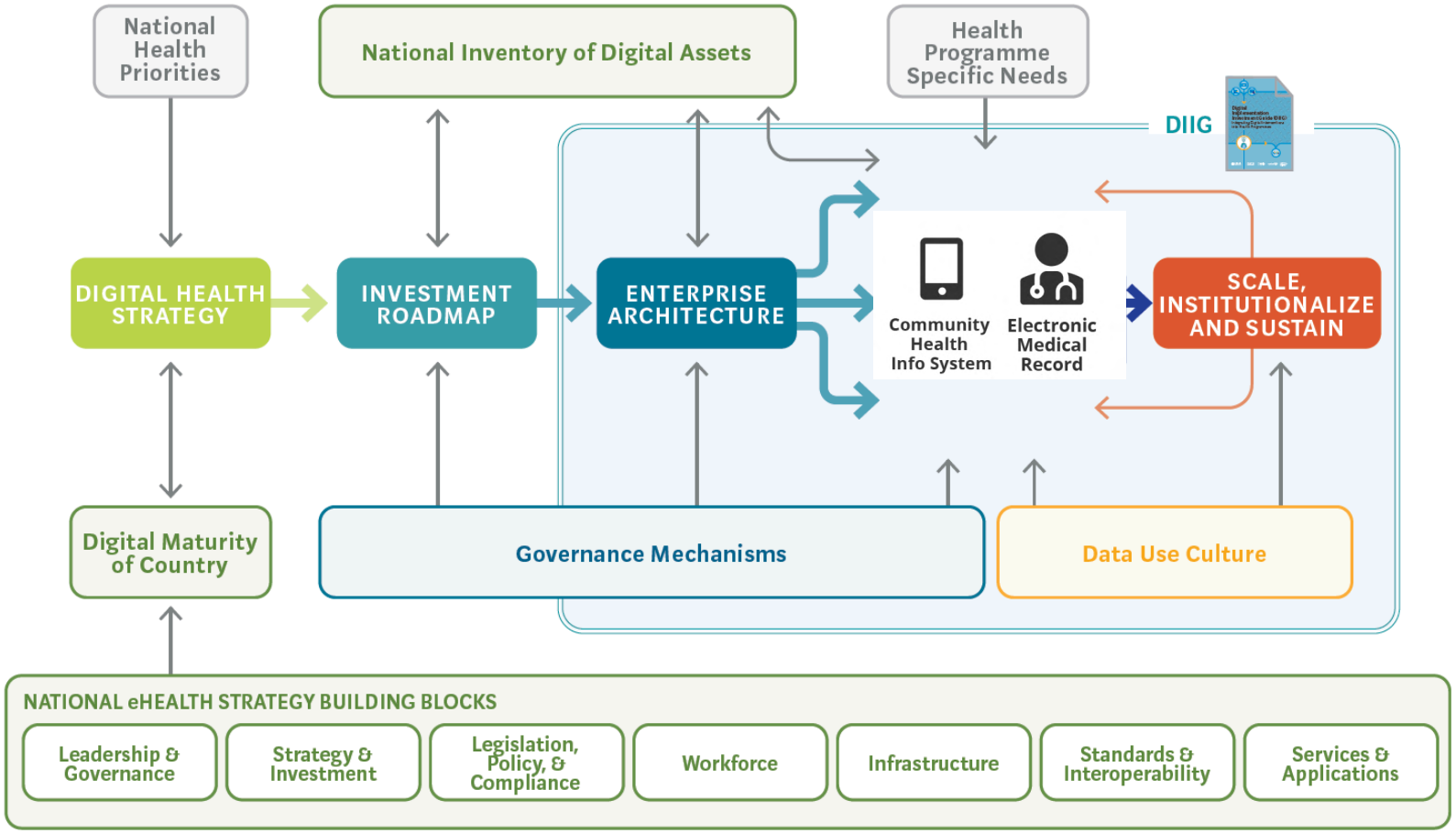
Roadmap for national digital health transformation

Fig. 1.1.4. Essential processes of national digital health implementations.



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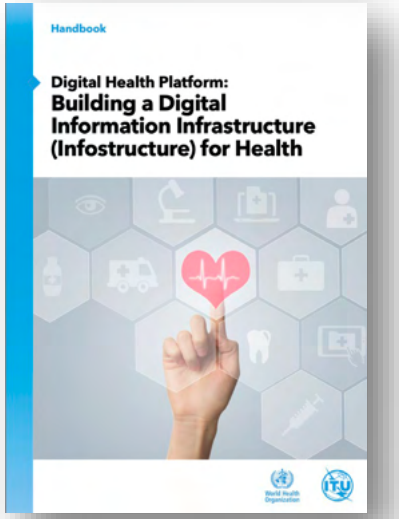
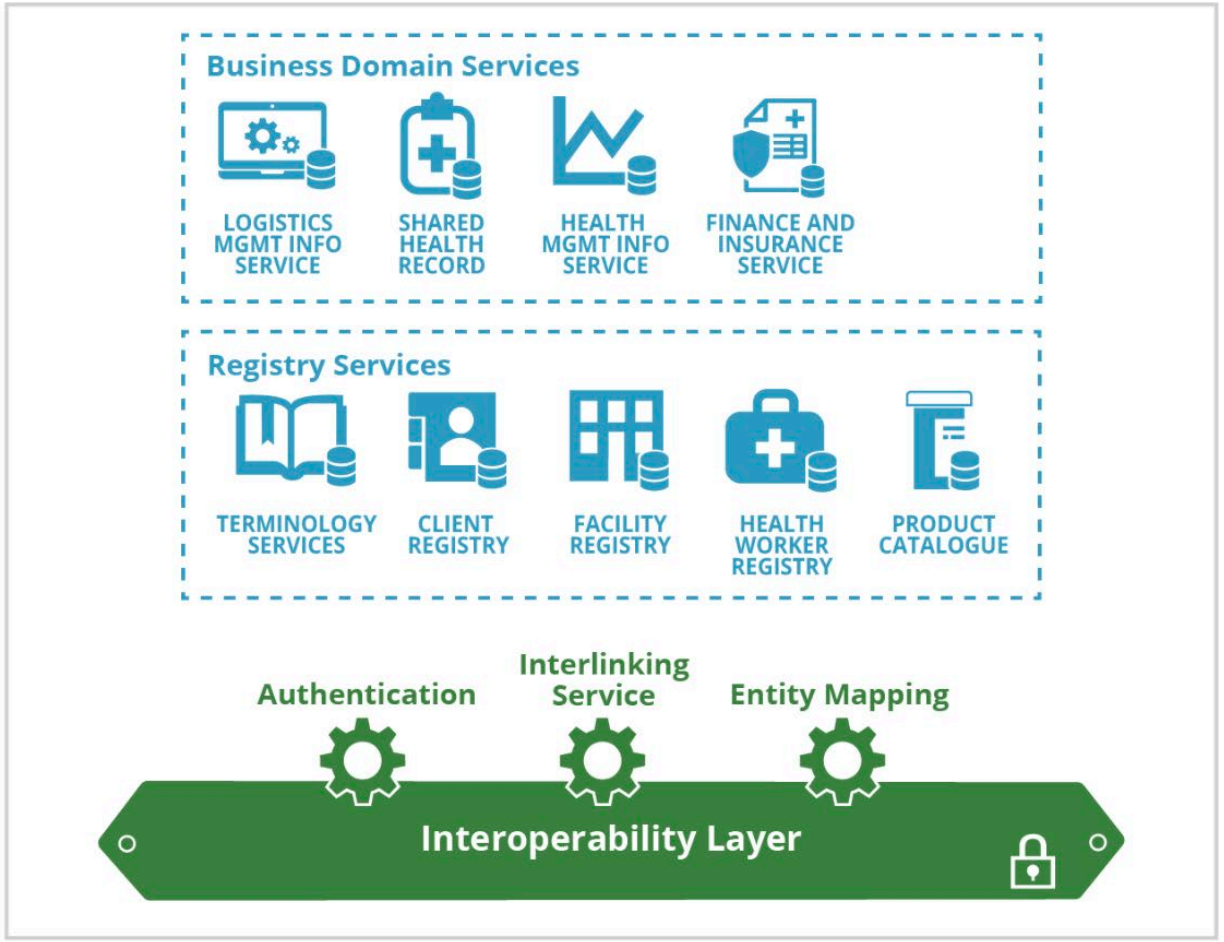
What does this look like ?

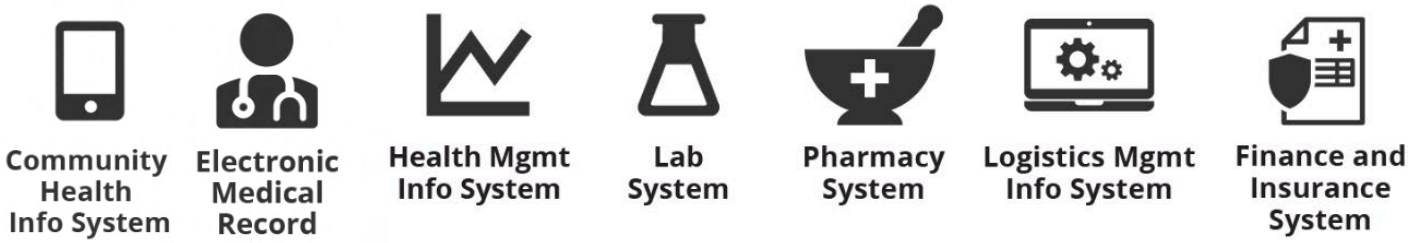
OpenHIE Component Layer



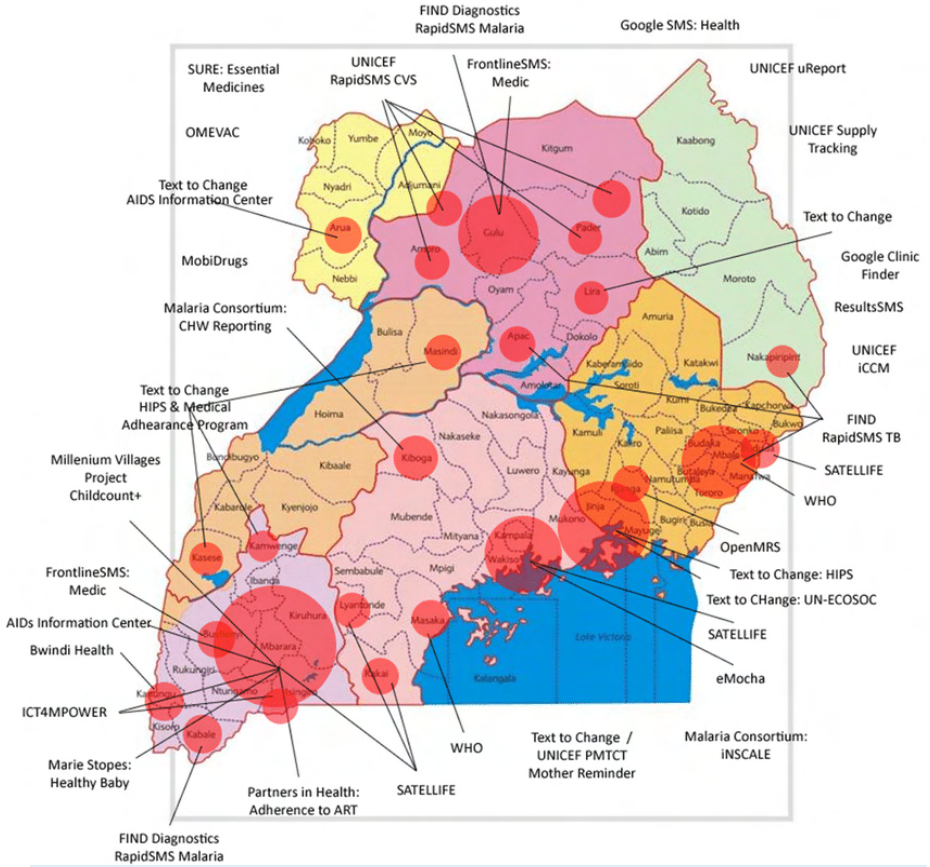
Interoperability Services Layer



Point of Service

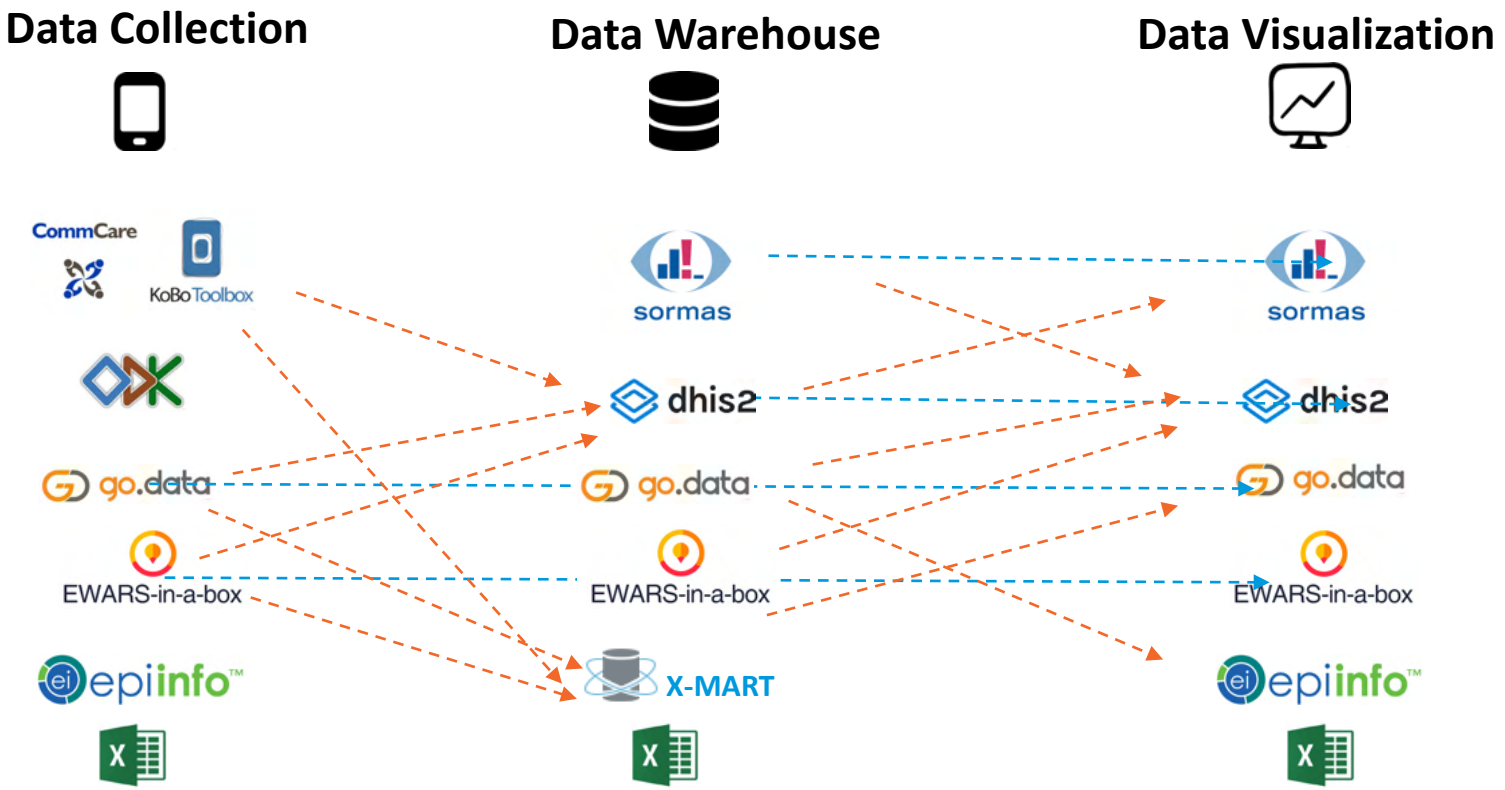


Proliferation of platform and tools makes data integration overly complex



Map of Digital Health Pilot Projects in Uganda in 2010 depicting spread of potentially duplicative, discordant, mHealth interventions that did not share information and lead to moratorium.

(Source: UNICEF)



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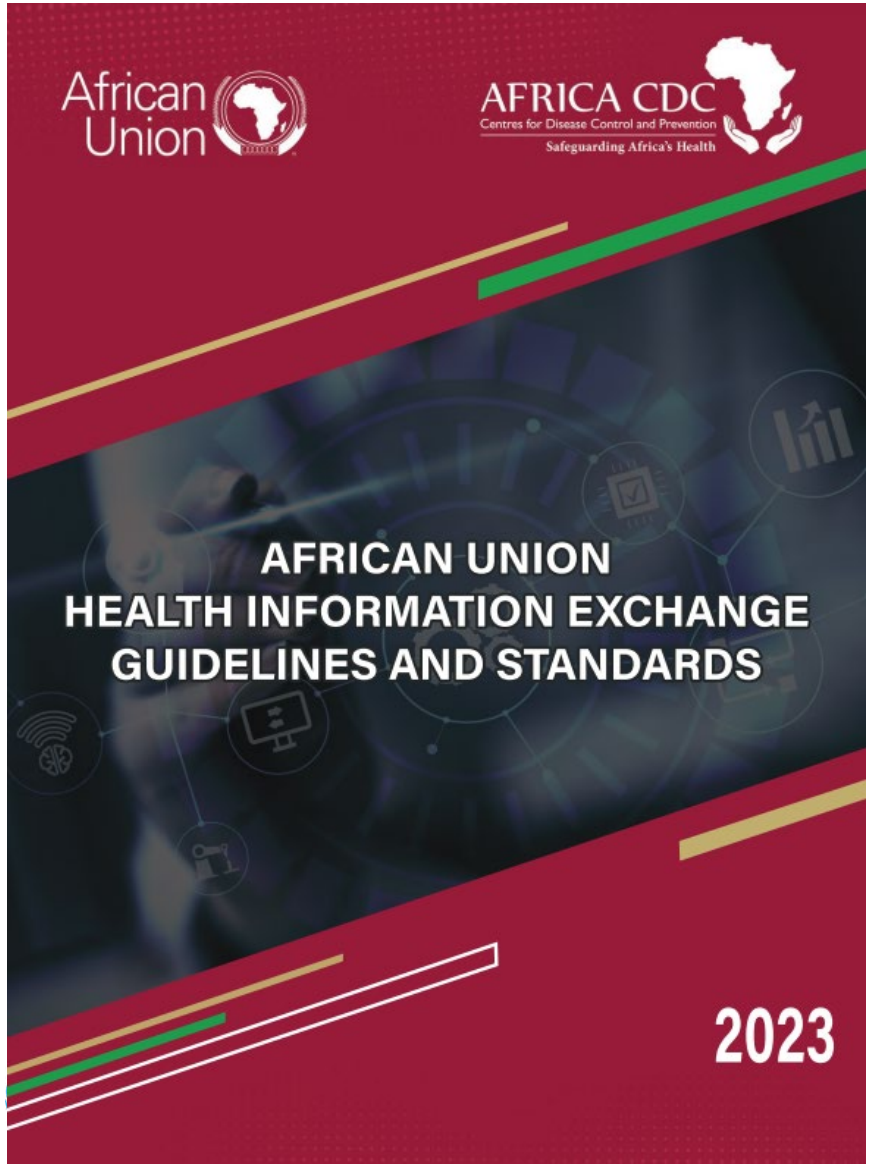
African Union & Africa CDC: HIE Guidelines and Standards



The HIE technical framework recommends:

- "exchanging data for digital health and cloud communications, use IHE or HL7® Fast Healthcare Interoperability Resources (FHIR) standard cloud communications“;
- "all new implementations and digital health system improvements use FHIR as the primary mechanism for data exchange“; and
- for surveillance "source data entry can be via a web-based application using mobile devices and computers. Source terminology would be automatically mapped, and transformed, to the HL7 FHIR messages with associated case documents."

African Union
AFRICA CDC
Centres for Disease Control and Prevention
Safeguarding Africa's Health

FHIR Implementation Guide for ABDM

3.0.0 - CI Build

Enduring with the vision of National Health Policy (NHP) 2017, 'Health and wellbeing for all at all ages', Ministry of Health and Family Welfare (MoHFW), Government of India recognized the need for creating a framework for the evolution of a National Digital Health Eco-system (NDHE), which will support 'Continuum of care' for an individual.

To create and enable digital health ecosystem and prioritize digital health in India, and to develop an implementation framework for the National Health Stack, the committee constituted by MoHFW Government of India produced the National Digital Health Blueprint (NDHB), laying out the building blocks and an action plan to comprehensively and holistically implement digital health.

The Government has established the Ayushman Bharat Digital Mission (ABDM), with The Ministry of Health and Family Welfare defining the policy and regulatory frameworks with implementation by the National Health Authority (NHA).

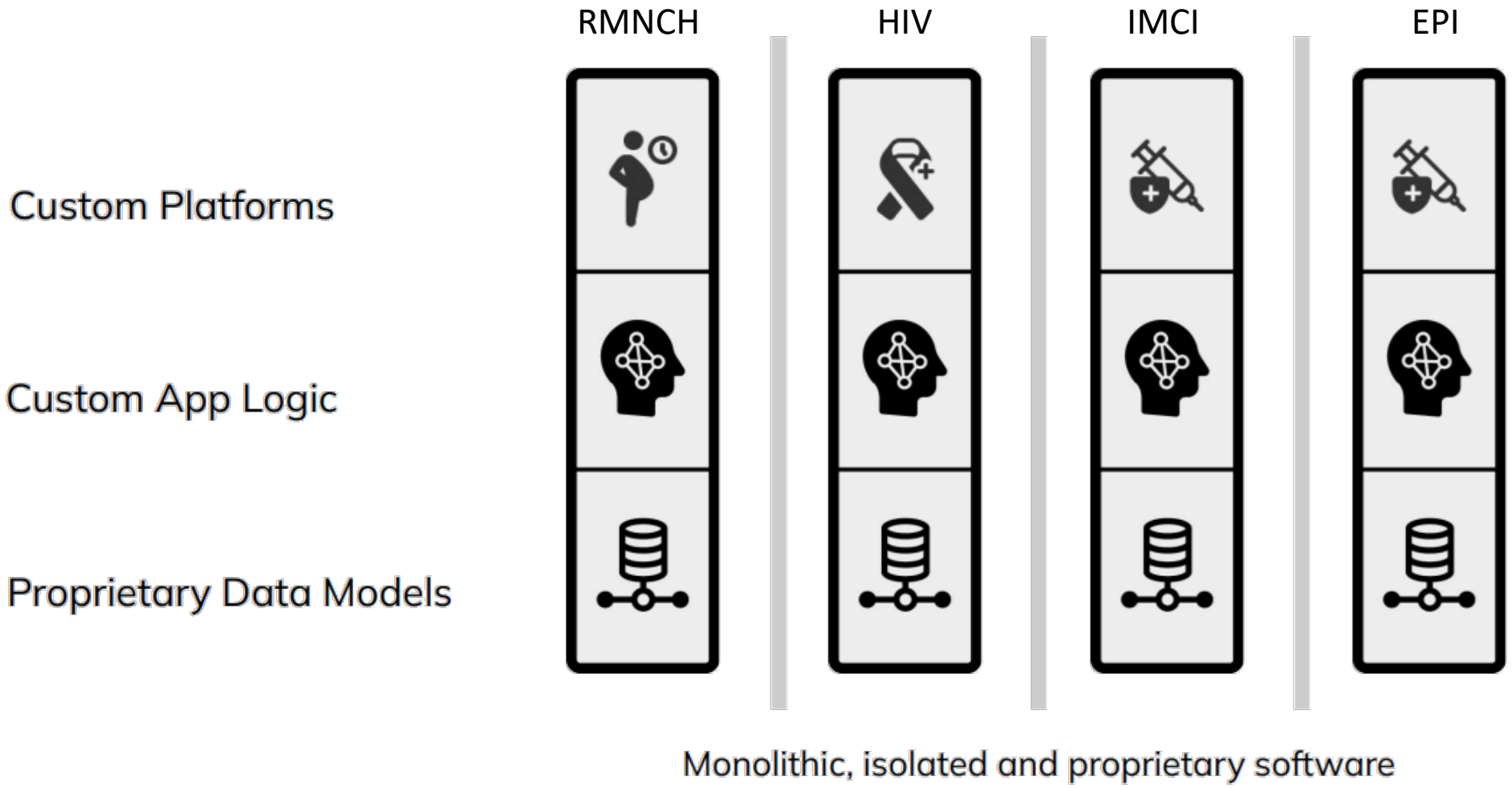
The vision of ABDM is, to create a national digital health ecosystem that supports universal health coverage in an efficient, accessible, inclusive, affordable, timely and safe manner, that provides a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems, and ensures the security, confidentiality and privacy of health-related personal information. This will include adoption of open standards by all the actors in the National Digital Health Eco-system.

1.2 Introduction

The FHIR Implementation Guide for ABDM Health Data Interchange Specifications 1.0 is based on FHIR Version R4 and defines the minimum conformance requirements for accessing health data to achieve continuity of care in the Indian context.

To create and enable digital health ecosystem and prioritize digital health in India, and to develop an implementation framework for the National Health Stack, the committee constituted by MoHFW Government of India produced the National Digital Health Blueprint (NDHB), laying out the building blocks and an action plan to comprehensively and holistically implement digital health.

Siloed digital health architecture by health verticals



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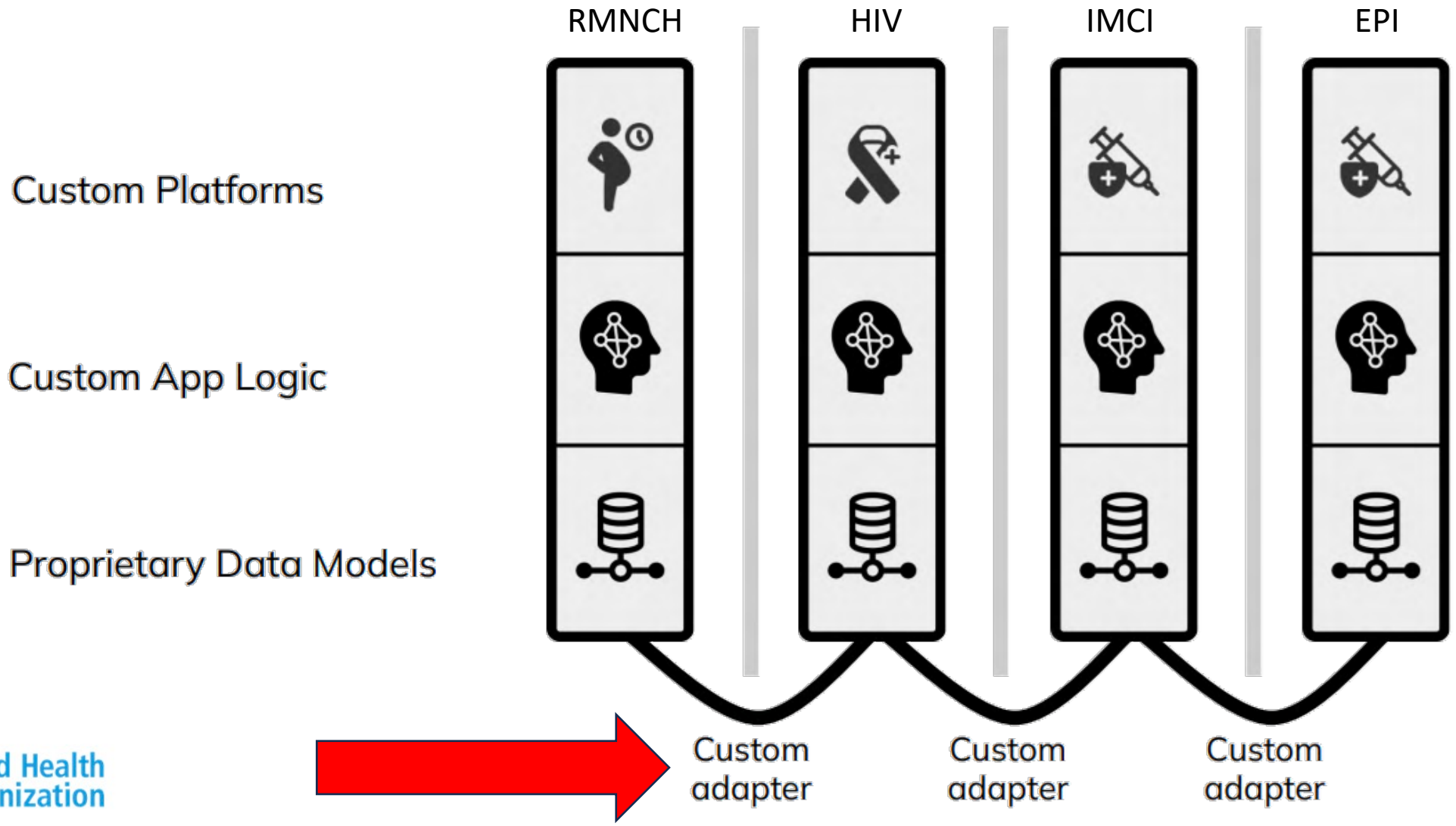
Source: Ona Solutions

Each siloed solution requires **custom adaptation** for each new health vertical



World Health Organization

Source: Ona Solutions

Standards-based digital health architecture become building blocks for digital solutions – allowing greater flexibility

Standards-based Platforms

Standards-based App Logic

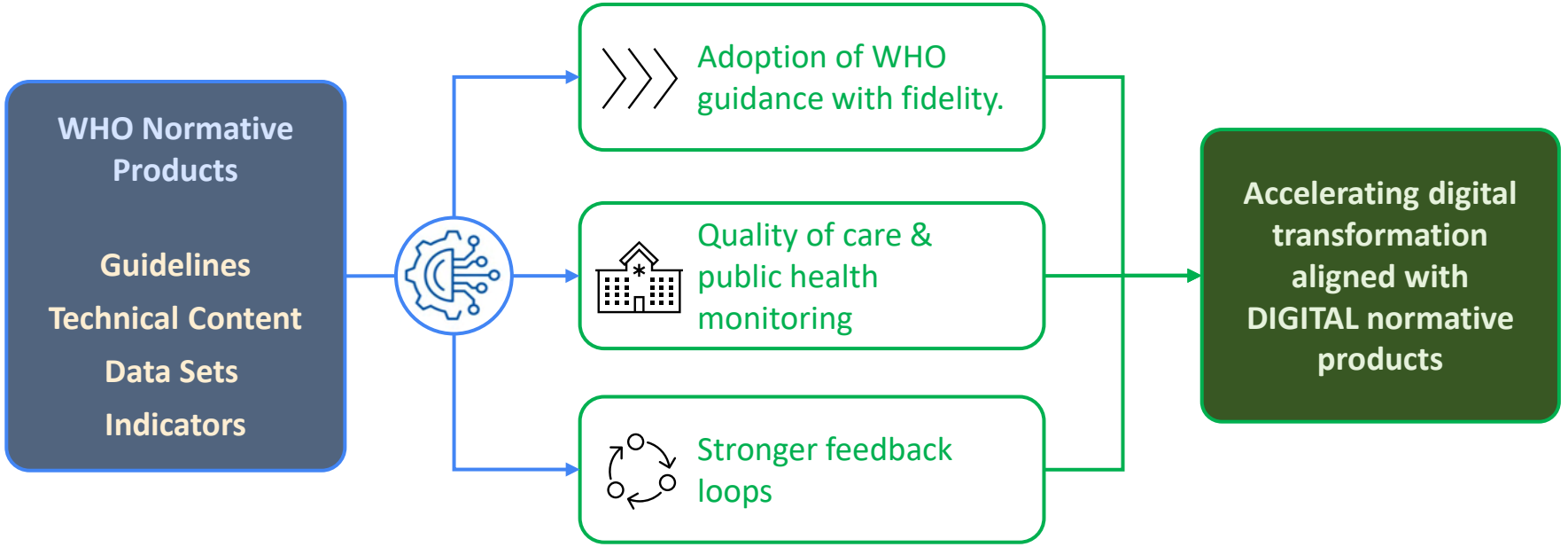
Standardized Data Model

Software that shares components like Legos

Source: Ona Solutions

SMART Guidelines: WHO Content available in Interoperable, Standards-based format for Data and Digital harmonization

*Fast Track digital health transformation with modern interoperability standards (ICD and FHIR), and using **WHO SMART specifications** comprising digitized clinical, public health and data recommended content*



WHO SMART Guidelines = Standards-based, **M**achine Readable, **A**daptive, **R**equirements-based, **T**estable content for digital transformation

HL7 FHIR

World Health Organization

SMART Guidelines in practice – antenatal care

EXISTING MODEL WITH ENHANCEMENTS

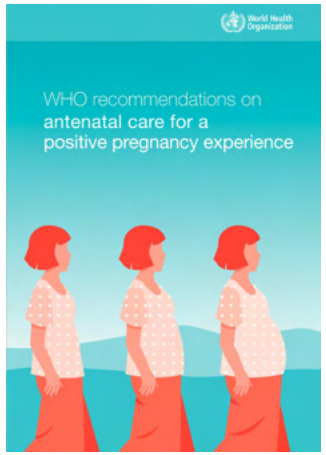
PREPARING TO GO DIGITAL

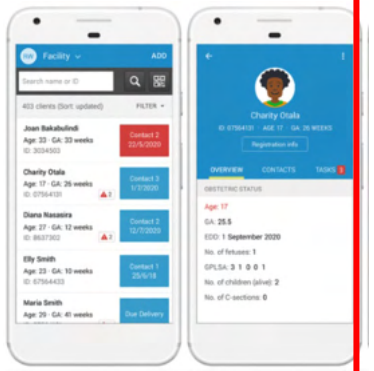
INTEROPERABLE DIGITAL COMPONENTS

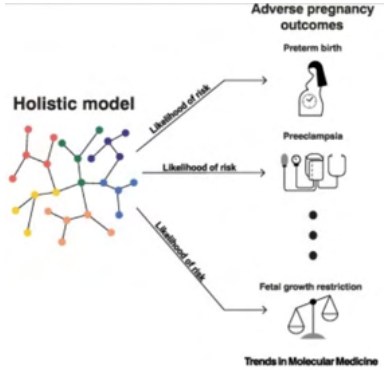
CUSTOMIZABLE SOFTWARE

ADVANCED ANALYTICS FOR PRECISION HEALTH

L1 L2 L3 L4 L5







HL7 FHIR

World Health Organization

SMART Layer 3 = Machine Readable Guidelines

HL7 FHIR

INTEROPERABLE DIGITAL COMPONENTS

L3

Machine Readable

- FHIR Implementation Guide (IG)
- Based on Clinical Practice Guidelines IG
- Software agnostic
- Decision support services (CQL)

Testable, structured, software-neutral specifications, code, terminology and interoperability standards that are executable within multiple software platforms, which is recommended specific to health domain, user, and use case

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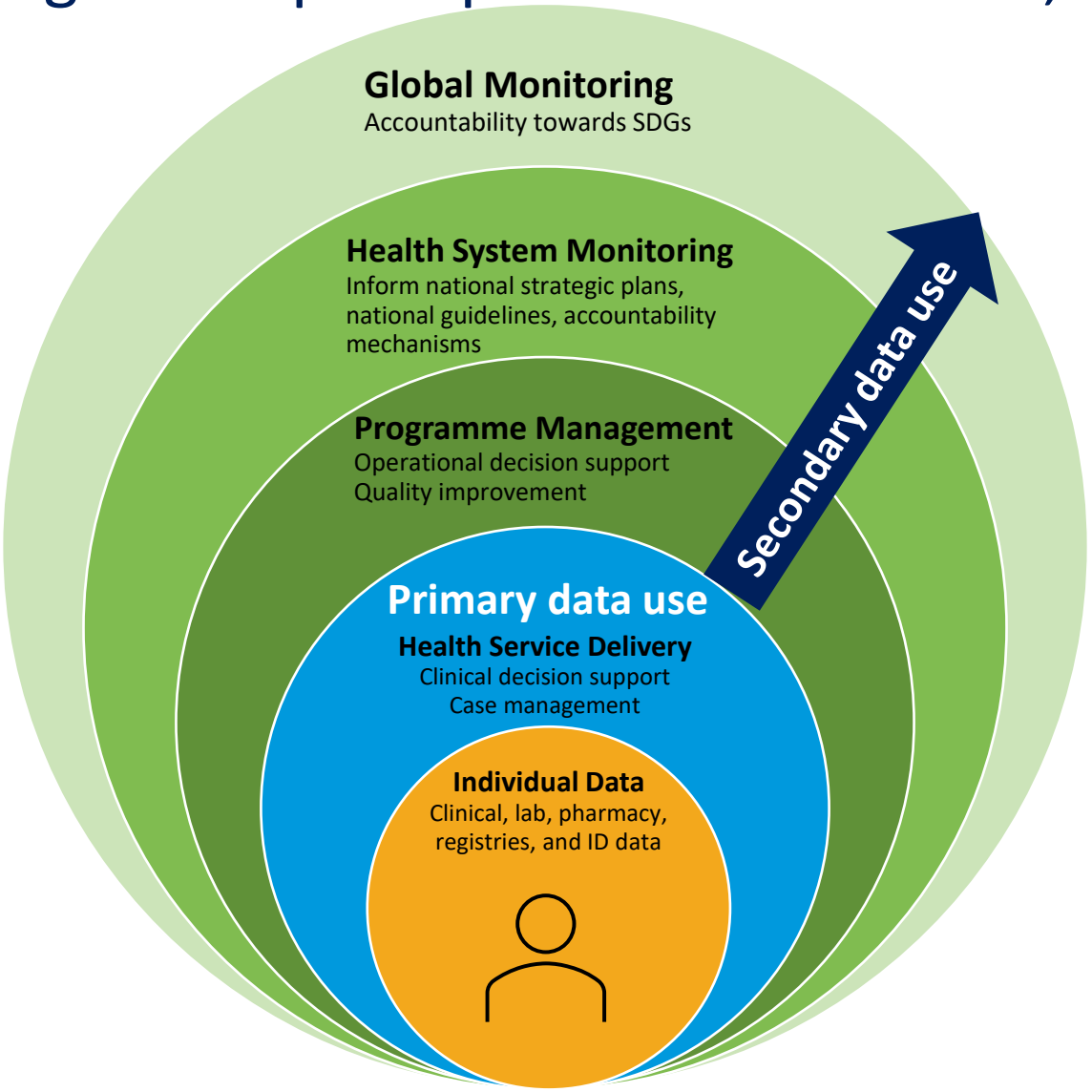
SMART Guidelines are intended to support the adoption of digital technologies adhering to the principle of “Collect once, use many times”



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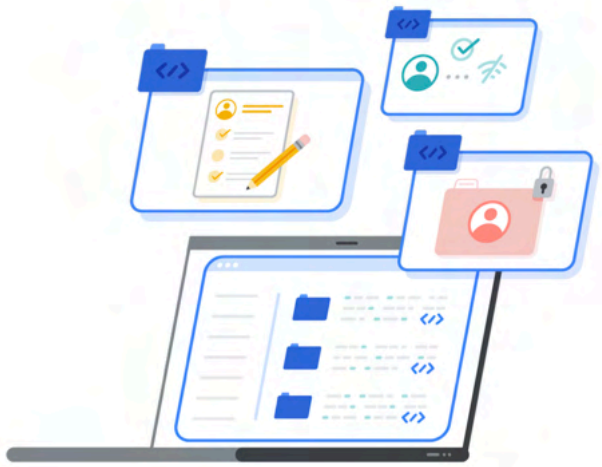
android

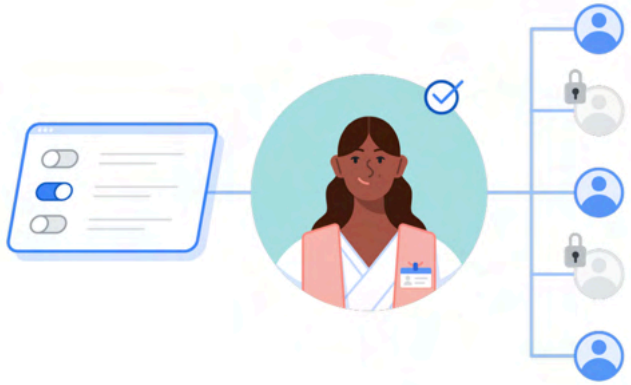
Open Health Stack + WHO SMART Guidelines (L3)



Build faster

Access libraries designed to help you build FHIR-native Android apps that are secure, offline-capable, and provide on-device decision support enabling patient centered care delivery.

Android FHIR SDK



Enhance privacy

Build privacy-preserving apps with the FHIR Info Gateway, ensuring safety by only allowing access to patient data for relevant healthcare workers.

FHIR Info Gateway

Unlock insights

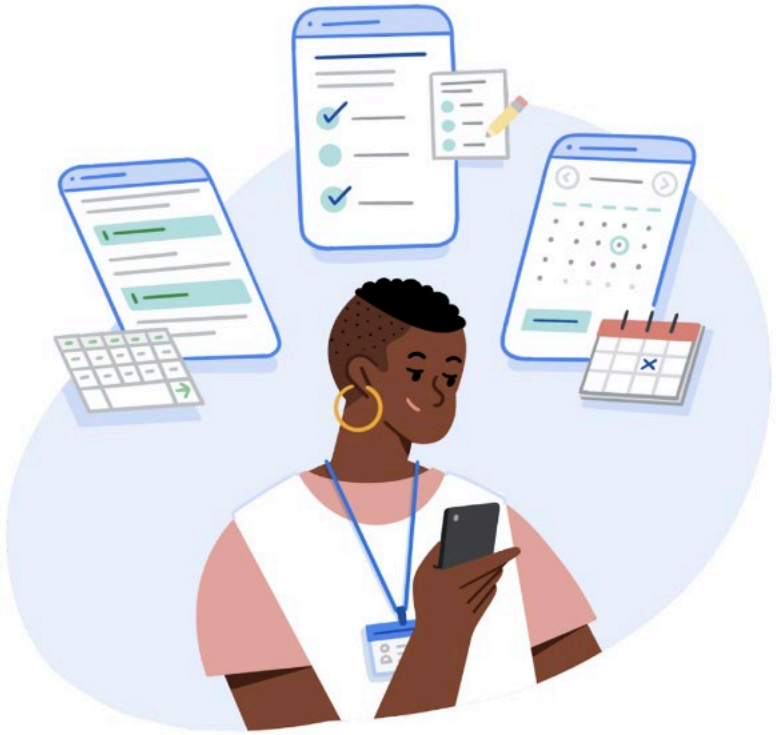
Transform data to make it easier to generate trusted insights faster, enabling more effective decision making across healthcare programs.

FHIR Analytics

Google Developers

android

Open Health Stack

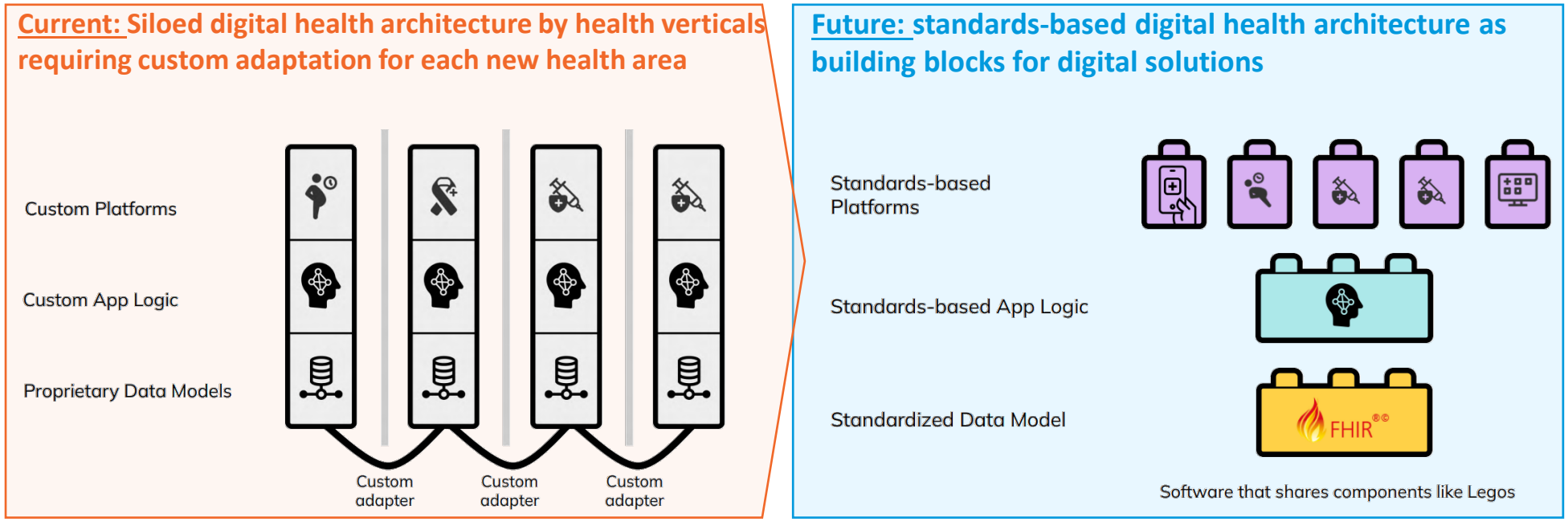


OHS components

Developed by 3rd parties

Storage with on-prem or cloud options

SMART Guidelines content reduces time for development while maintaining quality with a standardized data model among local technology developers



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Images: Ona Solutions

Growing an **open community** around the **FHIR standard** for **global digital health**

- WHO Authoring Call – **Monday 2pm GMT**
- WHO Implementers call – **Tuesday 2 pm GMT**
- Developers call - **Thursday 8:30 am GMT**
- Reach out on **zulip chat -** chat.fhir.org

Android FHIR SDK

World Health Organization

SMART@who.int to join weekly working group calls

android-fhir@google.com to join the weekly developers call or to learn more

Alphora

Swiss TPH

Google Developers

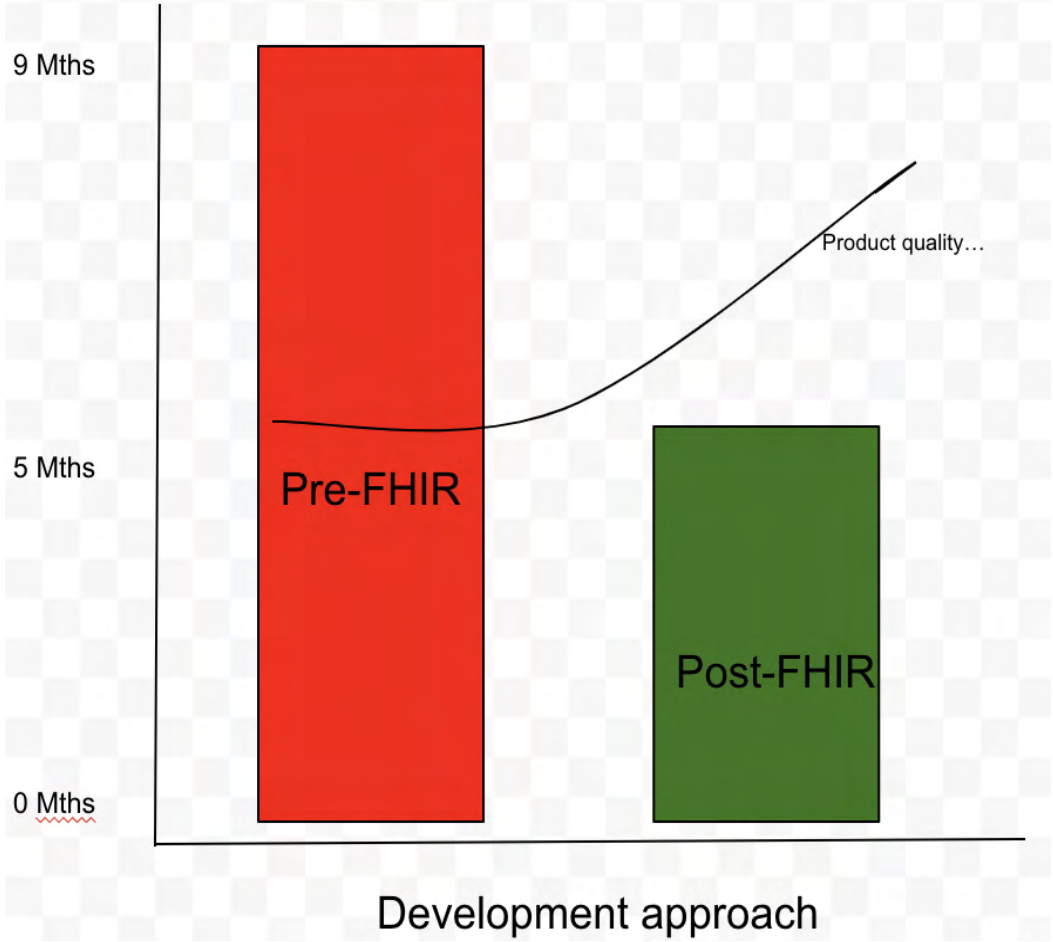
And other contributors

The adoption of native FHIR app (SMART Guidelines + Android FHIR SDK) in Kenya reduced time for development while maintaining quality

1. Reduced development time, critical "building blocks" including Sync, Data Capture, & Search in place

2. Confidence in solution quality (low critical errors) and fidelity

3. Future proofed particularly for scalability in a digital health enterprise environment



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Source: Intellisoft Solutions

WHO Digital Health Clearinghouse

A mechanism to assess and catalogue digital health solutions using **objective, testable and transparent criteria** under 5 domains and against WHO specifications

Priority of digital applications and services in support of **primary health care** and **disease surveillance** for low- and middle-income countries (LMICs).

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Will market-shape in support of:

Governments

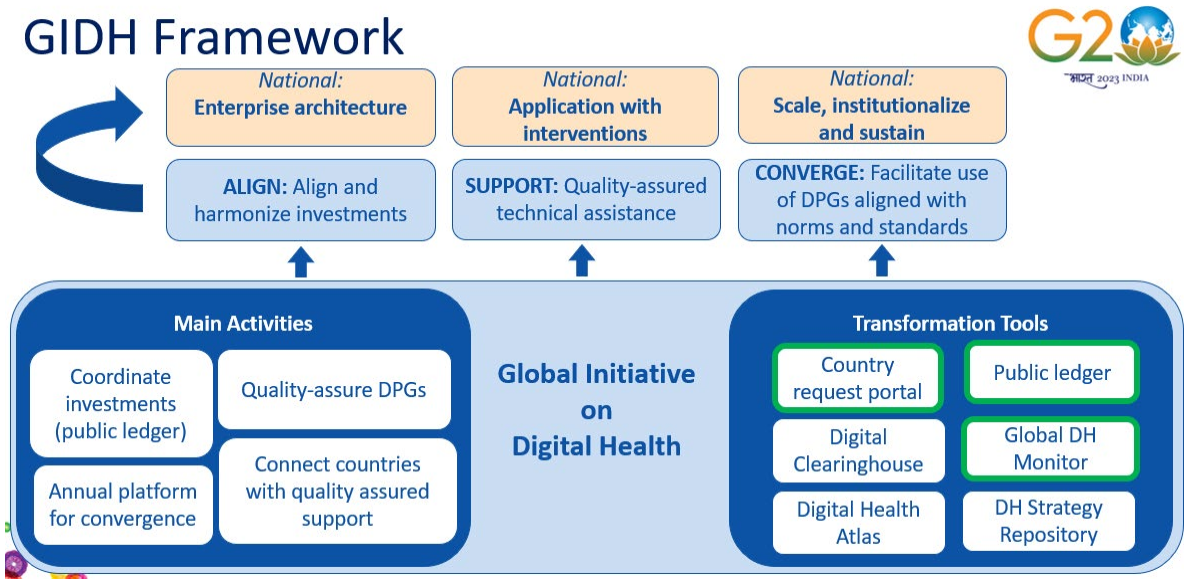
Technologists

Curation of digital health solutions that:

- use (1) open interoperability standards and (2) fulfill functional requirements that are appropriate for the specified health use case;
- contain (3) data and health content that is consistent with WHO recommendations;
- address (4) implementation requirements and constraints of low-resource settings;
- are (5) safe and ready for country use within national digital ecosystems

The Global Initiative on Digital Health

- Supported by the India G20 Presidency
- Strengthen coordination and address major challenges of investments in digital health.
- **AMPLIFY** WHO norms and standards, **CONVERGE** around quality-assured digital global goods, and **ALIGN** investments to country priorities.
- Leverage a WHO Managed Network approach to convene stakeholders and promote access to government-facing resources.



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Thank you

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SCORE for assessing the needs of country health information systems and improving access to technical solutions and investing in where the gaps are

Steve Mac Feely, Director Data and Analytics, WHO and co-chair of HDC

SCORE is…

Health Data Collaborative

…a useful assessment tool:

for strengths / weaknesses of country Health Information Systems & already has a ‘footprint’ in 164 countries;

…but is more than ‘just’ an assessment tool:

it also includes a range of tools & potential solutions for strengthening HIS, plugging data gaps & taking action for policy, programs and budgets for Govts and partners

…can monitor HIS trends over time:

if repeated over time, SCORE could monitor trends in HIS in countries and globally

….a paradigm for considering and investing in HIS:

SCORE could link to reviews & actions for national Government programs and budget cycles, when HDC partners could be present

SCORE & Objectives

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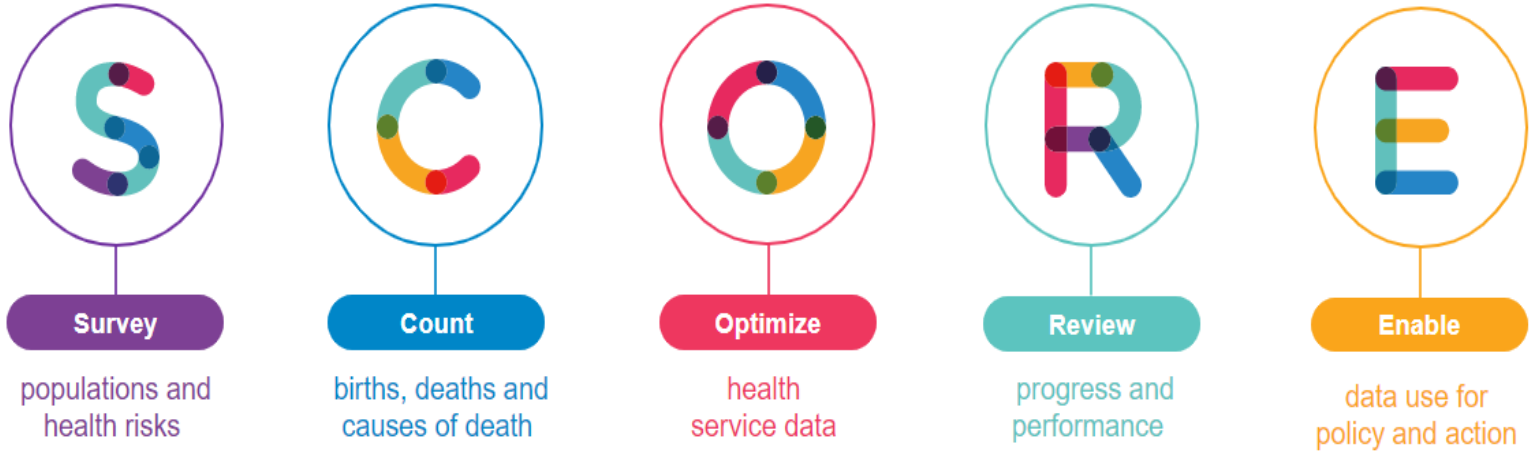
A WHO initiative to assist Member States in assessing, monitoring and strengthening their health data systems consisting of five interventions



Objectives

- Assist countries meet their own health data priorities
- Provide access to the best practice action, standards and tools for improving HIS systems
- Guide the monitoring of countries HIS
- Provide a framework to synergize efforts across various components and partners, guide investment to achieve best cost-effectiveness

SCORE Interventions- Elements

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To evaluate HIS capacity in countries by examining the availability of data or mechanisms, and relevant standards that were used in countries.

Survey

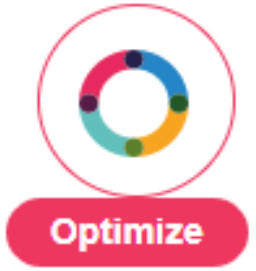
populations and health risks

- 54 HRSDG indicators
- Regular population-based surveys
- Surveillance of public health threats
- Population census

Count

births, deaths and causes of death

- Birth and death registration
- Certification and reporting of causes of death



Optimize

health service data

- Routine facility reporting and patient monitoring
- System to monitor service availability, quality and effectiveness
- Health financing and health workforce

Review

progress and performance

- Analytical review of health sector progress and performance with equality
- Institutional capacity for analysis and learning

Enable

data use for policy and action

- Data and evidence drive policy and planning
- Data access and sharing
- Country-led governance of data

SCORE global assessment: 2018-2020

Health Data Collaborative

164 countries completed

90% of the world's population

SCORE Challenges

Assessment Process

- Data bias due to online-based desk review
- Late country engagement
- Delays in data collection and validation
- Lack of responses in some countries

Assessment Instrument

- Questions will need adapted & >focus on quality.

Utilization of SCORE data

- Ownership & follow up in countries
- Bridging SCORE results with actions
- Enhancing partnership

Future of SCORE

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Address the challenges

- Will remain high level
- Tools and Standards will be updated
- Identify approaches for follow-up actions using SCORE data
- Use HDC as a in country platform for partner coordination and collaboration at time convenient for countries

Next global assessment 2023-2025

- Revise SCORE assessment instrument and indicators
- Construct digital platform for data collection and dissemination
- Pre-test in selected countries
- Global assessment

Session 1 – Part 1: Learning from country experiences

Thursday, May 18

Session 1 – Part 1: Learning from country experiences

Successes, challenges and gaps in HIS to reach health-related SDGs: Country roundtable highlighting successes, challenges and opportunities to fast-track progress and investment

*Naod Wendrad (Strategic Affairs Executive Officer, **Ethiopia** Ministry of Health)*

*Onalenna Seitio-Kgokgwe (Deputy Permanent Secretary Health Policy Monitoring, Evaluation and Quality Assurance, **Botswana** Ministry of Health and Wellness and co-chair of the HDC)*

*Mwango Mutale (Chief Monitoring and Evaluation Officer (Routine Health Information Systems), **Zambia** Ministry of Health)*

*Sarbesh Sharma (Director of the Management Division, Department of Health Services, **Nepal** Ministry of Health and Population)*

*Nassirou Ouro Nile (Chief Information Technology and Communications Division, **Togo** Ministry of Health)*

Thursday, May 18

Session 1 – Part 2: Approaches of country and partner collaboration

Session 1 – Part 2: Approaches of country and partner collaboration

Video HDC Kenya the Power of Data in the Community

Community engagement for Primary Health Care (PHC) and Universal Health Coverage (UHC): what are data challenges and opportunities to overcome (e.g., Geographic Information System (GIS), Civil Registration and Vital Statistics (CRVS))

1. Importance of community engagement for Primary Health Care (PHC) and Universal Health Coverage (UHC), examples of GIS & CRVS partnership for countries

   Malawi and Nepal country teams

2. Leveraging data and digital transformation for better health

   David Novillo Ortiz (Unit Head, Data and Digital Health, European Regional Office, World Health Organisation)

Joint SDG GAP / HDC mission to Malawi and Nepal
Aligning partner support for data to strengthen the health sector through SDG GAP 3 Data and Digital accelerator and the Health Data Collaborative

- ***Opportunity for partners to align resources with Government priorities***

- Malawi's SCORE assessment of Health Information Systems, shows well-developed capacity in many areas, but only nascent capacity for counting births and deaths.
- GIS has potential for wide use across all SDGs, beyond the health sector
- Collaboration between UNFPA's Population and Development Branch (PDB) and WHO's (GIS Centre for Health) will support Malawi's Health Facilities Database, as part of a global effort.
- UNFPA's partnership with the government of Malawi on mapping the population and housing census of 2018, has already identified local and regional areas where people are "left behind" in access to health services

Both the HDC and SDG GAP partners aim to support countries to make better quality data available for use in the right format, right person and at the right time. This is to ensure action can be take for better health outcomes – better informing policy, budget and programs

Malawi has a strong commitment to UHC and comprehensive Primary Health Care (PHC). Both GIS and CRVS support, together with the SCORE assessment, can support the resourcing and planning of PHC.

ALIGNING PARTNER SUPPORT FOR DATA TO STRENGTHEN THE HEALTH SECTOR THROUGH THE HEALTH DATA COLLABORATIVE AND SDG3 GAP DATA AND DIGITAL ACCELERATOR

Highlights from Nepal

- Support from Nepal's 52,000 Female Community Health Volunteers (FCHVs)
- Strengthening community awareness and participation in the CRVS system
- Community engagement can help to increase awareness of the importance of birth registration and legal identity
- Local civil society organizations and community-based organizations can play a crucial role by working with local authorities and community members to raise awareness and advocate for the rights of marginalized groups.

World Health Organization

European Region

Leveraging data and digital transformation for better health

Better Data for Better Health

18 May 2023

Dr David Novillo Ortiz
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In this presentation

World Health Organization
European Region

01

Background

02

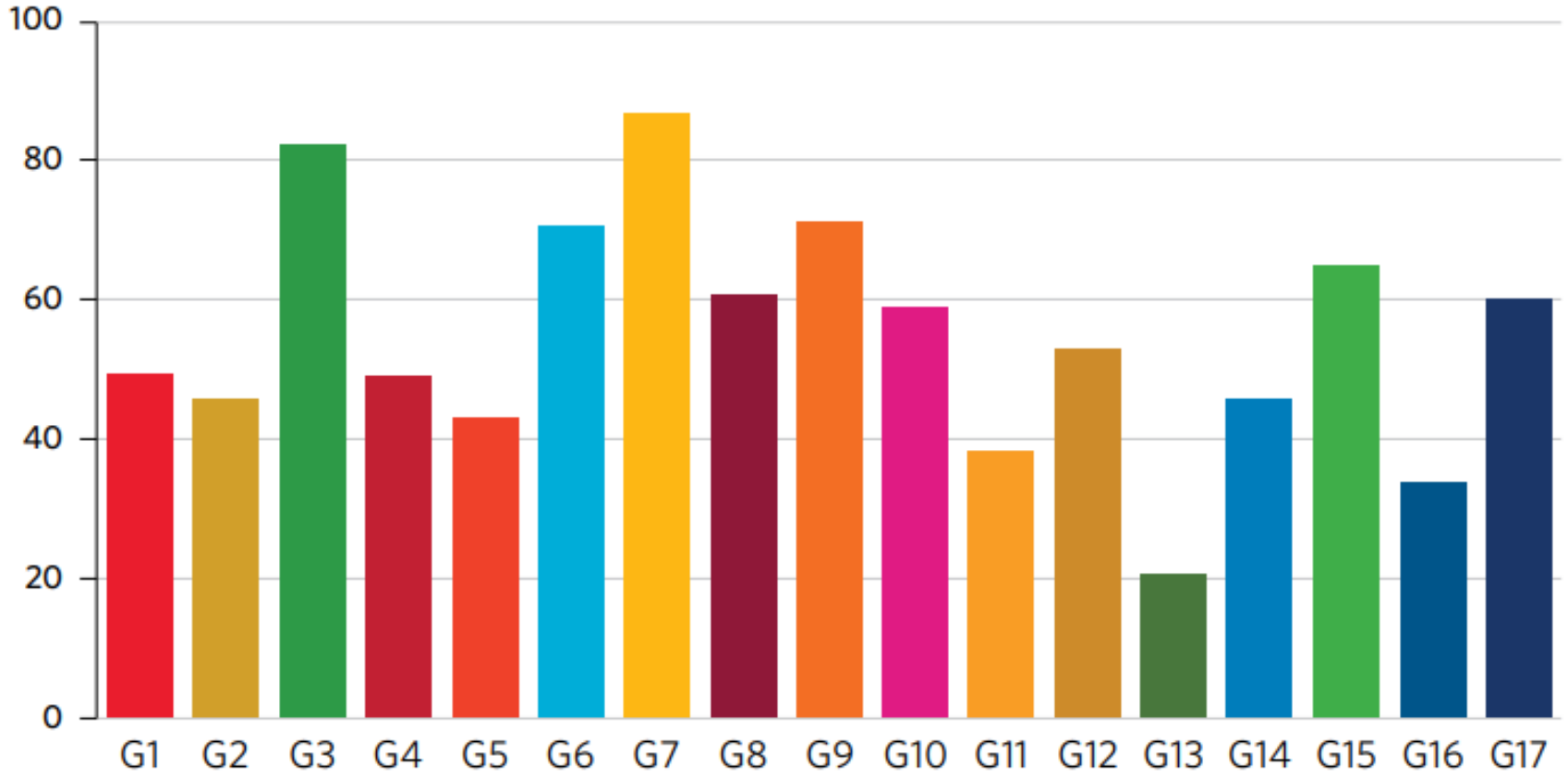
Smart investment in health information systems

Background

by the numbers…

World Health Organization
European Region

Proportion of countries or areas with available data since 2015, by SDG (percentage)



Source: The Sustainable Development Goals Report 2022 - https://unstats.un.org/sdgs/report/2022/

Background

Lessons learned from the COVID-19 pandemic

Real-time data and effective integration of different data and information systems are crucial in guiding an effective, timely and targeted response

Inability to effectively leverage the volume and different types of data available due to:

-- Lack of health data standards related to the definition, calculation and format of the data
-- Delays in receiving data
-- Lack of integration and interoperability between the different data and health information systems
-- Deficiency of trained people to manage and use these data

Background

a reflection…

World Health Organization
European Region

Please keep in mind that…

Background

a reflection…

World Health Organization
European Region

…when trying to digitalize data and information systems, digitizing a broken data process, gets you a digitized, broken data process.

adapted from @taradmcguinness

Smart investment in health information systems

a stepwise approach

World Health Organization
European Region

where are we now? 01

02 where do we want to go?

how are we going to get there? 03

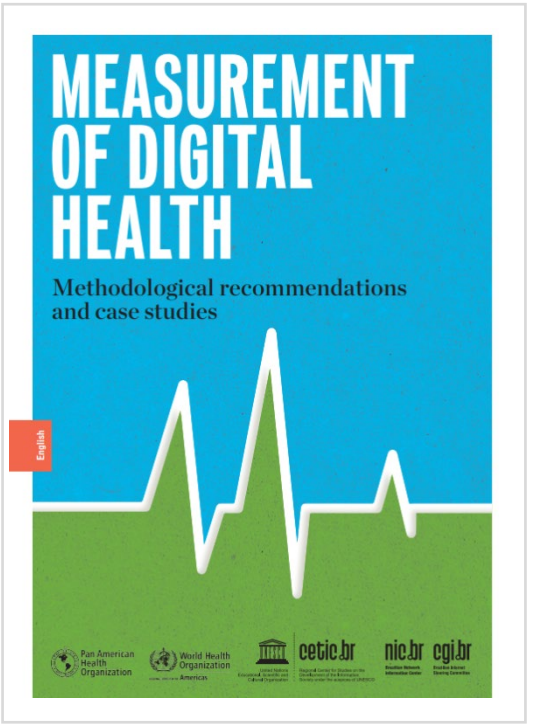
Smart investment in health information systems

where are we now?

World Health Organization
European Region

To perform an assessment.

SCORE for Health Data Technical Package



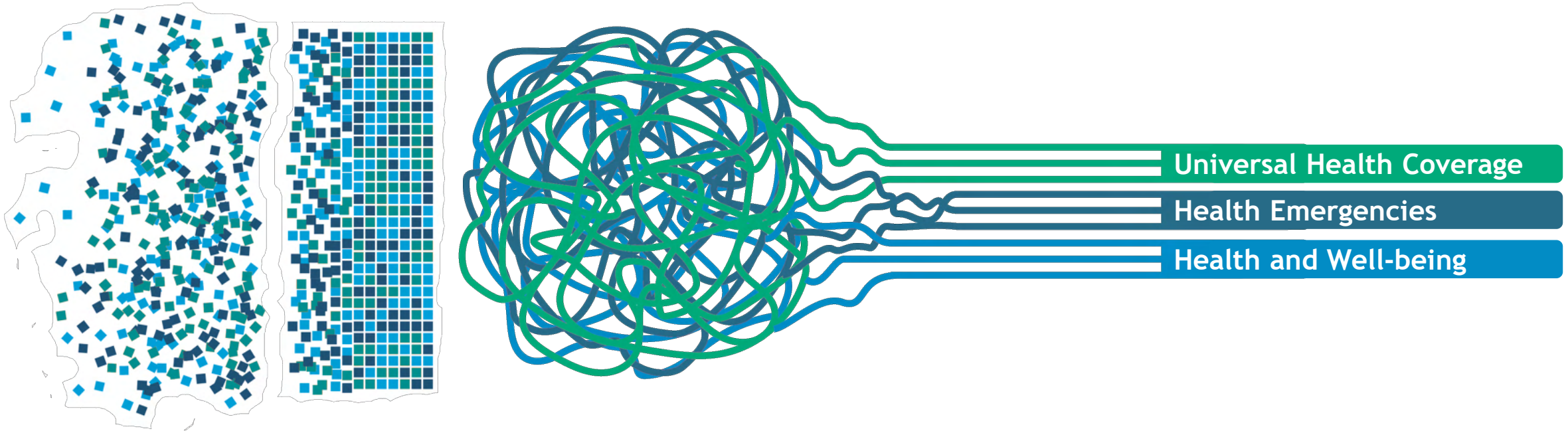
WHO tools (not an exhaustive list)

Smart investment in health information systems

where do we want to go?

World Health Organization
European Region

To develop (or enhance) a vision



from data to impact to shift toward a data-driven decision-making culture

Smart investment in health information systems

how are we going to get there?

World Health Organization
European Region

To develop a plan

1

Develop (or enhance) a data governance framework

2

Invest in data infrastructures

3

Integrate different data and information systems

4

Combine digital solutions and non-traditional data sources

Thank you!

World Health Organization
European Region

For further information please contact the Data and Digital Health Unit at WHO/Europe (euhiudata@who.int)

References (1/2)

World Health Organization
European Region

- **SCORE assessment instrument**. Geneva: World Health Organization; 2021 (https://www.who.int/publications/i/item/assessment-methodology-2020, accessed 13 May 2023).
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Thursday, May 18

Session 1 – Part 2: Approaches of country and partner collaboration

Opportunities to partner and invest for better data governance and Health Information Systems (HIS)

Panel discussion by:

Multilateral and Intergovernmental Organisations: *Malarvizhi Veerappan (Senior Data Manager and Program Manager, World Bank)*

Bilateral Donors, Philanthropic Institutions and Regional Funding Entities: *Ernesto Lembcke (Advisor, Sector Initiative Global Health, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH)*

Civil Society: *Kirsten Mathieson (Policy and Advocacy Lead, Transform Health)*

Global Health Initiatives: *Steve Ollis (Project Director, Country Health Information Systems and Data Use (CHISU) Program, JSI)*

Private Sector: *Vikas Dwivedi (Senior Health Information Systems Adviser, The Palladium Group)*

Research, Academia and Technical Networks: *Ola Titlestad (DHIS 2 Implementation Coordinator, University of Oslo)*

Q&A facilitated plenary discussion on country partnership

Session 2: Data governance: good practices

Thursday, May 18

Session 2: Data governance: good practices

Health Data Collaborative

Importance of data governance: views from UN and non-UN/civil society

> *Non-UN and civil society:* *Kirsten Mathieson (Policy and Advocacy Lead, Transform Health, and member of the Data & Digital Governance Working Group, HDC) and Victoria Fan (Senior Fellow, Centre for Global Development)*
>
> *UN:* *Steve MacFeely (Director Data and Analytics, WHO, and co-chair of the HDC)*

Big data infrastructure and management, and good data governance practices: platforms to safely store, disseminate and use data to improve performance of health care in Primary Health Care (PHC)

> *Xen Santas (Global Associate Director Informatics, US CDC)*
>
> *Malarvizhi Veerappan (Senior Data Manager and Program Manager, World Bank)*

Q&A on applying data governance and facilitated discussion

Health Data Collaborative

Importance of data governance: views from non-UN and civil society

Session 2: Data governance - good practices

Why do we need better governance of health data?

Health Data Collaborative

- To address issues of data privacy, ownership, sharing, and access
- To maximise public benefit of health (and health related) data, whilst managing risks and safeguarding individual rights

Improved governance of health data will:

- Reduce fragmentation, duplicative systems and wastage → increased efficiency and performance of public health investments
- Improve evidence-based decision making → stronger and more equitable health systems
- Strengthen health emergency response
- Advance research and innovation
- Help achieve UHC and SDG goals

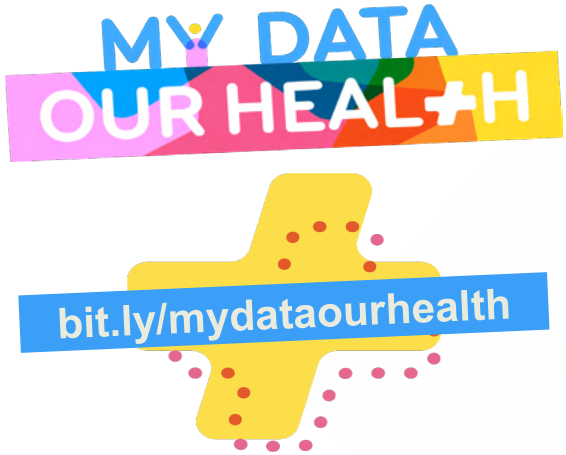
Growing consensus on the need to strengthen health data governance

Growing up 2030 in a digital world
GOVERNING HEALTH FUTURES
THE LANCET & FINANCIAL TIMES COMMISSION

G20
भारत 2023 INDIA

AFRICA CDC
Centres for Disease Control and Prevention
Safeguarding Africa's Health

Growing stakeholder demand for action



Key messages from civil society

Call to action for stronger health data governance and a global framework:

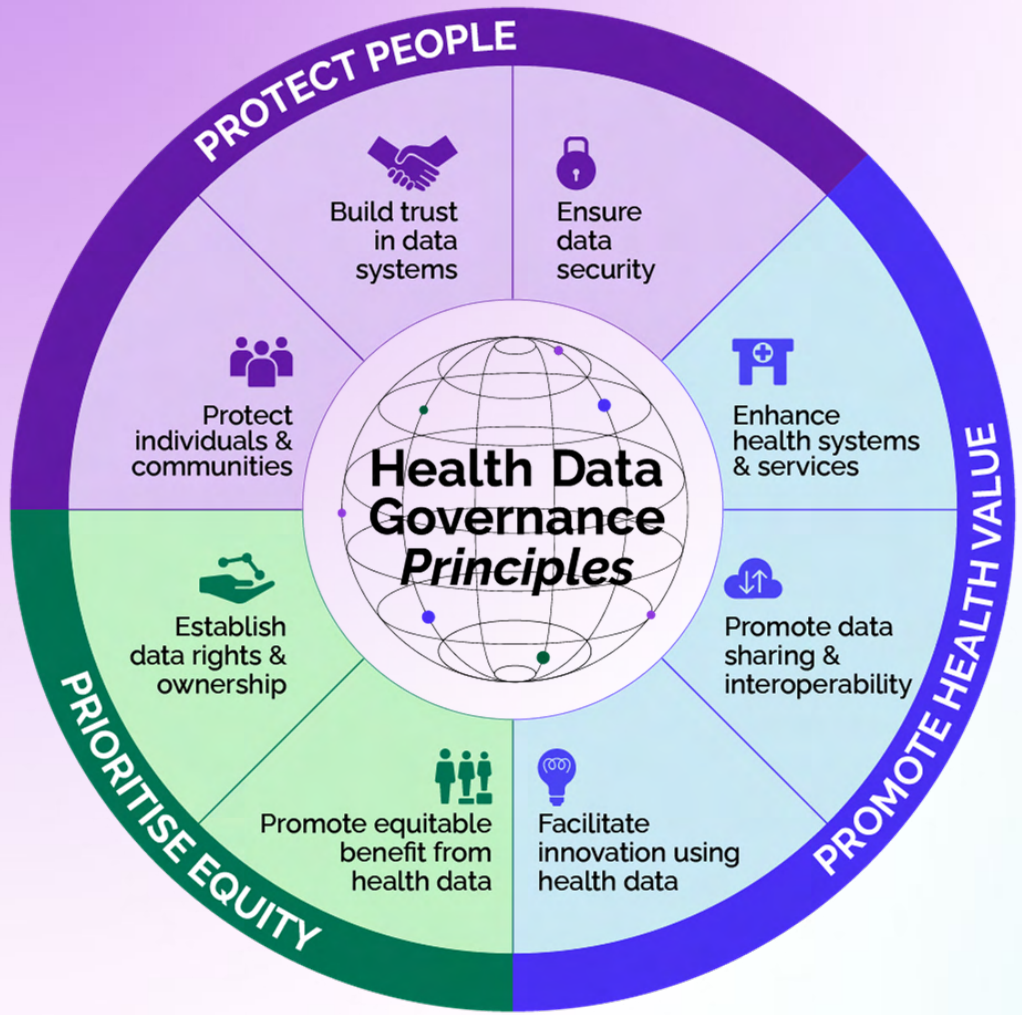
- Underpinned by equity and rights-based principles (for greater impact and health outcomes)
- Transparent and inclusive, multi-stakeholder process - meaningful engagement of civil society and communities
- Focus on the regulatory environment (going beyond technical aspects)
- Address health-specific governance needs

Health Data Collaborative

Health Data Collaborative

Data and Digital Governance Working Group

- Technical support to Global Health Data Governance Framework
- Develop evidence base for global learning - collect and share examples of good data governance



healthdataprinciples.org

140+ endorsers

WORLD BANK GROUP · Terre des hommes · Transform Health · Medicus Mundi Switzerland · joep lange institute

csem · jhpiego · STOPAIDS. · PATH · YOUNG EXPERTS TECH FOR HEALTH

AeHIN · fondation BOTNAR · PharmAccess FOUNDATION · CENTRAL AMERICAN HEALTH INFORMATICS NETWORK · THE GRADUATE INSTITUTE GENEVA · GLOBAL HEALTH CENTRE

KELIN · SpeakUpAfrica. · psi · HELINA · FIND Diagnosis for all

UNITE Global Parliamentarians Network to End Infectious Diseases · Save the Children · IntraHealth · gdhub Geneva Hub for Global Digital Health · DCCC Digital Connected Care Coalition

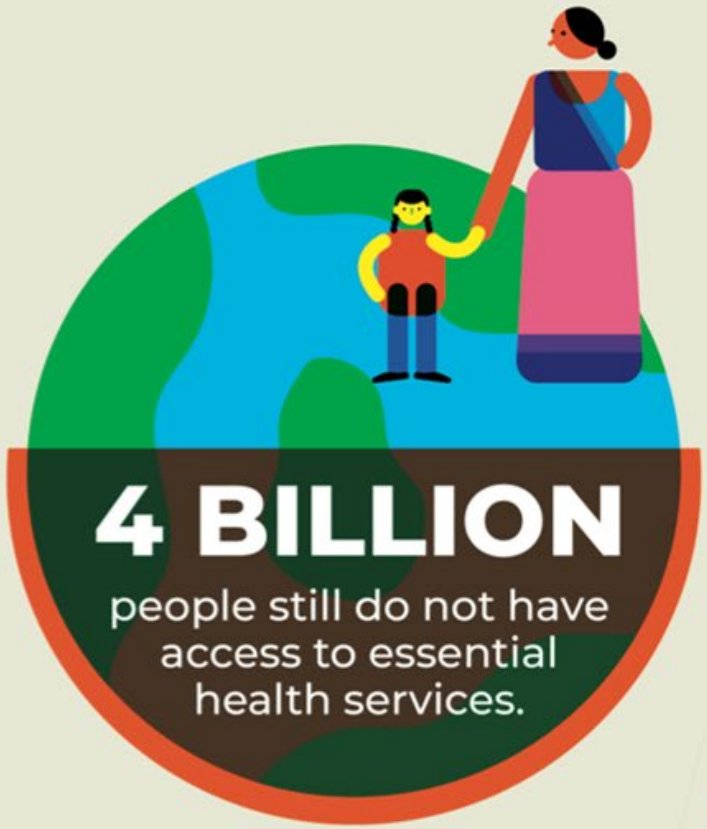
AFRICA HEALTH BUDGET NETWORK · JSI · IPPF · FOURBIC

Health Data Science Program · HIV JUSTICE NETWORK · EnterSoft Systems Ltd · PRAJA CONSULTING · IKIGAI

HEALTH DATA COLLABORATIVE · cedia · helium health · BOTSWANA-UPENN PARTNERSHIP · think

Transform Health

Transform Health is a coalition of 100+ organisations that advocate for the equitable digital transformation of health systems – to achieve health for all.



4 BILLION

people still do not have access to essential health services.

WE WORK BY

- Building consensus
- Influencing decision-makers
- Mobilising communities

TO CALL FOR

- Stronger political will
- A global health data governance framework
- Increased & coordinated investments for digital health

The costs of health information systems have benefits that extend across multiple diseases

- Investing in data systems and health information systems have large *joint costs*, meaning that such costs for addressing multiple diseases can be borne by the underlying information system.
- Investments fragmented by disease siloes do not clearly account for the value of investing in joint costs, and may avoid joint costs by having siloed health information systems.
- Tanzania (2003): US$0.53 spent per year per person on information systems capable of generating poverty, health, and survival indicators.

Health information systems are crucial but missing the agenda for pandemic preparedness and response

Current frameworks for pandemic preparedness are missing explicit mention or inclusion of health information systems:

- The IHR's Joint External Evaluation tool does not have explicit mention of the role of health information systems as a key component of surveillance systems (Fan and Smitham 2023).
- The Mosaic Respiratory Surveillance Framework on a typology of surveillance approaches and PRET initiative on planning could benefit from explicitly account for health information systems in its framework.
- The INB pandemic accord draft would benefit to go beyond analytics and address underlying infrastructure and governance of health data and health information systems.

Health Data Collaborative

May 18 Session 3:

Data Governance: a UN perspective

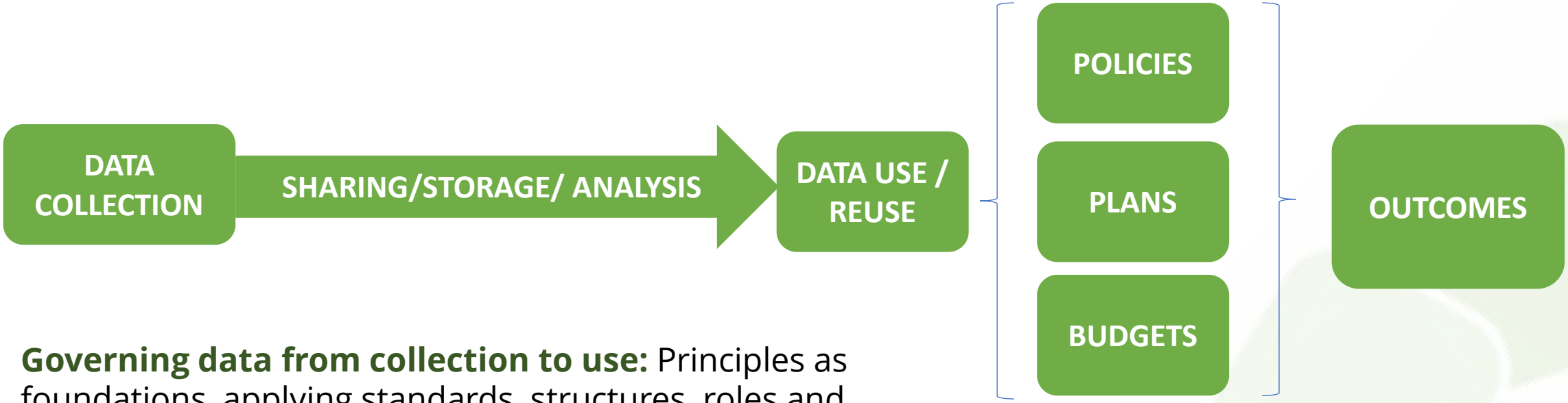
UN perspective on data governance and health data governance (WHO and beyond)

Steve Mac Feely, Director Data and Analytics, WHO and co-chair of HDC

What is data governance?

Health Data Collaborative

For countries & UN agencies



Governing data from collection to use: Principles as foundations, applying standards, structures, roles and processes to increase TRUST and RESPONSIBILITY for **quality** data use / reuse.

WHO definition: "The necessary standards, solutions and structures that ensure quality and integrity of all aspects of WHO's data & Health Statistics"

Benefits of data governance

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TRUST, RESPONSIBILITY AND ACCOUNTABILITY

CONSISTENCY AND STANDARDISATION

QUALITY AND ANALYTICS

DATA SECURITY

DECISION MAKING AND DISPUTE RESOLUTION

SUPPORT DIGITAL TRANSFORMATION

EFFICIENCY AND ALIGNMENT
reduce burden & fragmentation

STRENGTHEN PARTNERSHIP FOR COMMON GOALS

INTER COUNTRY COMPARISONS AND WORK

WHO's Data Governance Framework

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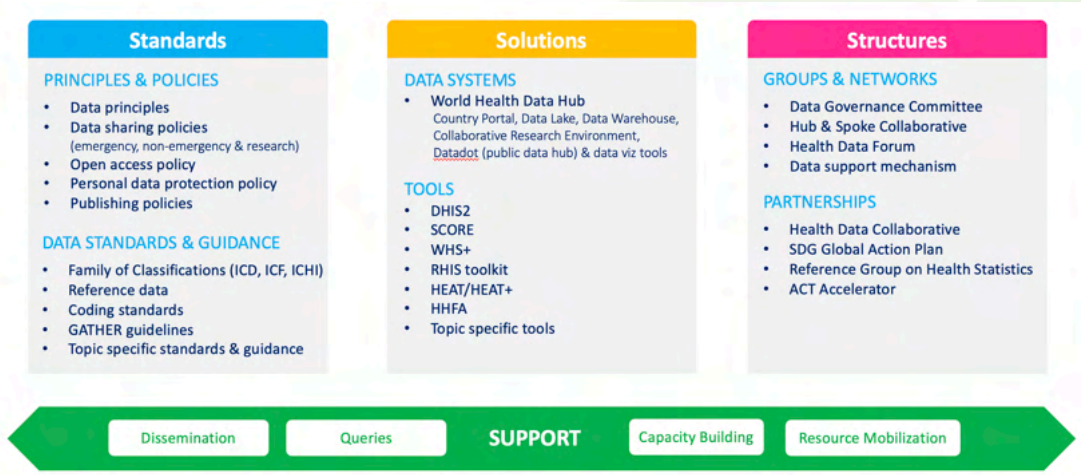
5 data principles

i) Treat data as a public good
ii) Uphold member states trust in data
iii) Support MS data and health information systems capacity
iv) Be a responsible data manager and steward
v) Strive to fill data gaps

Two internal mechanisms established:

- Data Governance Committee
- Hub and Spoke



World Health Data Hub

- Technical end to end solution, common standards

Challenges for WHO's data governance

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Resourcing policies & standards

- Data sharing agreements
- Use / reuse of data
- Cyber security

Change management & leadership understanding

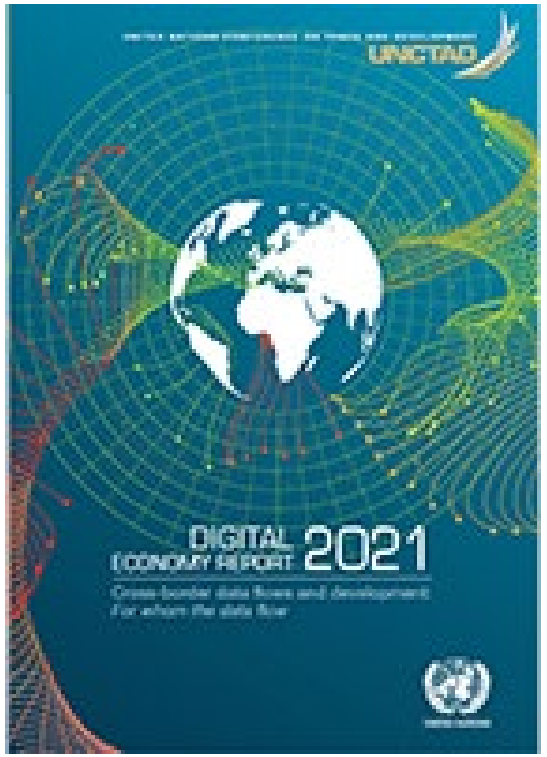
- Culture shift – understand importance of data

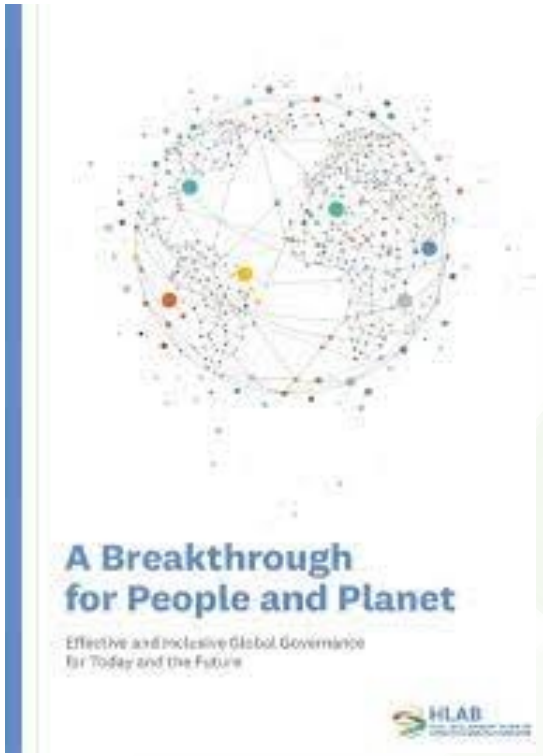
Siloed nature of health

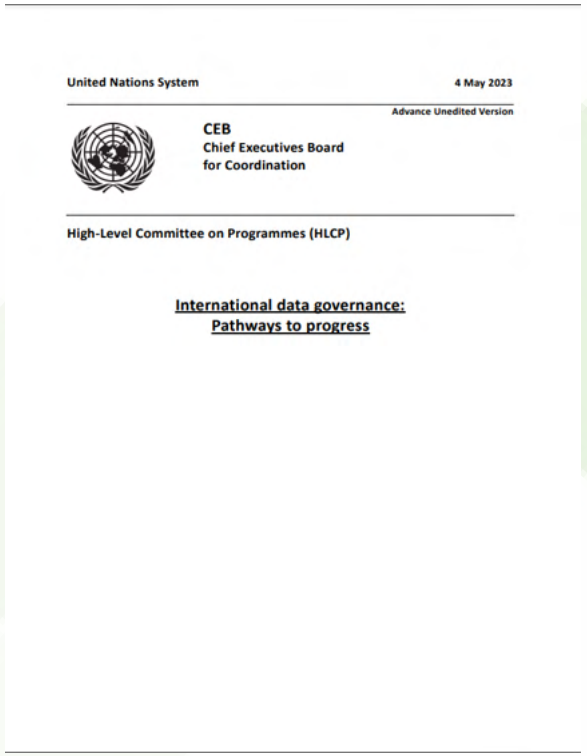
- Emergencies / Research / Programs – 3 different perspectives
- Connecting with other sectors
- Applying common standards & Quality Assurance Framework
- Separation of Digital and Data

Data Governance – UN and beyond

Health Data Collaborative







Opportunities

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Improve Global (health) Data Governance

- In WHO
- In UN
- Everywhere else

Engage with broader UN processes

- UNSG data strategy
- CEB Pathways

Link with technical with political opportunities 2023-25

- WHA
- G7, G20, WEF
- UNSC, HLM UHC, UNGA, SDG Summit, Summit of the Future

Multistakeholder partnerships

- Member states
- Civil Society / NGOs
- Private sector
- Academia

Beyond health

- National Statistical Offices
- Multi-sectoral collaboration needed for health data and outcomes

American Rescue Plan
Global Public Health Data Innovation (GPHDI)

Better Data for Better Health: Investing in Country Health Information Systems to Accelerate Progress Towards Health-related SDGs

Geneva, Switzerland

May 18, 2023

Xenophon Santas
Office of the Director, Informatics and Information Resources Office
Global Health Center

Background and Purpose

Aim: to provide government decision makers with more timely, accurate, and comprehensive public health data to better prevent, detect, and respond to public health threats.

GPHDI is designed to address key barriers to effective use of data in public health response:

- Limitations to data access, quality, and use
- Non-standardized data
- Workforce limitations that inhibit rapid adoption and deployment of digital health solutions at scale
- Gaps in data systems governance and policy that inhibit the development and implementation of digital health strategy and response planning

GPHDI Coordination and Funding

- CDC's Global Health Center (GHC) is coordinating an initiative to improve pandemic response and readiness through improved data availability and data use
- Support for this initiative is provided through the 2021 US American Rescue Plan Act, approximately $140M over three years of investment

GPHDI Goals and Specific Objectives

Strengthen global outbreak response, pandemic preparedness, and surveillance through improved data availability and use by modernizing data systems and processes at all levels.

1. Establish or expand scalable platforms for **National Data Linkage, Repository, and Analytics**, and the human resources capable of designing and using them; enable their use by public health authorities to rapidly respond to evolving public health events

2. Enable **Data Automation and Reporting**, to authorize secure transfer of service delivery data for public health use, minimizing data collection burden, reducing report delay, and accelerating implementation of **new or revised public health reporting** when needed

3. Establish **Data Integration**, allowing public health authorities to access, compile, and exchange data from different sources through the use of common architecture, **Data Standards**, cloud technology, and alignment in business processes

4. Empower **Public health Workforce** at all levels through coaching and mentorship, training materials, and programs in public health informatics – to build the leadership and core competencies in informatics and digital health needed to operationalize data modernization

5. Coordinate **Global, Regional, and National Partners** to implement or improve interoperable systems to facilitate data sharing and decision making; support **Global Networks** to review and disseminate best practices in global digital health

GPHDI is founded on earlier CDC strategic initiatives:

Data Modernization Initiative (DMI)

- Agency-wide initiative focused on the USA
- Findings, processes, and artifacts will be leveraged, adapted, and adopted to the global context

Global Digital Health Strategy (GDHS)

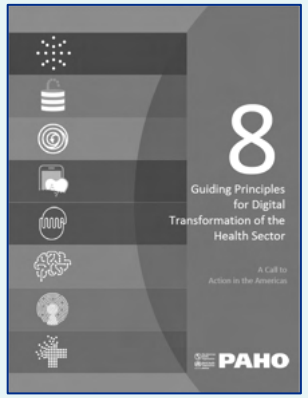
- Finalized and published
- Incorporates findings and insight from of a multi-stakeholder engagement process

https://www.cdc.gov/surveillance/data-modernization/
https://www.cdc.gov/globalhealth/topics/gdhs/index.html#:~:text=The%20Centers%20for%20Disease%20Control%2c%2c%20regional%2c%20and%20global%20levels.

Others are Already Moving in this Direction

Donors and Multi-laterals

PAHO



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UN/ITU

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USAID

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WHO

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Countries and Regional Bodies

Namibia

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AeHIN

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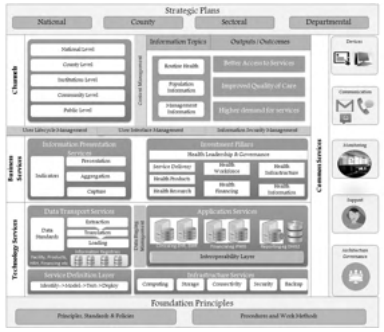
KHEA



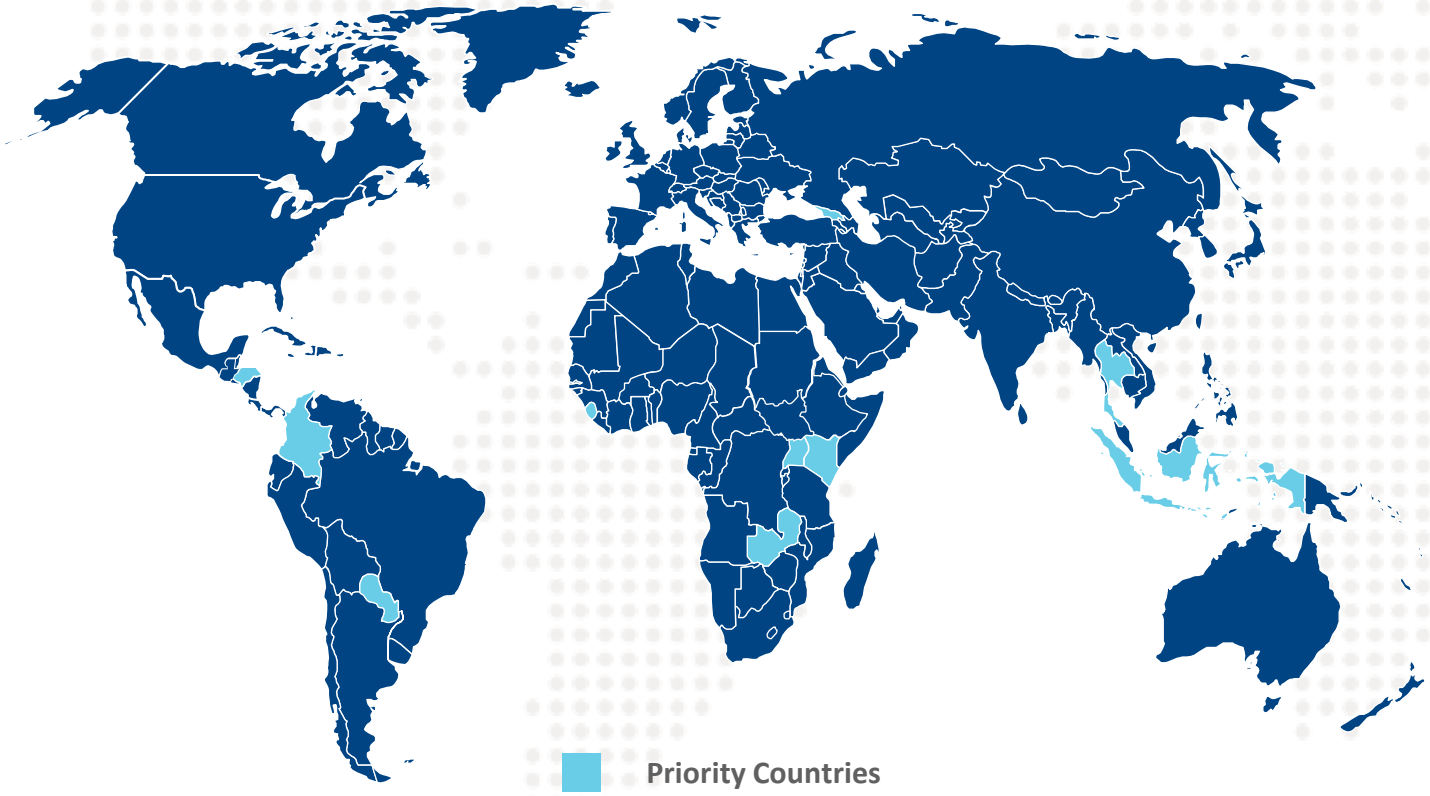
Kenya Health EA

EAC

East African Community

Program Definition: Geographic Coverage

While GPHDI activities will be applicable to a wide range of global health settings, dedicated resources will be made available for implementation activities in 10 priority countries.



Africa	Americas	Asia
Kenya	Colombia	Georgia
Sierra Leone	Honduras	Thailand
Uganda	Paraguay	Ukraine
Zambia		

GPHDI Summary by Core Components

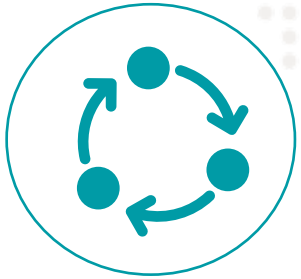
The GPHDI is funding core digital components to strengthen data collection and enable data sharing for effective planning of public health interventions.

Governance, Leadership, and Policy
Draft policy and governance documents for adoption at the country level and provide coordinated technical assistance

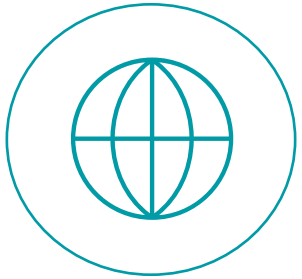
Cloud Infrastructure
Establish roadmaps for adoption of cloud services models that prioritize data sovereignty and governance

Data Analytic Platforms
Develop and implement global health use cases for integrated data analytics platforms

Workforce
Enable workforce development through development of training materials and programs in public health informatics



Data Integration
Establish process and architecture for integration of data from multiple sources to improve decision making and situational awareness



Data Standards
Promote and provide technical assistance to harmonize and adopt messaging and content standards for health data

Data Automation and Reporting
Support digital enablement and business transformation for electronic laboratory and case reporting, and the adoption of computable specifications and SMART guidelines

GPHDI: priority data streams and collaborations

- NCHS -- Mortality surveillance, civil registration, and vital statistics
- NCEZID
  - Modernization for global anti-microbial resistance
  - Modernization for molecular epidemiology (FungiNet and PulseNet)
  - Support for One Health surveillance
  - Cross border health and refugee information systems
- GHC
  - Vaccine preventable diseases, immunization registries, pan respiratory disease surveillance
- Global partners: WHO (SMART Guideline support for key data streams, trust framework support, digital health workforce support), PAHO, Africa CDC, academic institutions, technical partners (e.g., laboratory systems and lab data automation/integration)

WHAT IS THE DATA MODERNIZATION INITIATIVE?

DMI @ CDC

CDC is at the heart of a national effort to create **modern, integrated, and real-time public health data and surveillance** that can protect us from any health threat.

What is the problem we are trying to solve?

Siloed information:
Disconnected and/or proprietary disease systems driven by disease-specific budget lines keep us from seeing the complete picture

Outdated skills:
The public health workforce needs training to use today's technologies more effectively

Point-to-point data transmission:
Providers in healthcare and at health departments are burdened with sending data to many places in many different ways

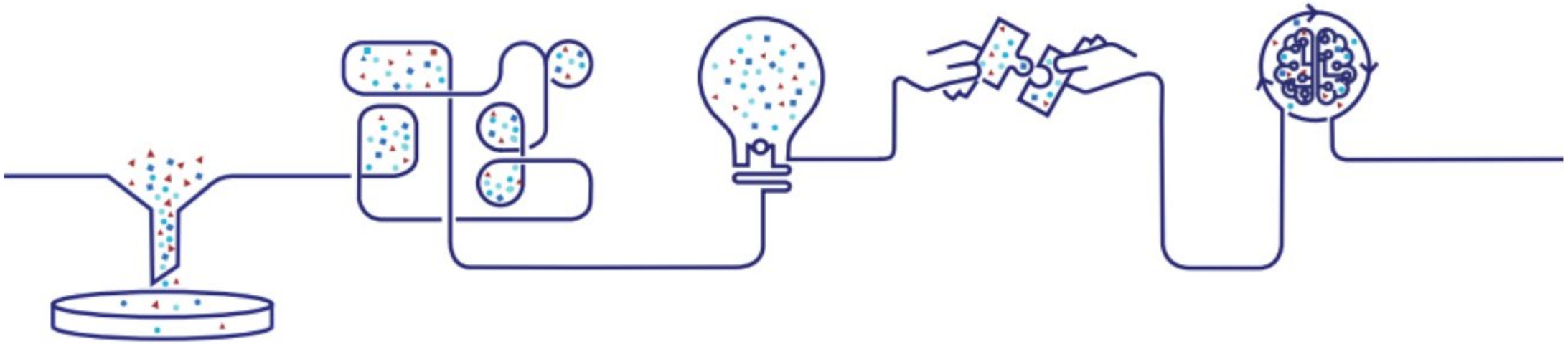
Outdated technologies:

- Older systems at health departments are not flexible, do not use cloud, and are not scalable

Public health is not a part of the healthcare data ecosystem

- Public health got left behind as federal incentives and regulations helped healthcare systems to be able to easily share data automatically in the Electronic Health Record.

DMI Priorities



Build the right foundation

Provide a secure, scalable foundation with appropriate automated data sources to enable timely and complete data sharing, break down silos, and reduce burden on data providers

Accelerate data into action

Faster, more interoperable data provides high quality information that leads to knowledge and provides a more real-time, complete picture to improve decsion-making and protect health

Develop a state-of the-art workforce

Identify, recruit, and retain critical workforce in health IT, data science, and cybersecurity specialists to be stewards of larger quantities of data and tools to generate meaningful public health insights

Support + extend partnerships

Engage with state, territorial, local, and tribal partners to ensure transparency and address policy challenges, and create new strategic partnerships to solve problems

Manage change and governance

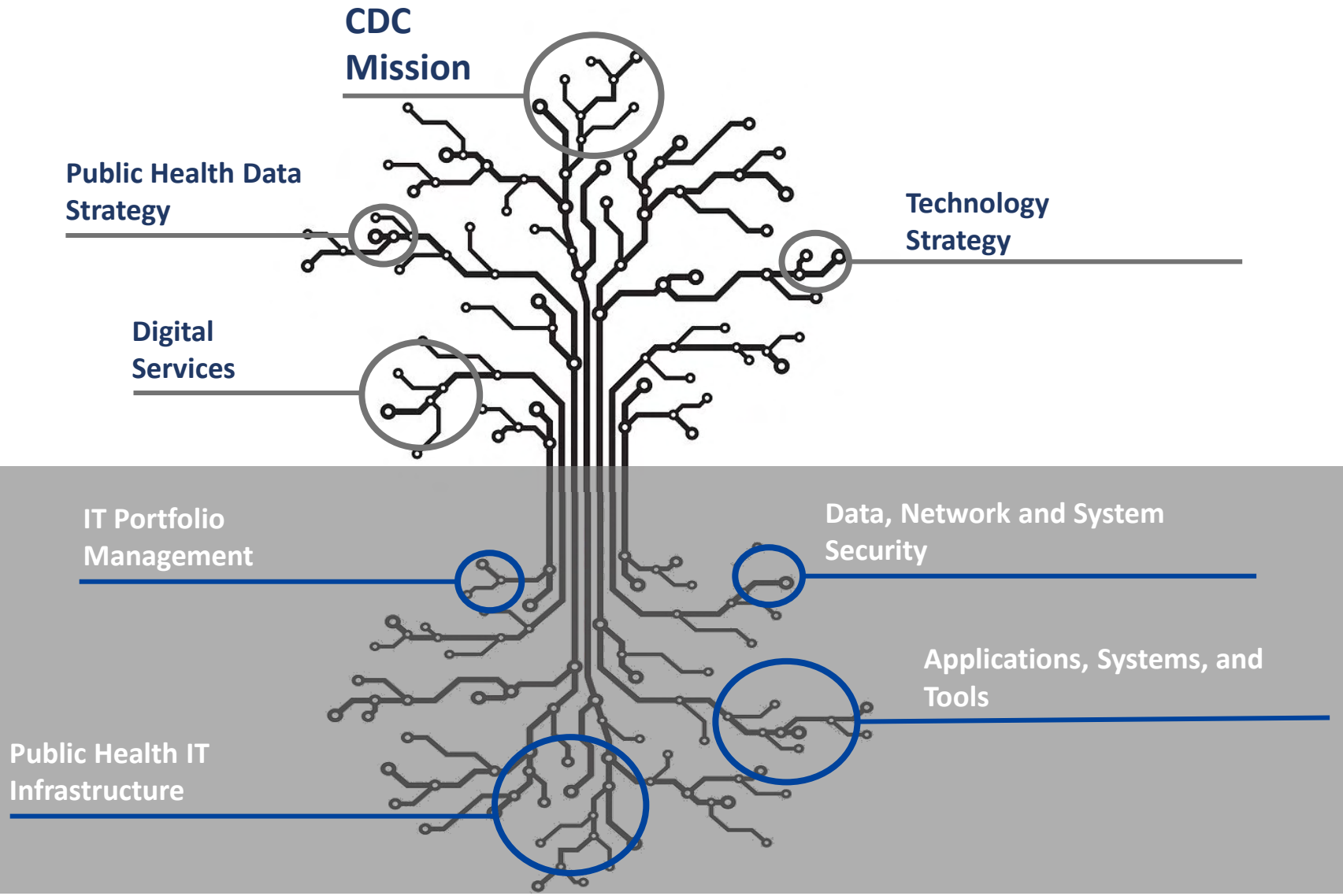
Support new ways of thinking and working by providing the necessary structure to support modernization and aid adoption of unified technology, data, and data products

DMI Strategic Implementation Plan: https://www.cdc.gov/surveillance/pdfs/FINAL-DMI-Implementation-Strategic-Plan-12-22-21.pdf

Collaboration Between Science and Technology To Enable the Mission

- Imagine the modern, digitally mature organization as a single, large and integrated entity (i.e. a digital tree of interconnected branches)
- At the surface is all that's seen and understood by the typical IT user

- A huge part of the tree, which stabilizes the whole mass, is below the surface and therefore opaque or unseen
- Likewise, technology teams may never see or understand the specific program or mission challenges faced by the public health and science teams



GPHDI Core Components: Approach and Desired State

Governance, Leadership, and Policy

Approach: *Promote appropriate data sharing to enable pandemic response*. Enhance digital health planning; assist stakeholders to draft or revise and implement digital health policies and governance structures; support sound investment processes and methodology, ROI for digital enablement

Desired State:

- Digital health initiatives and their supporting policies and regulations are consistently guided and enforced by a **country-led digital health governance structure**.
- Digital health initiatives are embedded within a **national digital transformation strategy** and are aligned with a **national digital health strategy,** its costed plan, and its monitoring and evaluation plan.
- **Leadership and political will** to support digital health and broad agreement on achievable goals extends across relevant government agencies outside of the Ministry of Health.
- **Budgets are prioritized and approved, and resources are allocated** in broad support of digital health including for long-term sustainability of operations.

Cloud Infrastructure

Approach: Support the adoption of cloud-based IT infrastructure and services through planning, roadmap development, implementation, and evaluation; identify barriers to cloud adoption; assess current hosting infrastructure and planning; support trust architecture development

Desired State:

- **Supportive policies and governance** for managed, cloud infrastructure and services (e.g., data sovereignty laws, connectivity requirements, cybersecurity capacity, financing models) have been established, building comfort and sense of security in their use.
- Feasible steps have been taken to **plan for, pilot, or scale a cloud-hosted implementation** as a discovery and learning experience.
- The country proactively plans for, responds to, and **funds maintenance and operational support** for its cloud-hosted and locally-hosted infrastructure and applications.

Data Analytic Platforms

Approach: Develop and implement global health use cases for data analytics platforms; review existing plans for feasibility, robustness, scalability, and security vulnerabilities.

Desired State:

- Data are **regularly used for decision making at all levels** of the health system including at the community level.
- **Scalable platforms for data analytics**, and the human resources capable of designing and using them, are in place and used by public health leadership to rapidly respond to evolving data needs for public health events.
- A growing knowledge base is used to support **migration of legacy data and applications to new data analytics platforms** that enable better scalability on demand, access to public health algorithms, and exploratory analysis for outbreak investigation.

Workforce Development

Approach: Empower workforce at all levels through coaching and mentorship, training materials, and programs in public health informatics; leadership development and empowerment in decision making on digital health components, architecture, and infrastructure

Desired State:

- **Local public health leaders** drive the coordination, planning, and execution of digital health strategies and programming in country
- **Roles and responsibilities** related to existing digital health functions and activities are actively **published, disseminated, and filled** with capable human resources.
- Any technical assistance provided results in **human resources being embedded in country** to build capacity without creating knowledge dependencies on global partners.
- Training programs are **anchored in educational institutions** and provide incentives in certification and degree-granting programs, forming clear paths for career development.

Data Integration

Approach: Establish process and architecture to support access to, linkage, and exchange of data across the health enterprise; review existing source systems, assess for suitability, sustainability

Desired State:

- Organizations can **access and compile data from different sources** (i.e., enterprise data integration) due to use of common architecture, data standards, and alignment in business processes across the health enterprise.
- **Core repositories and services** allow systems to discover and validate essential metadata (e.g., facilities, providers, terminologies) used across the health system.
- **Patient identity management services** are provided including identity generation (if applicable), lookup, matching, and verification to ensure health service data are linked to patients and inform care by providers.

Data Standards

Approach: Promote and provide assistance to standardize and harmonize data across the health enterprise, and to adopt messaging and content standards for health data; support for development of disease-specific or program-specific messaging and content specifications; promote fuller data sharing and use

Desired State:

- Metadata are **comprehensively defined, and metadata definitions are accessible** in registers and other data capture tools to improve quality, accuracy, and understanding of data. International terminologies are used where possible.
- **International data standards** are adapted to country context as needed and used to enable effective and interoperable exchange of data across the health system. Data standards are routinely updated in accordance with global best practices.
- A governing body establishes **policies and processes to create or adopt data standards, institutionalize their use, and facilitate data exchange** between different organizations and systems.

Data Automation and Reporting

Approach: Support digital enablement and business transformation for automated electronic laboratory and case reporting, and the adoption of computable specifications and SMART guidelines. Assess clinical and laboratory systems and review for automation capability

Desired State:

- Relevant data are **captured at the point of service** delivery in real time. Calculation, aggregation, and reporting are derivatives of data captured and are **automated wherever possible**.
- Agreement on **business processes and minimum data sets** minimizes data collection efforts and guides the development of new indicators and reports when needed.
- All reporting **indictors are constructable from minimum data sets**, preventing the creation of bespoke systems to fulfill requirements for new indicators.

Thank You

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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Data for Better Lives

World Development Report 2021

Better Data for Better Health: Investing in Country Health Information Systems to Accelerate Progress Towards Health-related SDGs

Malarvizhi Veerappan
The World Bank
May 18, 2023

Expanded types of data about health

Health Sector Data:
Traditional Classifications

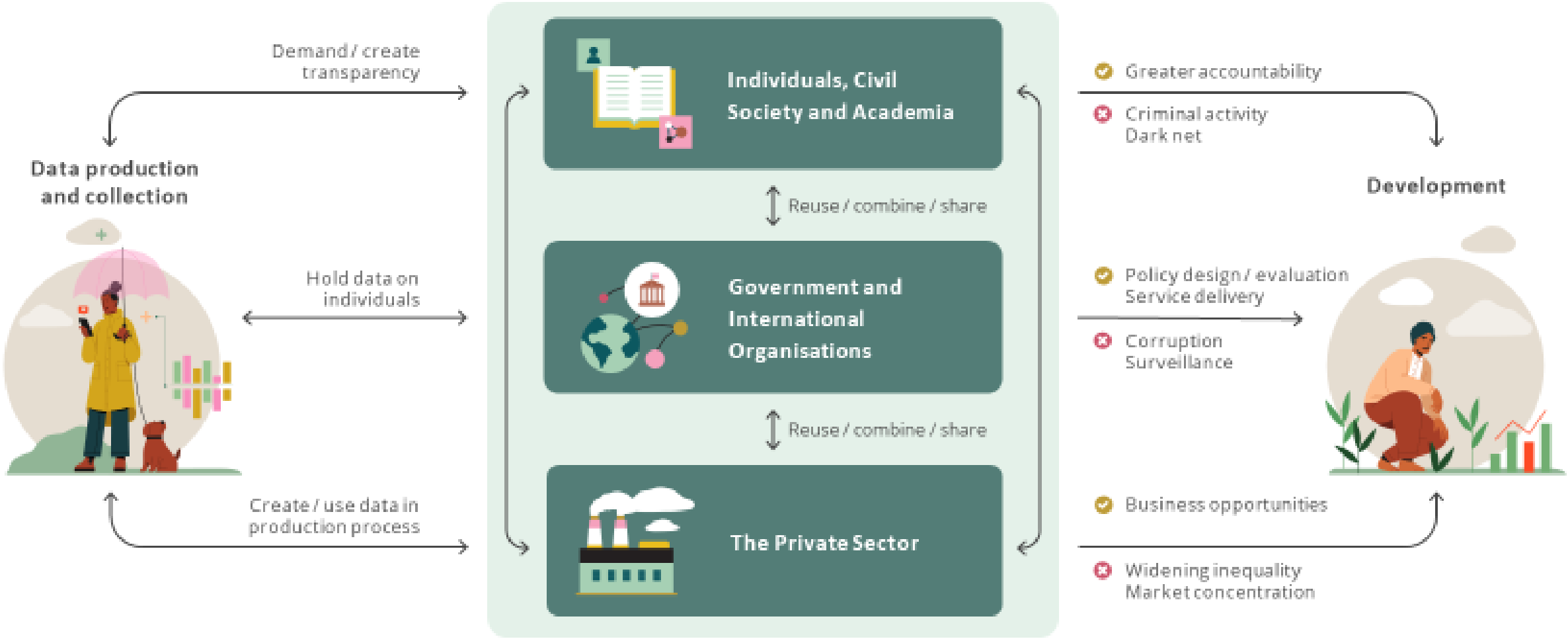
- Electronic Health records
- Administrative data
- Claims data
- Patient / disease registries
- Survey data
- Research data

Digital Data and their Impact on People's Health

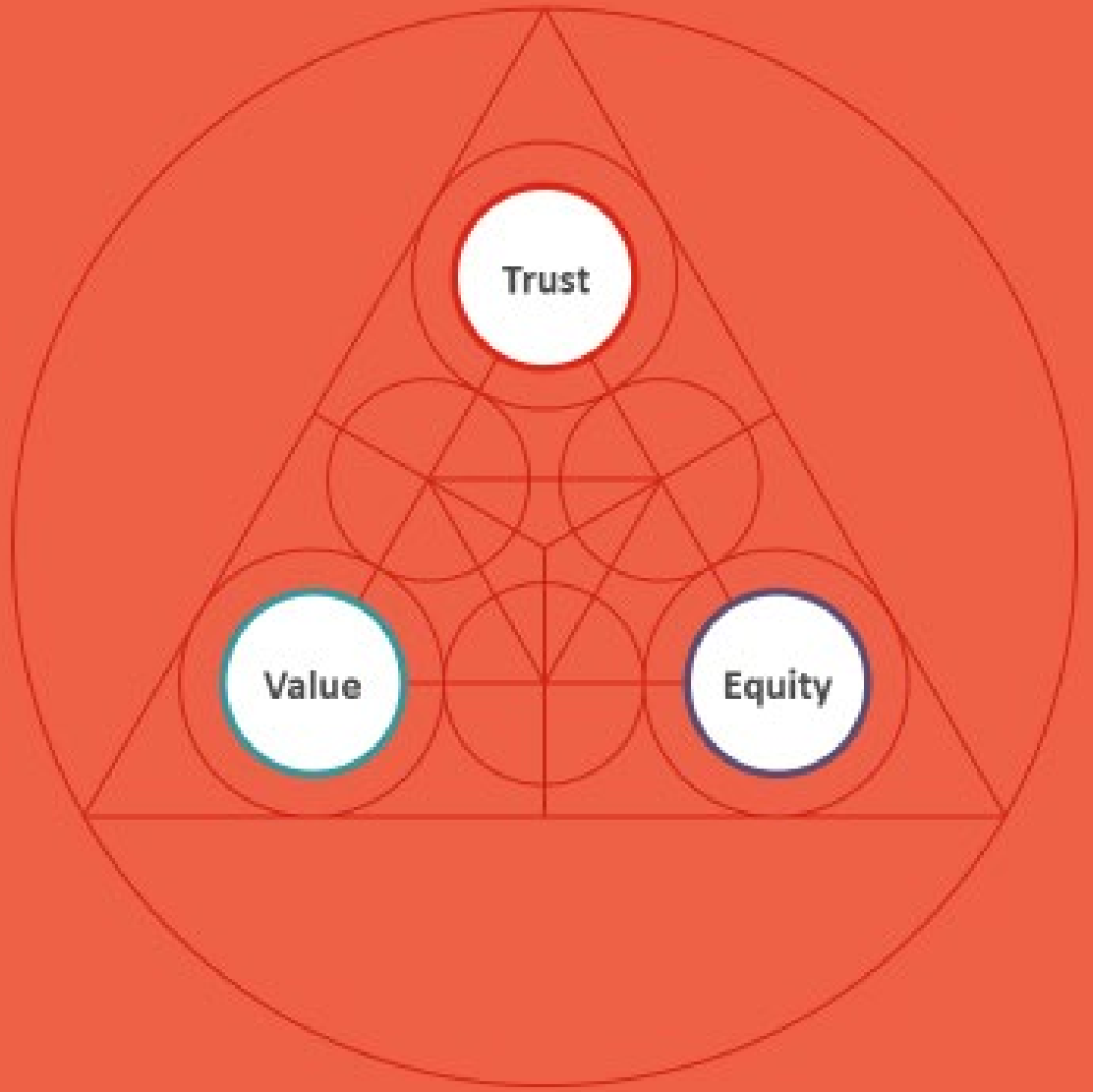
- Electronic Health records and Electronic Laboratory Records
- Administrative data
- Claims data
- Patient / disease registries
- Survey data
- Research data
- Social determinants of health data
- 'omics data
- Mass media
- Online news, internet media, websites
- Digital traces, search engines, sensors, and Internet of Things, including personal health devices
- Social media streams and social networks
- Mobile data and GPS mobility data (Mobile/GPS)

Digital Data Sources and Their Impact on People's Health: A Systematic Review of Systematic

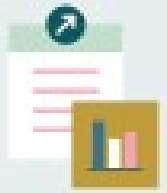
Data for development: 3 pathways



The three elements of a social contract for data: Value, Equity and Trust

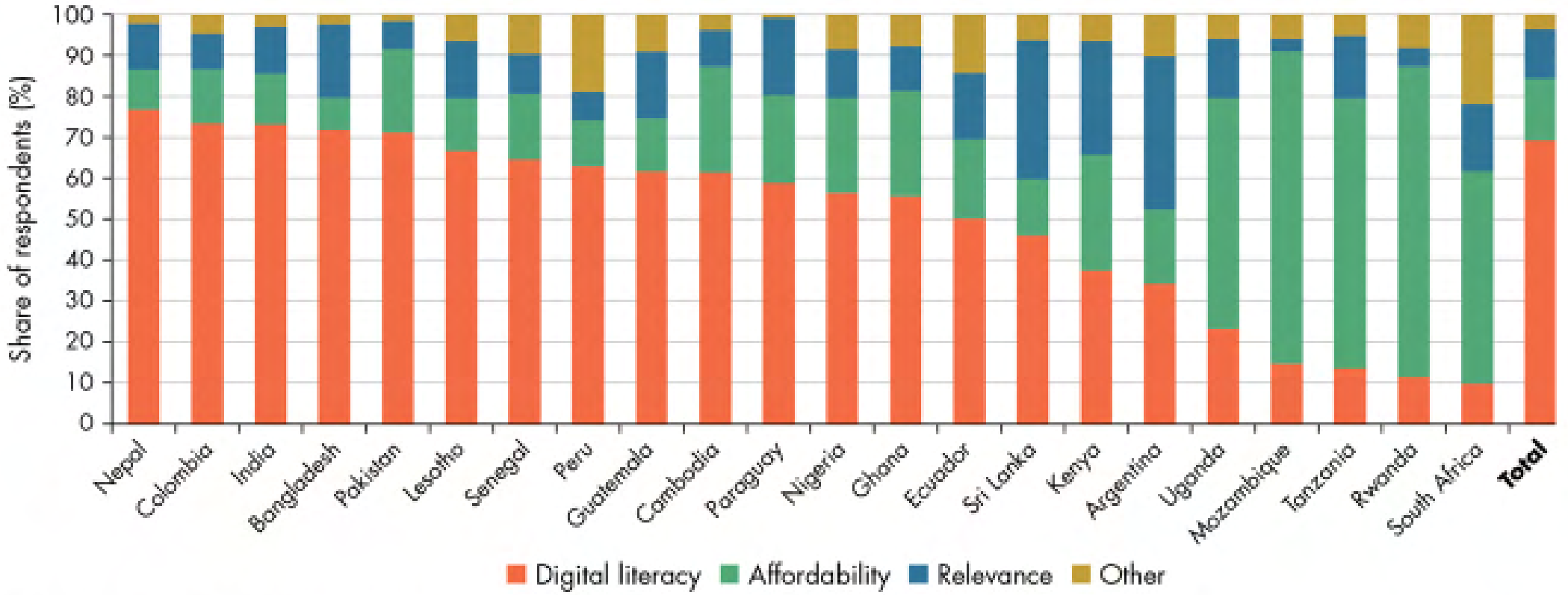


Data governance: a framework to enforce the social contract



	Infrastructure policies	Laws and regulations	Economic policies	Institutions
National	Universal broadband coverage Domestic data infrastructure	Safeguards Enablers	Antitrust Trade Taxation	Government entities Other stakeholders
International	Global technical standards Regional collaboration	Cybersecurity conventions Interoperability standards	International tax treaties Global trade agreements	International organisation Cross-border cooperation

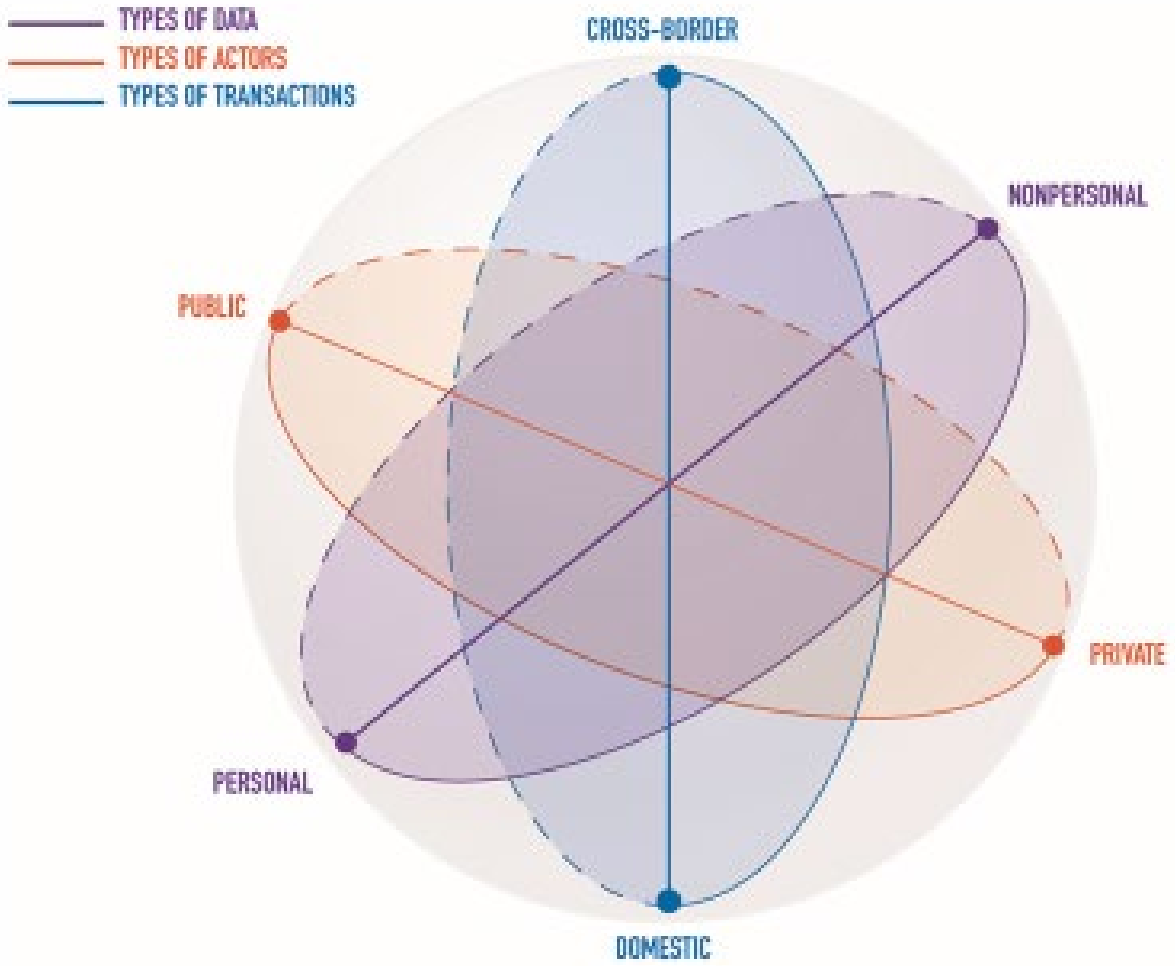
Usage gap: drivers of the usage gap differ among regions, but typically revolve around literacy, affordability and relevance



Source: Chen 2021. Data at http://bit.do/WDR2021-Fig-5_5.

Note: Respondents to the survey conducted for this Report had access to internet service. Responses to the digital literacy category included "Do not know what internet is" and "Do no know how to use internet." Responses to the affordability category included "No access device" and "Too expensive." Responses to the relevance category included "No interest/not useful" and "No relevant content in local language."

A Multidimensional Legal Framework for Trusted Data Transactions



Source: WDR 2021 team

A differentiated approach to enablers and safeguards is needed to build trust

A. PERSONAL DATA SAFEGUARDS: to protect against misuse and enable individual agency/control over data use

Limits on use

- Lawfulness
- Purpose limitation
- Data minimization
- Retention/storage limitations
- Adequacy mechanisms for cross-border data transfers

Individual and collective rights

- Consent
- Portability
- Notice of use/breach
- Accuracy and rectification
- Limitations on automated decision making
- Redress
- Effective enforcement

1. Rights-based approach

B. ENABLERS: to mandate the use/sharing of public data and facilitate private sector data sharing for "public intent"

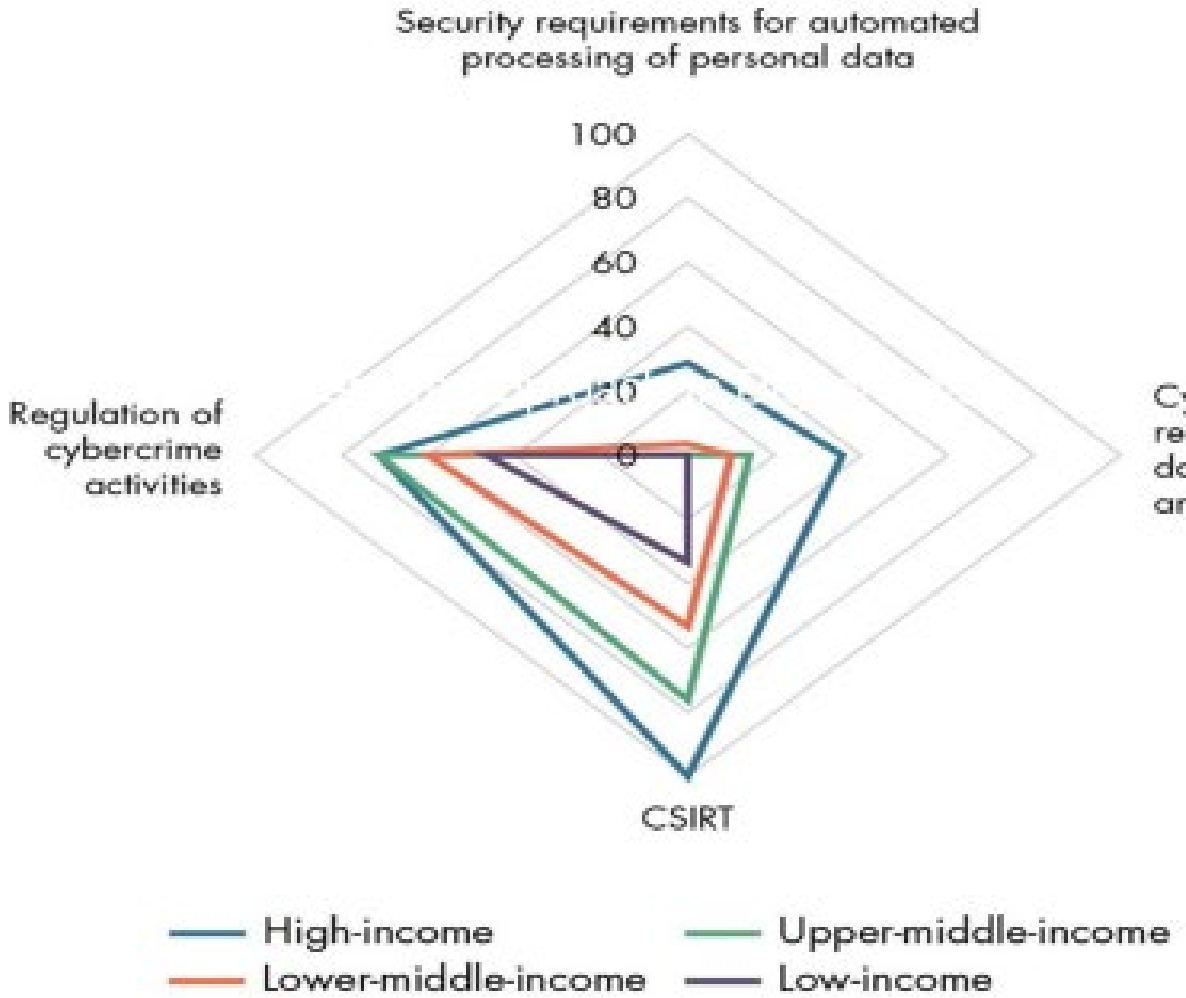
- Interoperability of data and systems
- Data portability mechanisms (common data formats, APIs)
- Open data
- Access to information
- E-transactions (e-signature; trust services, including digital ID)
- Carrier immunity/intermediary liability
- Intellectual property rights (IPRs)
- Sharing friendly licenses/voluntary licensing (e.g., FRAND terms)

2. Balance of interests

C. NONPERSONAL DATA SAFEGUARDS: to promote certainty and predictability

- Contractual (private law)
  - Indemnities
  - Liabilities
  - Penalties
- Intellectual property rights (IPRs)
- Exceptions to intermediary liability
- Data localization/local processing
- Cybersecurity/cybercrime

Gaps in the regulatory framework for cybersecurity are glaring across country income groups



Example: Kenya

Safeguarding data

A leader in adopting data protection and security measures among LMICs

While overall adoption of cybersecurity measures is low across countries surveyed, Kenya's new Data Protection Act is an outlier among lower-middle-income countries. It requires good practice measures such as pseudonymization and data encryption, restoring data access after a breach, and managing risks.

Innovation & Research Symposium Cisco and Ecole Polytechnique 9-10 April 2018 Artificial Intelligence & Cybersecurity
Photo: © École polytechnique - J.Barande

Example: Côte d'Ivoire

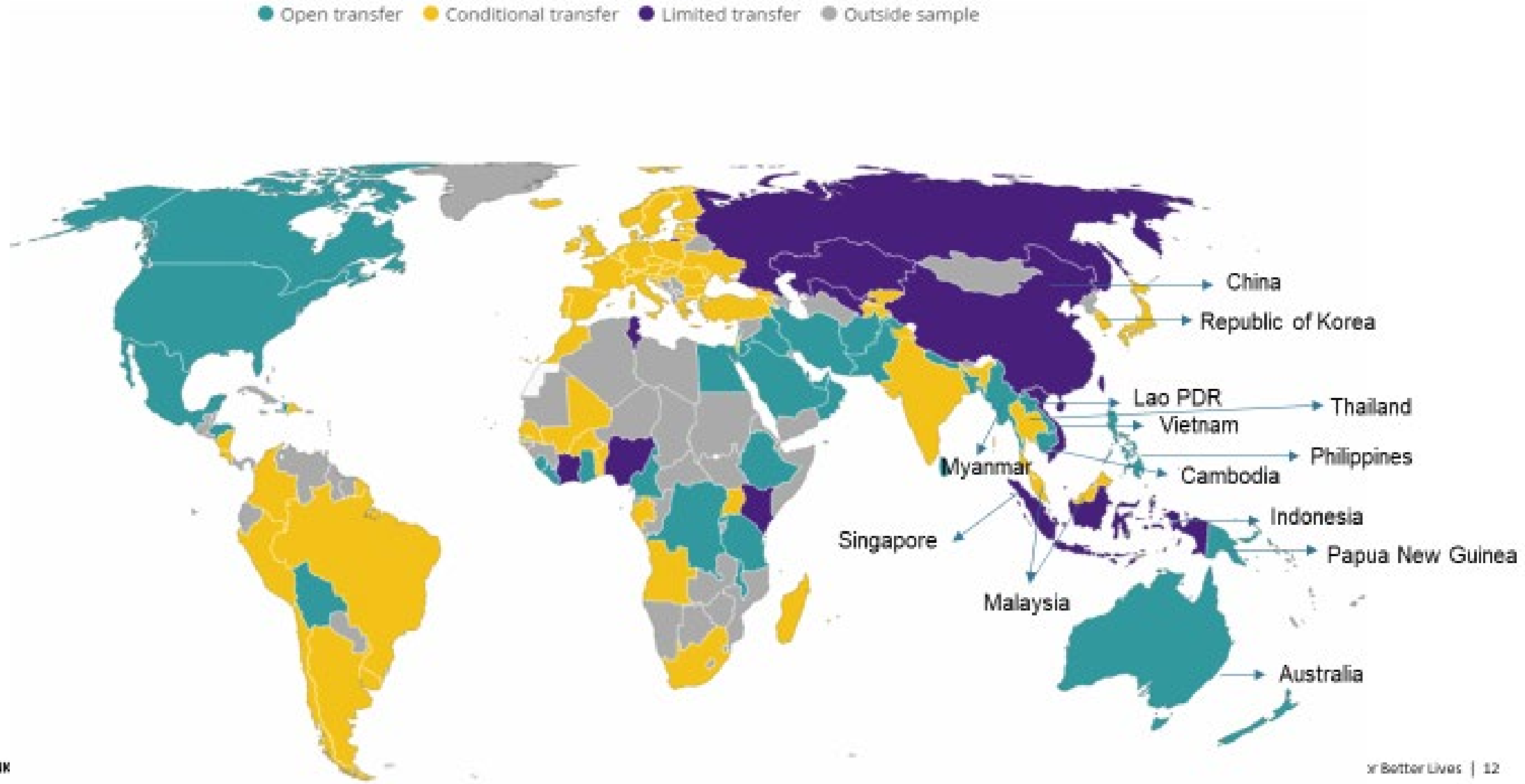
Limits on automated processing of data

Safeguards for trusted AI

The growing use of algorithms can add significant value but raises risks of bias, data misuse, and lack of transparency and redress. Despite these risks, only 30% of countries surveyed impose limits on their use. Of these Cote d'Ivoire has included provisions in its data protection act that prohibit the use of automated processing of personal data in judicial decision-making to prevent bias.

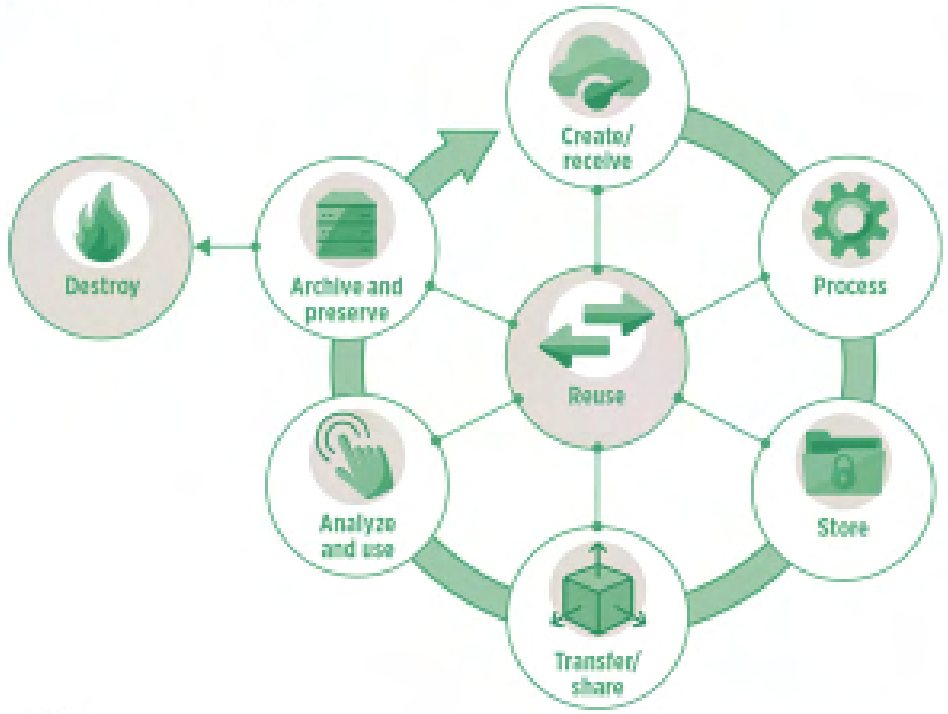
National Data Center Capacity Building training course
Photo: The Official CTBTO Photostream

There is wide heterogeneity in models for cross-border data flows in the region



Data management decisions along the data life cycle

Figure 1.2 The data life cycle



Source: WDR 2021 team.

Stage of life cycle	Area in which data management is needed
Create/receive	• Determine lawful use (such as obtaining consent for data collection and sharing). • Collect identifications that allow data to be merged with other datasets.
Process	• Standardize units and categories (such as industry classifications). • Use data formats that are widely compatible and accessible. • Validate the quality (accuracy), relevance, and integrity of data.
Store	• Encrypt data; use secure servers; back up and archive data.
Transfer/share	• Verify whether consent allows for data to be shared. • Deidentify data, if appropriate.[a] • Sign confidentiality agreements for use of identified data. • Publish data via bulk downloads or APIs.
Analyze and use	• Ensure reproducibility; publish code or algorithms. • Do not publish identifiable data. • Visualize and communicate insights from data.
Archive and preserve	• Classify and catalog data systematically so they can be found easily. • Include data dictionaries and notes on how data were created. • Maintain access to data and their security and integrity over time.
Destroy or reuse	• Keep records of destruction processes. • Verify that consent for use is still valid.

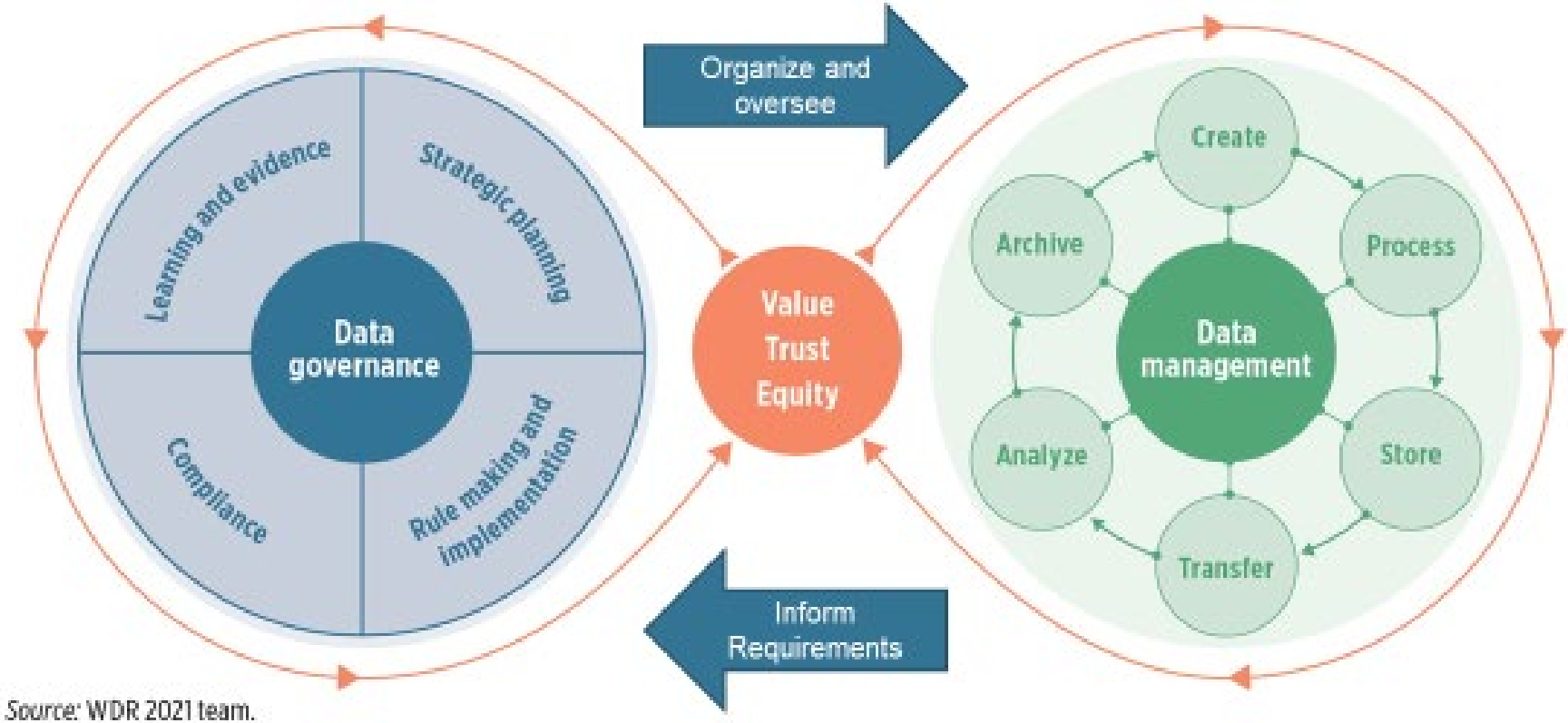
Source: WDR 2021 team.

Note: APIs = application programming interfaces.

a. See Elliot et al. (2016); Polonetsky, Tene, and Finch (2016).

Data governance goes beyond traditional data management

Figure 8.1 Data governance and data management, working seamlessly together in support of the social contract

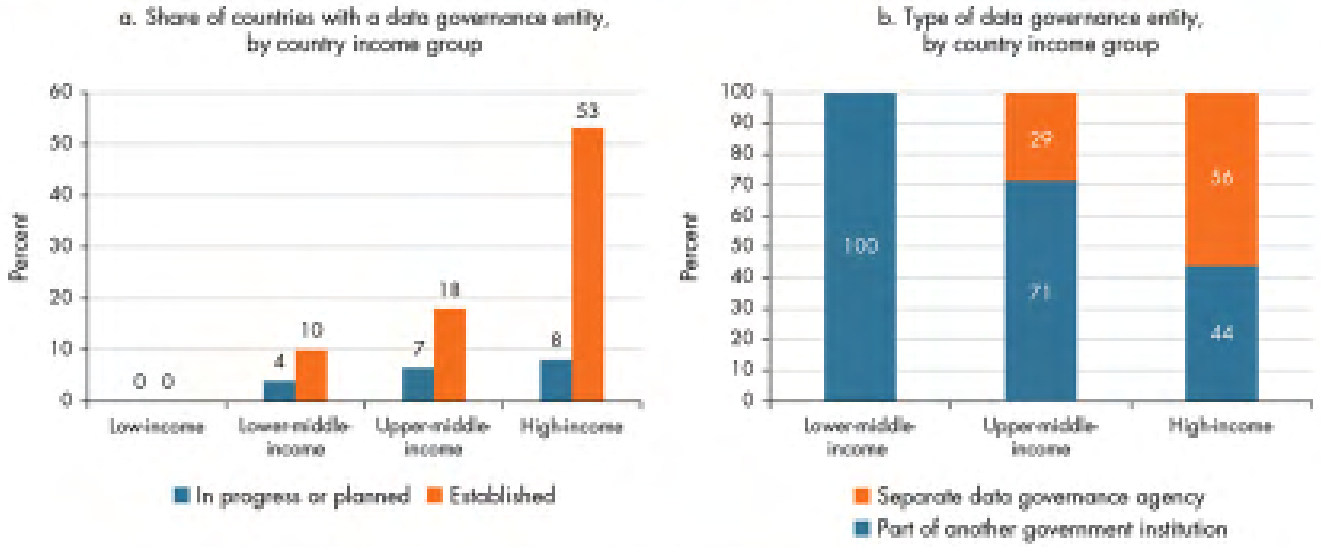


Source: WDR 2021 team.

Note: The data management life cycle at right appears in figure 1.2 in chapter 1.

Mapping key data governance functions to government entities

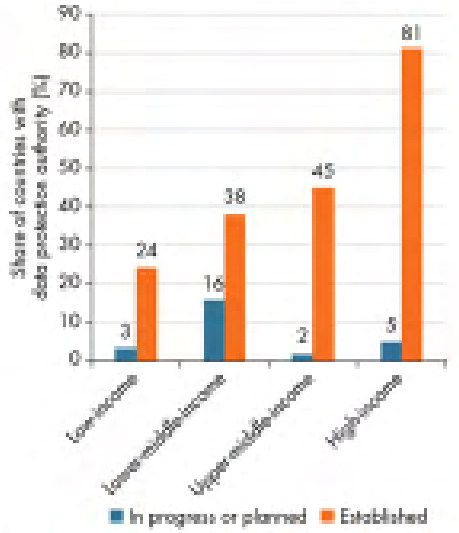
Figure 8.3 No low-income and few lower-middle-income countries have a separate data governance entity; most embed them in another government institution



Source: WDR 2021 team calculations, based on World Bank, DGSS (Digital Government/GovTech Systems and Services) (dataset), https://datacatalog.worldbank.org/dataset/digital-government-govtech-systems-and-services-dgss-dataset. Data at http://bit.do/WDR2021-Fig-8_5.

Note: Panel a: data are for 196 economies. Data governance entities include both separate agencies and units that are part of another institution. Panel b: data are for 58 countries. Data are only for countries that have a data governance entity established or in process. Low-income countries are not included in the figure because none has a data governance entity.

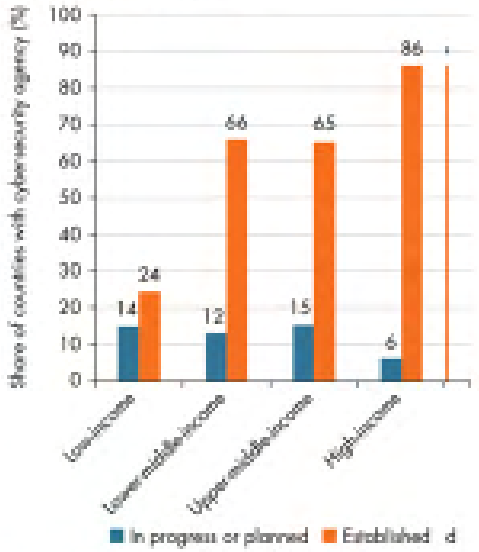
Figure 8.4 The lower the country income level, the fewer are the countries with data protection authorities



Source: WDR 2021 team calculations, based on World Bank, DGSS (Digital Government/GovTech Systems and Services) (dataset), https://datacatalog.worldbank.org/dataset/digital-government-govtech-systems-and-services-dgss-dataset. Data at http://bit.do/WDR2021-Fig-8_4.

Note: Data are for 198 economies.

Figure 8.6 Only about one-quarter of low-income countries have cybersecurity agencies

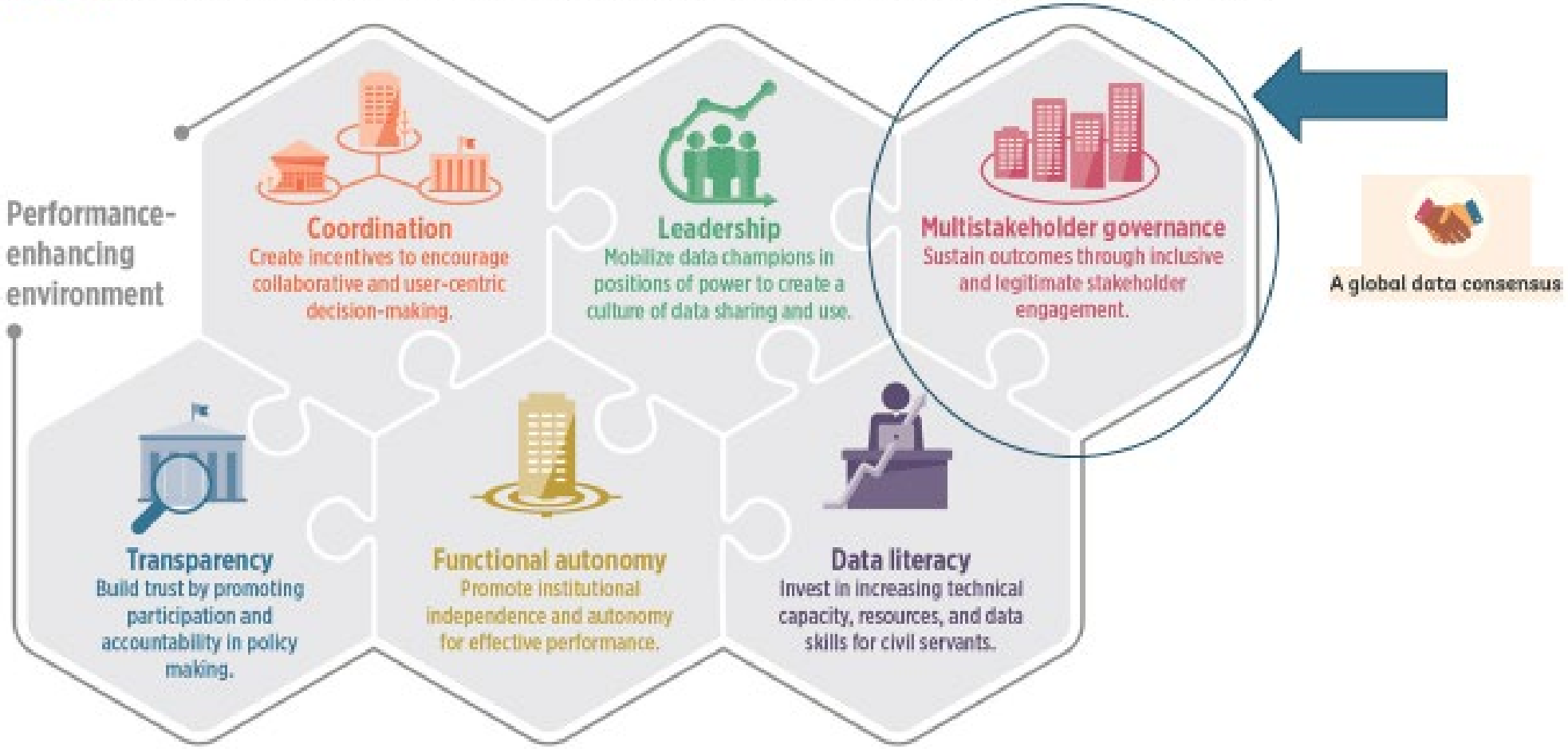


Source: WDR 2021 team calculations, based on World Bank, DGSS (Digital Government/GovTech Systems and Services) (dataset), https://datacatalog.worldbank.org/dataset/digital-government-govtech-systems-and-services-dgss-dataset. Data at http://bit.do/WDR2021-Fig-8_6.

Note: Data are for 196 economies.

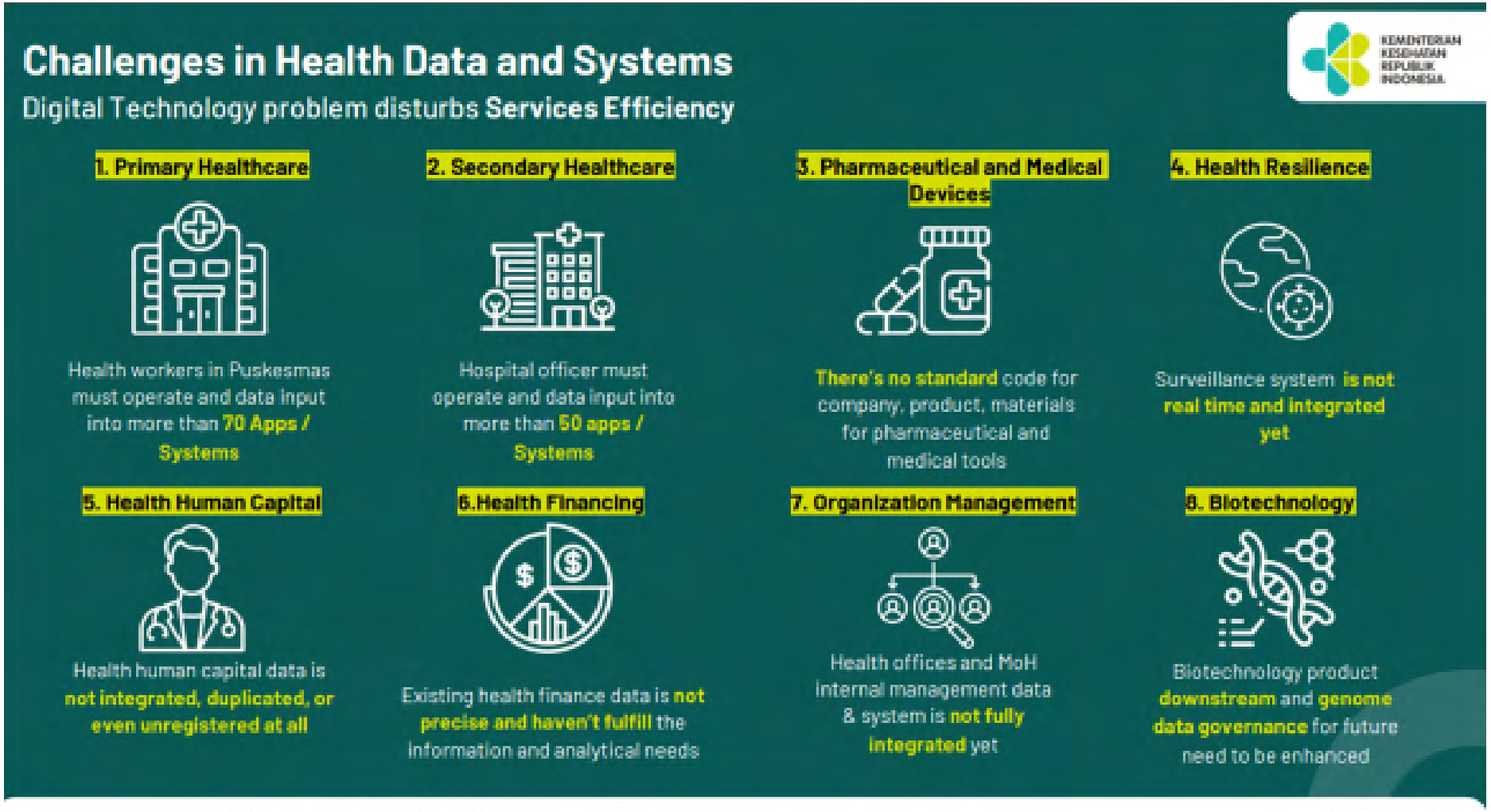
Governing data effectively

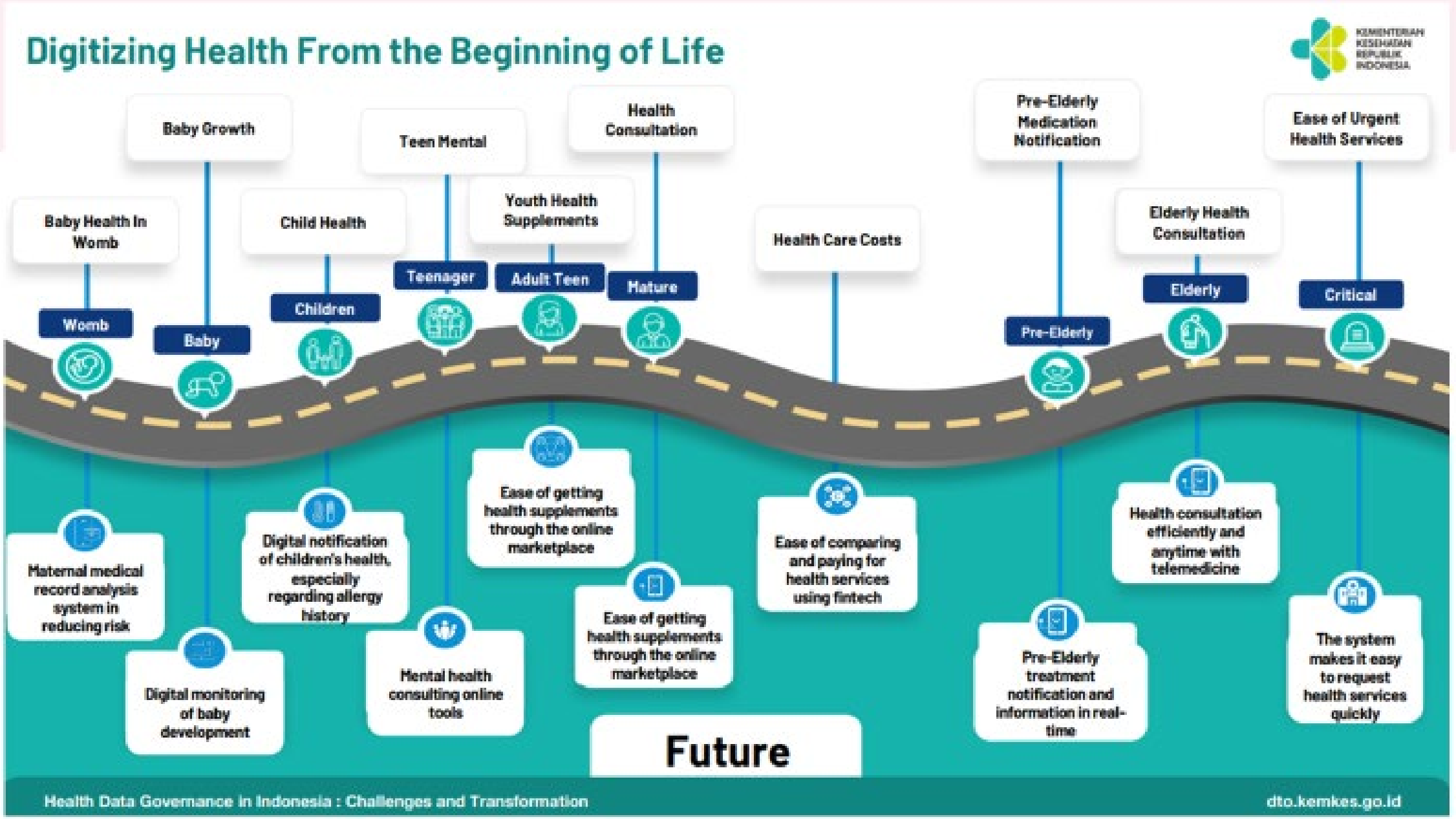
Figure 8.7 Features of well-functioning institutions for effective data governance



Source: WDR 2021 team.

Indonesia's challenges and vision for Digital in Health





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Source: Presentation by Pak Setaiji Setaiji, 2023

Uruguay

A government-wide approach to data governance

Since 2007, Uruguay's Agency for Electronic Government and Information Society (AGESIC) has benefited from high-level strategic leadership to drive the country's digital agenda in a multi-stakeholder way.

Uruguay's Digital Transformation Agenda 2020 exemplifies how countries can ensure that the layers of the data governance ecosystem (platforms, systems, policies, laws, standards, and institutions) are designed and implemented in a coordinated and inclusive manner to enable better use of data for decision-making.

Key points to reflect on

1. We need a new social contract for data based on value, trust and equity

2. Equitable development of the data economy calls for a foundation of infrastructure to ensure that both poor people and poor countries have affordable access to data services.

3. The legal and regulatory framework for data entails a balanced development of enablers that support reuse of data for value creations, and safeguards that create trust in the system.

4. As more economic activities shift online, a country's data governance choices will have important implications for the real economy, in terms of competition, trade, and taxation.

5. Further efforts are needed to support interoperability, data portability and cybersecurity for equitably distributed value.

6. Data governance will not get very far without adequate institutions to implement and enforce the rules, and these are often missing.

Download the report and explore Data Stories at
https://wdr2021.worldbank.org/

Thursday, May 18

Session 2: Data governance: good practices

Health Data Collaborative

Country good data governance practices (from collection to storage, sharing, analysis and use) for health impact: what works

Vikas Dwivedi (Senior Health Information Systems Adviser, The Palladium Group) on behalf of the Health Data Collaborative Data & Digital Governance Working Group

Data Governance practices in South Sudan

John Rumunu (Director General Preventive Health Services, South Sudan Ministry of Health) and Kediende Chong (Director General Policy Planning, South Sudan Ministry of Health)

Health Data Collaborative

Session 2: Data governance in the digital age:

"Data as a public good for public good"

Are we, "data rich and information poor (DRIP)?"

Vikas Dwivedi, Sr HIS Advisor, Palladium Group on behalf of the Digital and Data Governance working group

Data Governance Country Cases

Feb 2023

Global call launched for Data Governance good practices by the HDC's Digital & Data Governance Working Group

Mar-Apr 23

Review of 19 submissions from countries and stakeholders and desk review of data governance practices around the world

18 May 2023

Presentation of data governance practices around the world

Health Data Governance!

*The DGF provided a useful mechanism for **shared governance** and helped set a clear direction **without** distributing the existing workflows or **threatening the integrity of intellectual capital.***

- *Dasman Diabetes Institute, Kuwait*

---

*With the ultimate objective of **patient safety and provision of quality pharmaceuticals** and health commodities when patients need them, health care and supply chain managers need better supply chain visibility to understand where the health commodities are.*

- *USAID/Global Health/Office of HIV/AID/Supply Chain for Health*

Why do we need good data governance?

Electronic supplementary material:
The online version of this article contains supplementary material.

journal of global health

eHealth or e-Chaos: The use of Digital Health Interventions for Health Systems Strengthening in sub-Saharan Africa over the last 10 years: A scoping review

PAPERS

GLOBAL HEALTH: SCIENCE AND PRACTICE
Dedicated to what works in global health programs
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ORIGINAL ARTICLE

The quality–coverage gap in antenatal care: toward better measurement of effective coverage

Stephen Hodgins,[a] Alexis D'Agostino[b]

The proportion of pregnant women receiving 4 or more antenatal care (ANC) visits has no necessary relationship with the actual content of those visits. We propose a simple alternative to measure program performance that aggregates key services that are common across countries and measured in Demographic and Health Surveys, such as blood pressure measurement, tetanus toxoid vaccination, first ANC visit before 4 months gestation, urine testing, counseling about pregnancy danger signs, and iron–folate supplementation.

Low Computer skills *level for users witch take to us a lot of time for training*

- *Village health worker, Burundi*

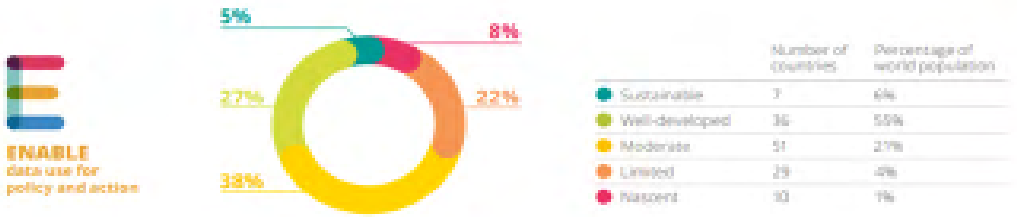
- A total of digital tools mapped in sub-Saharan Africa over the past 10 years.
- Digital Health is lacking in coordination, integration, scalability, sustainability, and equitable distribution of investments.
- Current indicator do not measure quality-coverage gap in the health sector.

inadequate structures to collect data, no standardized data collection *tools particularly for the CBVs, duplication of data collected between CHA and CBVs as well as amongst the CBVs themselves. Coupled with the above is that there is* ***no linkage between c-HMIS and facility HMIS*** *thus affecting community health planning* ***leading to wrong priority settings at community level.***

- *Ministry of Health-M&E Department, Zambia*

Understanding use of data

Health Data Collaborative



	Number of countries	Percentage of world population
Sustainable	7	6%
Well-developed	36	55%
Moderate	51	27%
Limited	29	4%
Nascent	10	1%

- Sustainable capacity for data use was 32%, 19%, 15% among upper-middle income, lower-middle income, and low-income countries, respectively (SCORE 2020).
- Similarly, while 90% of countries have published an analytical report within the last five years, only 56% examine inequality by sex and even fewer (38%) by socioeconomic status.(SCORE 2020)

*Health data governance should serve to **enable data to be used** to its maximum potential to **improve people's health** whilst ensuring that patients' **rights to privacy and agency over their data are respected!***

- D-tree International, Zanzibar

AeHIN
Asia eHealth Information Network

GENERAL MEETING AND CONFERENCE 2022

Accelerating Digital Health towards Universal Health Coverage (UHC)

10-12 OCTOBER 2022

10 October 2022, 1:00 PM – 3:00 PM
Philippine Standard Time

Towards a Global Framework on Health Data Governance: A Regional Consultation

Kirsten Mathieson
Policy Lead, Transform Health

Dr. Fazilah Allaudin
Governing Committee Member, AeHIN

Jai Ganesh Udayasankaran
Governing Committee Member, AeHIN

Transform Health

WeAreAeHIN

Register now:
bit.ly/gmprereg2022

Visit the event website:
bit.ly/AeHIN10

Regional Efforts...

- Following the regional consultation in Manila, AeHIN supported a digital health convergence workshop organised jointly by Sri Lanka College of Health Informatics (SLCHI), Health Informatics Society of Sri Lanka (HISSL) and Ministry of Health in Colombo, Sri Lanka on 22 December 2022.
- Three parallel sessions focused on digital health governance aspects - IT governance, information governance and data governance were conducted with over 150 participants from a wide spectrum of stakeholders. On data governance there was consensus on the following:
  - To form a national data governance team
  - Establish policies and standards
  - Define a vision for data governance in Sri Lanka
  - Develop clear data processes
  - Incorporate the right technological solutions
  - Set up data controls and track progress
  - Constantly adapt the Data Governance Framework
- In 2023, AeHIN together with Transform Health plans to support stakeholder consultations in four countries followed by a regional workshop in November on the theme **"Taking Health Data Governance Principles to Practice"**

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Sri Lanka DIGITAL HEALTH CONVERGENCE WORKSHOP Dec 2022

Country examples

CHALLENGES AND CONSTRAINTS

- Fragmentation of the HI System

- Piecemeal or incomplete information

- Duplication, redundancy of information

- Difficult reconciliation of data

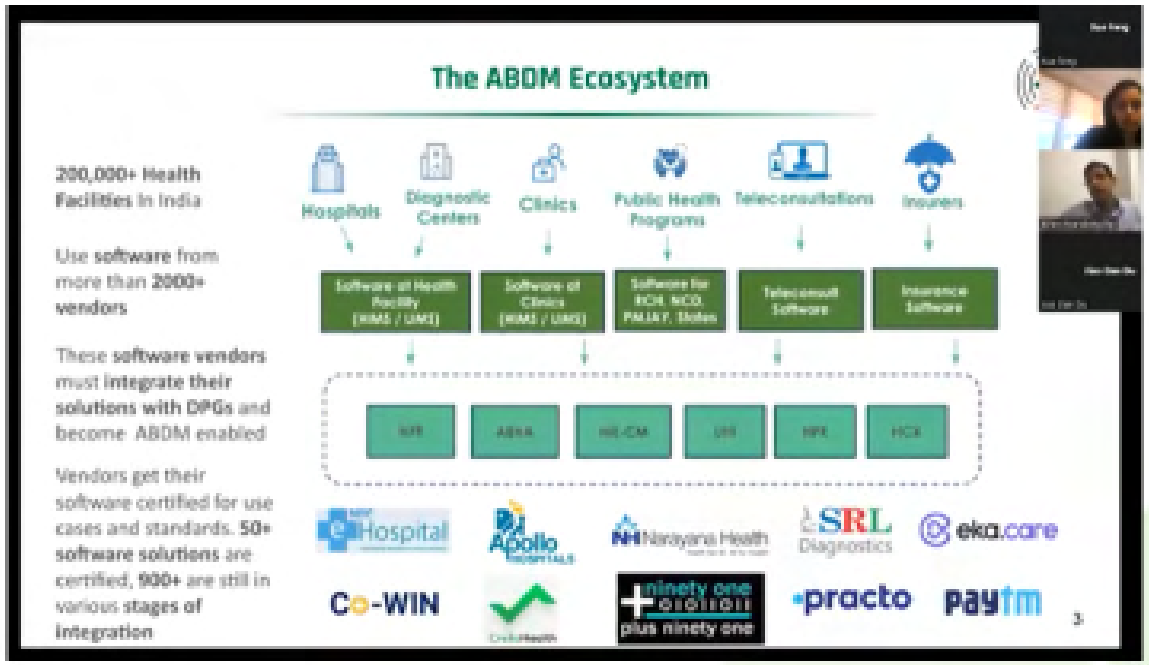
- Opportunity cost

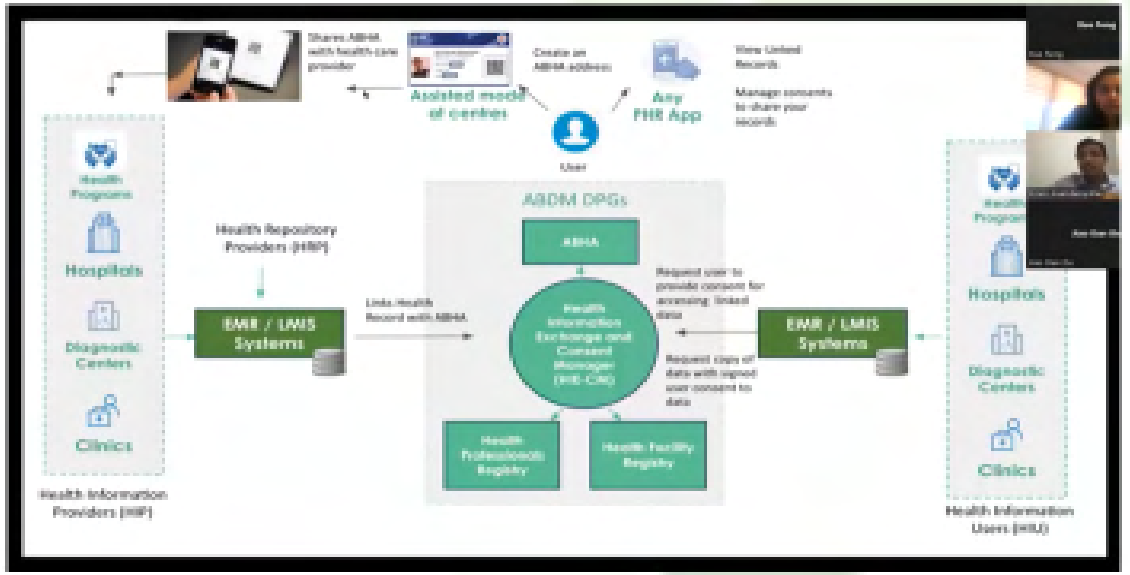
- Truncated overview of the situation
- Low quality of data
- Poor completeness of data from PHEs and the private sector
- Non-integration of health accounts in the HIS;
- Non-availability of certain reference documents (PSNSIS, Manual of procedures)
- Delay in the validation and publication of SIS reference documents (Statistical Yearbook, Periodic Bulletins)
- Insufficient resources (HR, finance, etc.)

- USAID, Senegal

India: Ayushman Bharat Yojana

An ecosystem-based approach





Joint Learning Network Reimagining Primary Health Care Collaborative. (2023). *What Constitutes Health Data and Health Data Ecosystems in the Digital Era?* Webinar, Washington, DC, United States of America

https://nha.gov.in/

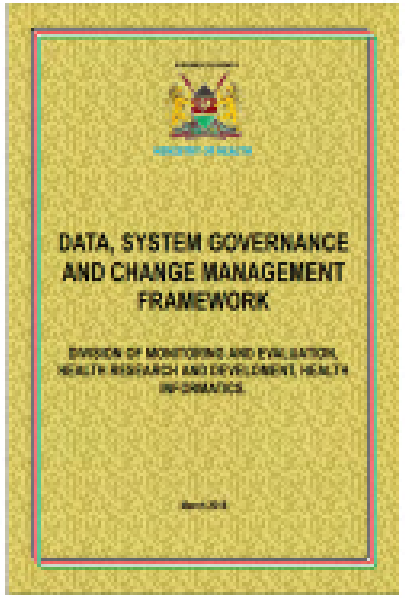
Kenya: Data governance legislation & framework

THE REPUBLIC OF KENYA

LAWS OF KENYA

THE DATA PROTECTION ACT

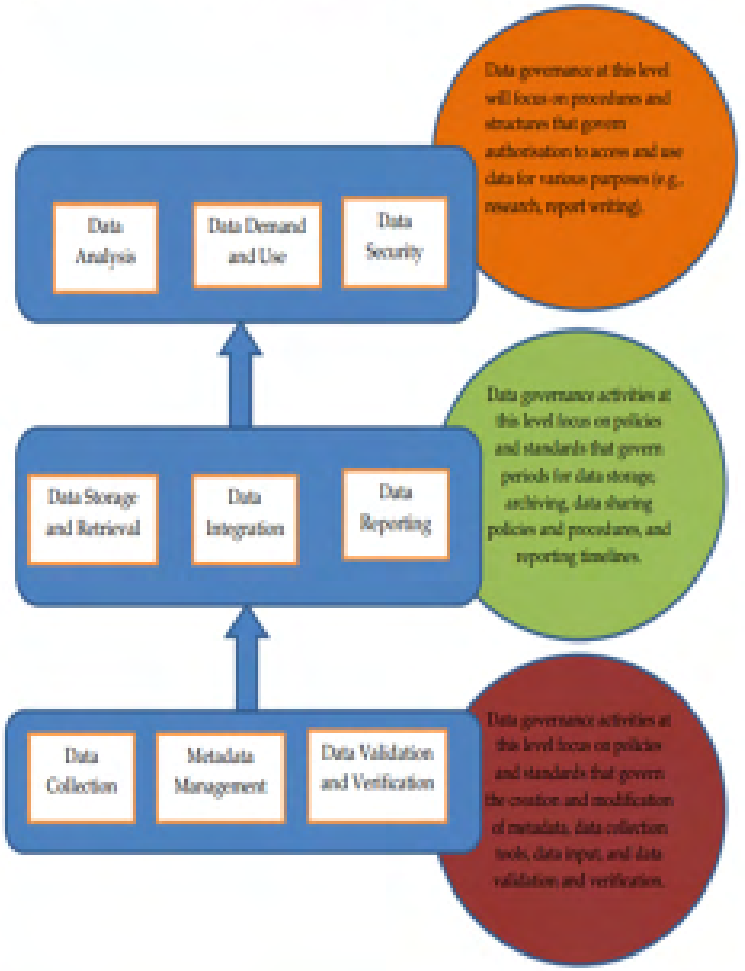
NO. 24 OF 2019



Data Protection Act classifies health data as sensitive data & have provisions to safeguard it

Framework includes data governance principles and structures including issues surrounding privacy, security and confidentiality of health data.

Figure 1: Data Governance Conceptual Framework



Health Data Collaborative

*The Data Governance Framework therefore was meant to customize the law and specifically focus on the **many and disparate systems** that collect health data and yet the manner in which the **data** is handled **does not conform to best practises.***

- *MOH, Kenya*

Framework focuses on data governance mechanisms at various stages of the data journey from collection to use

Zanzibar: Operationalization of MoH's Data Protection and Sharing Framework

Health Data Collaborative

Steps taken by Zanzibar

Adoption of Health Data Protection and Sharing Framework in 2022

↓

Building consensus among key stakeholders in MoH & buy-in from senior leadership

↓

Formation of committee to lead the operationalization process and simultaneous capacity building of committee members on data protection & sharing

↓

Finalization of operational plan and financing it with external sources (D-tree)

↓

Kenya & Zanzibar peer to peer study visit (Organized by D-Tree and Global Partnership for Sustainable Development Data)

Key Outcomes

General awareness about data protection and sharing in MoH

Specific set of activities focusing on data protection and sharing, improving data security and improving accessibility to data

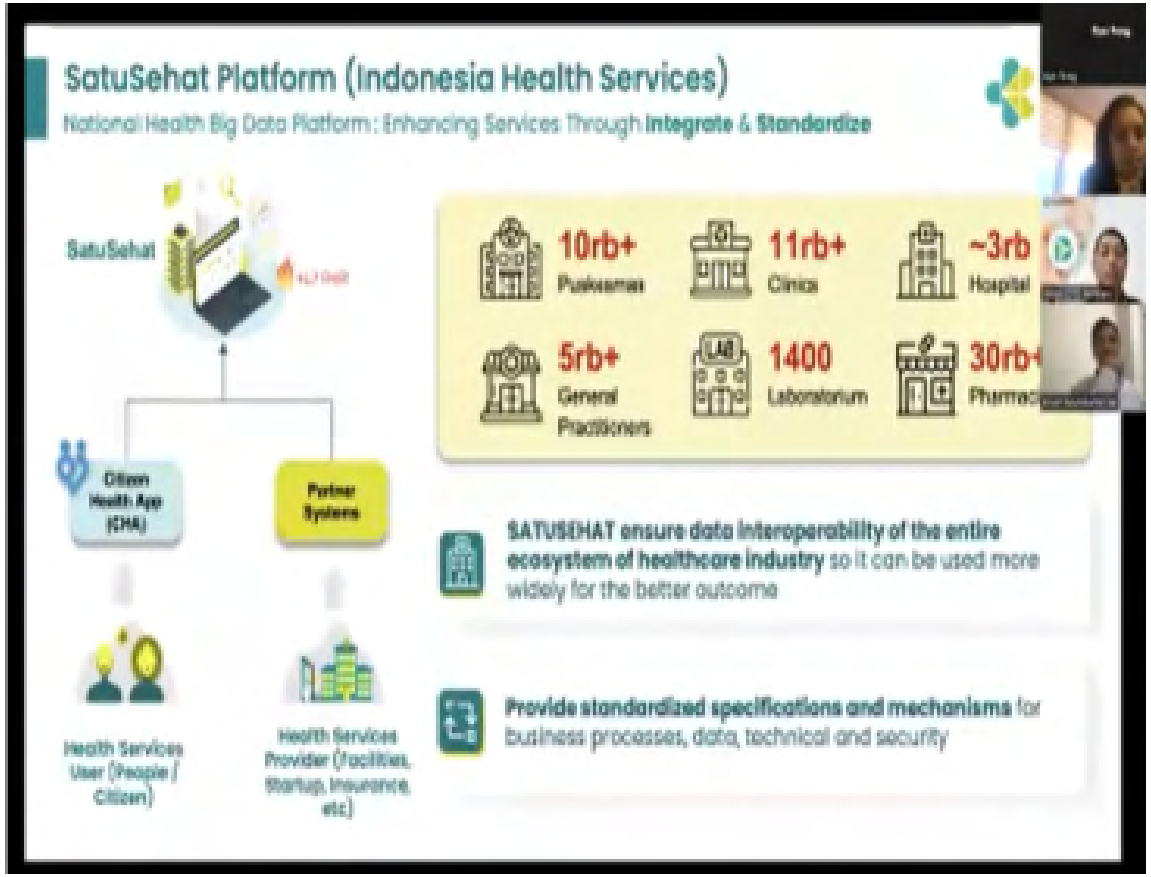
Financing of key activities in the operational plan

Peer to peer learning and sharing knowledge

D-tree's support in the entire process was instrumental in translating the framework into action

Indonesia: Satusehat Platform

Whole of Government approach, promoting equity and building trust



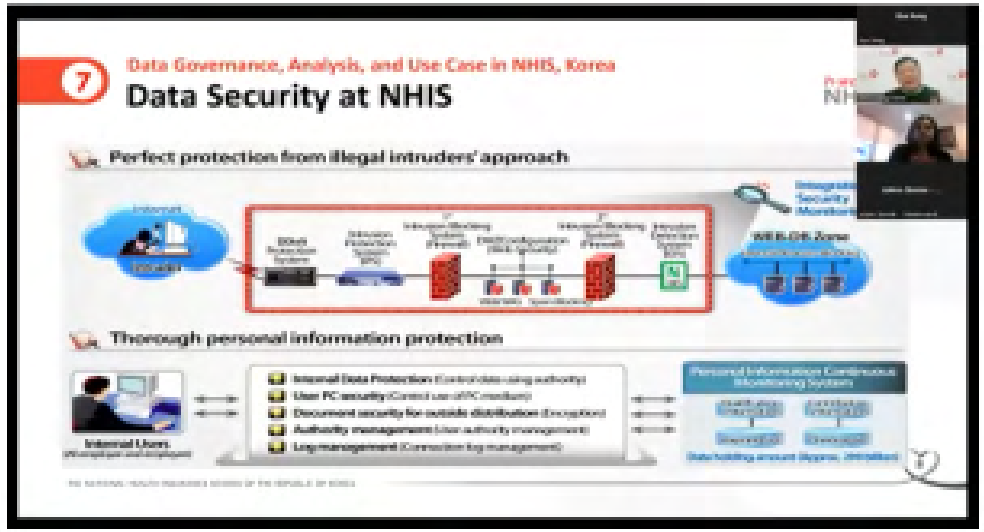
*there are some **challenges due to data literacy issues** and understanding of the chart context of the information. With proper **training and education**, it can be easier for local government officials to interpret and analyze data, hindering their ability to make informed decisions and allocate resources effectively.*

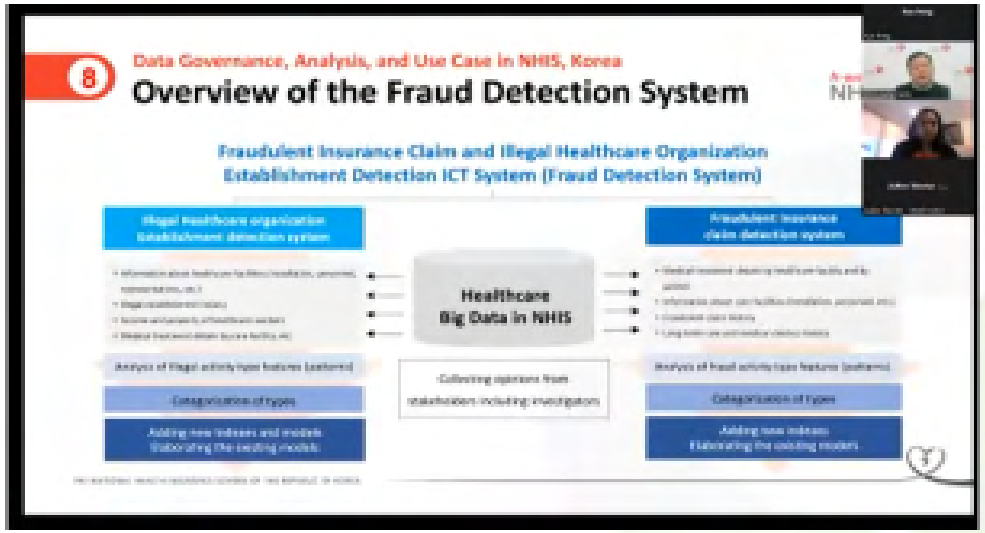
- *BPJS Kesehatan*

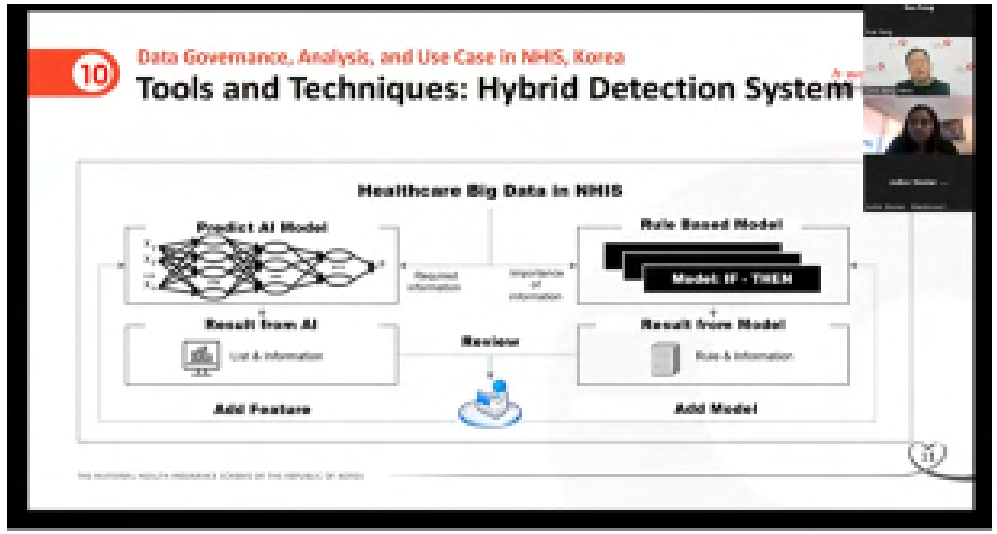
Joint Learning Network Reimagining Primary Health Care Collaborative. (2022). What Constitutes Health Data and Health Data Ecosystems in the Digital Era? Webinar, Washington, DC, United States of America

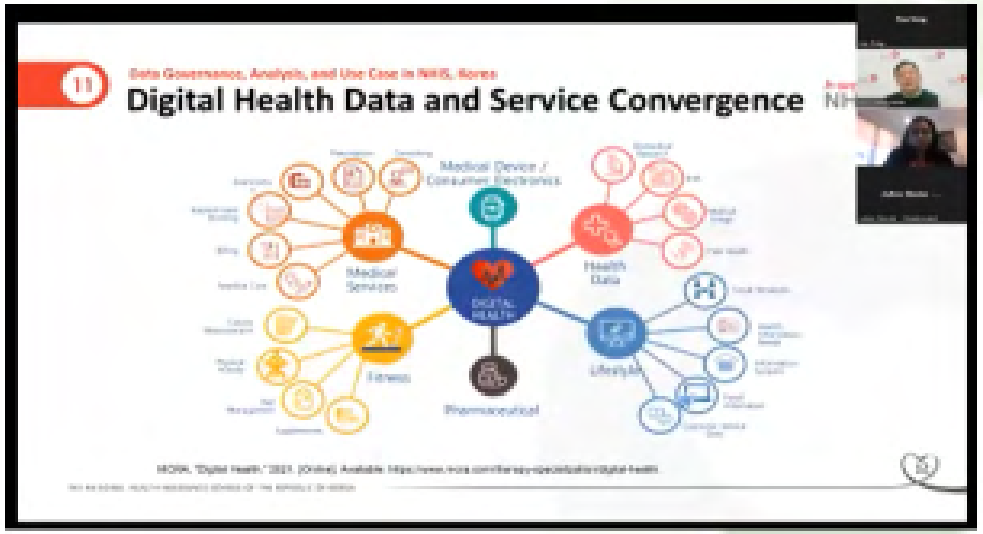
Korea: Use of AI for fraud detection: Registration of clinics by business; High prescription bills

Health Data Collaborative









Data Governance across the data journey

Collection → Reporting → Analysis → Use → Sharing → Re-use

CONSENT AT THE TIME OF DATA COLLECTION

In the **US**, Health Insurance Portability and Accountability Act (HIPAA) makes it mandatory to take **client's consent** before collecting any data.

CLIENT OWNERSHIP OF DATA

India's national interoperability platform allows creation of a unique Ayushman Bharat health account (ABHA):

1. Links individual's data across the continuum of care
2. across any (public and private) health provider and
3. gives client's the authority to share their own data.

PROTECTING PRIVACY & CONFIDENTIALITY

In **India**, digital solutions are being certified as privacy compliant. This will accelerate uptake of the new data protection regulations and enable them to set their systems to standards set by the government.

TRUST IN DATA

In **Ghana**, the Statistical Service (GSS) established a Steering Committee including representatives from civil society organizations that work to protect digital rights (to weigh in on ethical considerations in decisions and can hold government and private actors accountable through the decision-making process.

INVOLVE IN USE OF DATA

In **Rwanda** health facility staff organize join data review meetings with community representatives to review performance and develop join actions plan.

COLLABORATE IN USE AND DECISION-MAKING

In **South America**, a project focused on gender-based violence during COVID-19 abandoned plans to create maps of gender based violent hotspots. Instead, "no stigmatization" became the primary ethical principle to ensure the project did not violate other data-related concerns related to harm, confidentiality, and privacy.

USE OF AI AND ML

Korea has developed a hybrid detection system to identify fraud. For eg:

1. Fraudulent insurance claim detection
2. Illegal healthcare organization detection system

Key takeaways: need for a comprehensive health data governance framework

Health Data Collaborative

1. Digital and data need to work together and focus on health outcomes.

1. Citizen engagement and ownership is essential.

1. Engagement of stakeholders – private sector, civil societies should work together with governments.

1. Need to focus on the complete data value chain (collection to use to sharing).

1. Capacity building and awareness of health workers and managers.

Academia plays a significant role on advancing health data governance *principles within the education system yet it remains unknown and exclusive to medical institutions.*

- *Philippine Society for Digital Health*

Proposed next steps of the Digital and Data Governance Working Group

Health Data Collaborative

- Formulate a Health Data Governance Framework
- Gather and share country lessons and best practices

Source

- The Digital and Data Governance Working group and the Health Data Collaborative call for case studies in Feb 2023
- Joint Learning Network Reimagining Primary Health Care Collaborative. (2023). What Constitutes Health Data and Health Data Ecosystems in the Digital Era? Webinar, Washington, DC, United States of America
- Reimagining Data and Power A roadmap for putting values at the heart of data. (https://www.data4sdgs.org/)

Data Governance Practices in South Sudan

Ministry of Health

High Level Event on Better Data for Better Health:

Investing in Health Information Systems to Accelerate Progress Towards Health Related SDGs

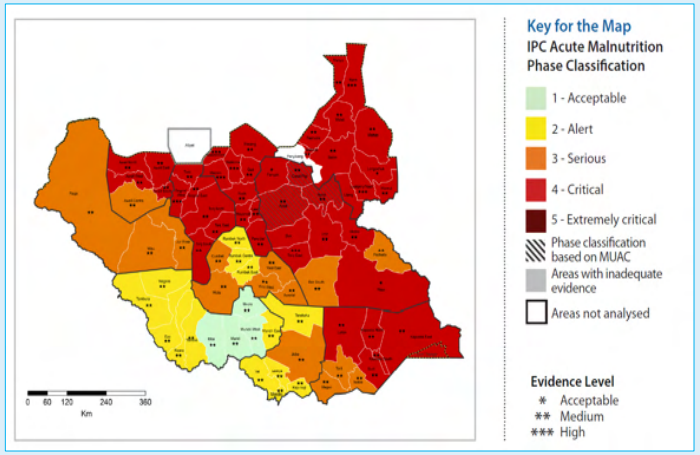
18th -19th May 2023

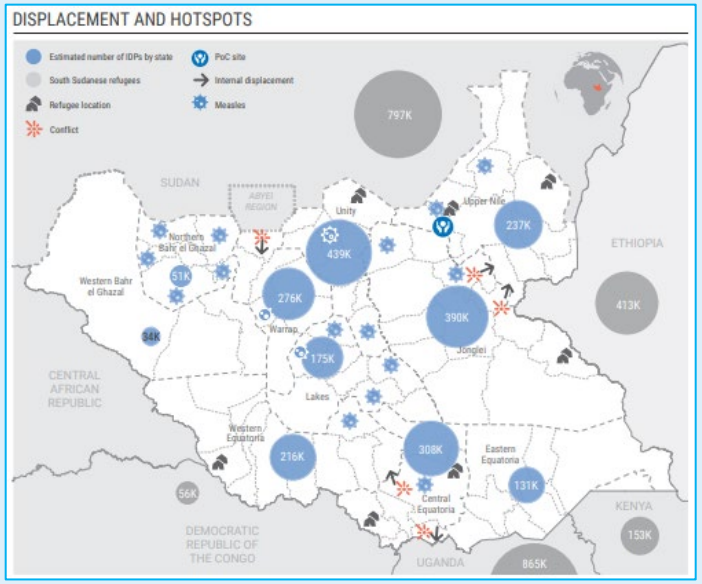
Presentation outline

- Background and Context
- Health situation
- Overview of the HIS
- HIS Governance
- Data Generation, Collection, Analysis and Use
- Challenges and gaps in HIS
- Investment needed to address the challenges

Background and Context

Acute malnutrition Map (March-June 2023)





- **Demographic and socio-economic indicators:**
  - Estimated total population of 14.2 million (51.1% male, 48.9% female; 74% <30years); Growth rate: 3.77%;Life expectancy of 57.6 at birth((M/F-56.1/59.1); Urban/Rural population: 17%/83%
  - High poverty rate (76.4%); high literacy rates (34.5%); HDI of 0.413; access to safe water (40%) and sanitation (10%)
- **Humanitarian Situation:**
  - **High humanitarian needs** with an estimated 9.1 million people
  - **Food insecurity:** over 6 million people estimated to be IPC Phase 3 or above, including 33,000 people in Catastrophe (IPC Phase 5) in Akobo and Fangak counties, Jonglei State and in Pibor County, the Greater Pibor
  - **Ongoing conflicts** resulting; vandalization, looting, attacks on health care
  - **Sudan Crises;** 45,890 individuals arrived in South Sudan from several points of entry since 16 April 2023 leading to overwhelmed demand on humanitarian response
  - **Insufficient basic services:** over crowding, insufficient WASH facilities living conditions, coupled with recurrent flooding and

Health situation

- **High mortality rates**: Maternal Mortality Ratio – 1223 per 100 000 live births; Neonatal Mortality Rate – 40 per 1000 live births; Infant Mortality Rate – 64 per 1000 live births, < 5 years Mortality rate – 99 per 1000 live births
- **Coverage of essential health services:**
  - Poor health sector indicators - UHC service coverage index (2019) at 32 (second lowest globally)
  - Disease burden – Malaria, pneumonia, diarrhea (77% of OPD cases in <5yers); Increasing HIV incidence (1.27 per 1000 uninfected) - 170,000 PLHIV; 19 NTDs endemic in South Sudan
  - High malnutrition rates - wasting (<5 years) at 15.8% (above emergency threshold); Stunting at 15.1.%; low fully immunized child coverage: 18.9%; 18.9%; ANC 4th visit: 23%; SBA: 15%;

Indicator	Status	WHO minimum standards
Core health workforce density	7.6 per 10,000 population	44.5 per 10,000 population
Health facility density	1.4 per 10,000 population	2 per 10,000 population
Service utilization rate (OPD visits per person / year)	1.3 visits per person per year	5 visits per person per year
Catastrophic health expenditure (at the 10% threshold)	13.4%	<10%

- **Challenges across all health system building blocks**

Overview of the Health Information System

- Advocacy for the use of '3-ones' strategy; one database, one monitoring system, one leadership, since 2010
- Progress has been made in institutionalizing the District Health Information System (DHIS), from Health Facility Level, County to National level and migration to DHIS2.0 from DHIS1.4.
- Disease specific programs still run parallel/vertical reporting systems including NTDs, HIV, TB, Nutrition, EWARS resulting in the fragmentation
    - Efforts are ongoing to initiate integration and interoperability of all the parallel systems with DHIS2.0
- Population Census ; Demographic and health survey was last done in 2010, making it challenging to derive national estimates of key outcome indicators.
    - Population Estimate Survey conducted in 2022; Rapid Ass'mts/surveys regularly done to establish humanitarian needs
- Civil Registration and Vertical Statistics: Registration act 2018 in place, however limited roll out of births & deaths registration
- Progress and Performance Reviews is not institutionalized; only two Joint Annual Reviews conducted (2017 & 2021)
    - Programmatic(HIV; Malaria; TB; IDSR) reviews occur on a more regular basis.

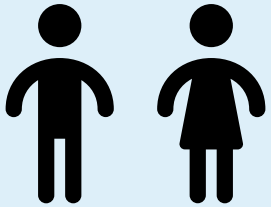
Health Information System governance

- Conducted a Comprehensive Health Information System Landscape Analysis in 2022 that highlighted the key challenges, gaps, best practices and recommendations for improvement
- Developed a Health Sector Policy and Health Sector Strategic Plan(2023-2027) for health information system which provides an overall framework for governance, regulation and HIS programming which has been lacking
- Developed a roadmap for integration/interoperability of all parallel/vertical reporting HMIS data bases with the DHIS2, progressively over the next five years
  - Integration of EWARS is ongoing; Interoperability of the Multisectoral Nutrition Information System ongoing
  - Planned ones include: ODK for Polio/Covid19; eTBR; DATIM DHIS2 for HIV; eLMIS
  - Advocacy for resources to finance the implementation of the 5-year integration/interoperability HMIS roadmap
- Strengthening of institutional arrangements/structures for HIS governance
  - Coordination structures (HIS steering committee and HIS-TWG established and M&E TWG revitalized) for alignment and harmonization of partners and government efforts for HIS improvement
  - Reconfiguration of existing HIS structures at all levels to become fit for purpose;
    - Integrate human resources for Health information under one unit at all levels;
    - Revitalize HMIS unit at HF; HMIS/DHIS2 implementation teams at state and county level

Data Generation, Collection, Analysis and Use

- Paper based data collection at community, primary health care units and primary health care centers; paper based and digital/online in hospitals; digital/online entry at the County Health Department for onward transmission to State and National level.
  - Completeness, accuracy and timeliness of routine data remain low
  - Review and provision of feedback remains inadequate
  - Private health facilities are currently not reporting
- Digitalization of data collection mainly used for program specific requirements/studies-for instance LLIN coverage survey; Reproductive commodities consumption survey.
- Data quality reviews are conducted in an ad-hoc basis and are not institutionalized, due to resource constraints
  - Program data specific reviews(HIV/IDSR/EPI) are more regular, but partner driven
- Systems to analyze and utilize data remain inadequate; limited involvement of the local academic and public health institutions in the analysis of health data.
- Culture of data use in decision-making is not institutionalized; low demand for information and knowledge products for analysis, learning and planning
  - IDSR bulletins & Situation reports during outbreaks are more regular; which is partner driven

Key Challenges and gaps in HIS to reach health-related SDGs

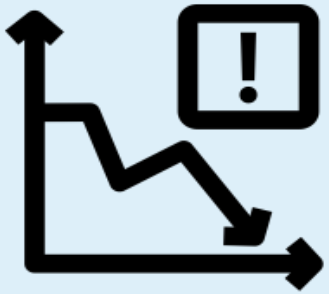


Inadequate HR and support to undertake all necessary HIS improvement plans

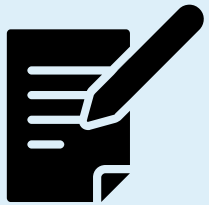
Inadequate skills and competences for data analysis; knowledge generation

Lack of financial resources for personnel but also operational costs

Limited infrastructure and equipment (computers/tablets internet / servers)



Inadequate demand and utilization of DHIS2/IDSR data for reporting requirements



Weak monitoring structures

Standardization of protocols and data indicators.

Lack of consistent system and Data quality Assessments.

Investment needed to address the challenges

- Partners and government align all their funding and support to implementation of the Health Sector Strategic Plan for Health Information System and the Road Map for integration/interoperability of all data systems to DHIS2
- Adequate HR with the required skills and competence recruited and maintained at national and subnational levels
- Capacity building of relevant HR on knowledge and skills for data analysis and production of knowledge products at all levels
- Capacity building on research generated norms and standards to effectively and sustainably scale up innovations, including digital technology
- Infrastructural requirements (hardware and software) for HIS nationwide rollout
- Digitalization of Data tools, especially for implementation of HMIS in hospitals
- Strengthening the functioning of DHIS2 and ensuring integration/interoperability of the disparate databases
- Strengthening the national capacity for data analysis and use of data for decision making including conduct of regular comprehensive performance reviews and policy dialogue

Thank You

Thursday, May 18

Session 2: Data governance: good practices

Health Data Collaborative

Country panel reflecting on translating good data governance into practice

*Naeem Akhtar (Deputy Director, **Pakistan** Ministry of National Health Services, Regulations and Coordination)*

*Louis Richard Njock (Secretary General, **Cameroon** Ministry of Public Health)*

*Fathimath Shamah (Director, **Maldives** Ministry of Health)*

*John Rumunu (Director General Preventive Health Services, **South Sudan** Ministry of Health) and Kediende Chong (Director General Policy Planning, **South Sudan** Ministry of Health)*

*Ima León (Information Systems Director, **Uruguay** Ministry of Public Health)*

*Elibahati Akyoo (Data Officer, WHO Office **Tanzania)***

Building a data governance framework together: Proposal for *"Adapting good data governance practices for countries"*

Facilitated discussion with countries leading the call

Government of Pakistan
Ministry of National Health Services,
Regulations & Coordination

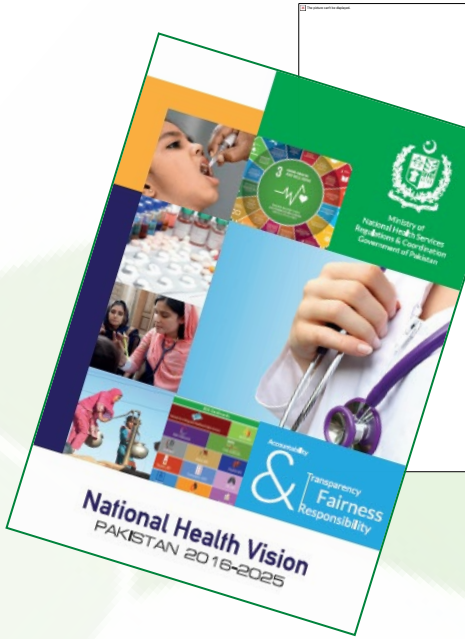
Data Collaborative

Successes, challenges and gaps in HIS to reach health-related SDGs – investment needed to address the challenges

Better Data for Better Health:
Investing in Country Health Information Systems to Accelerate Progress Towards Health-related SDGs (18-19 May, 2023)

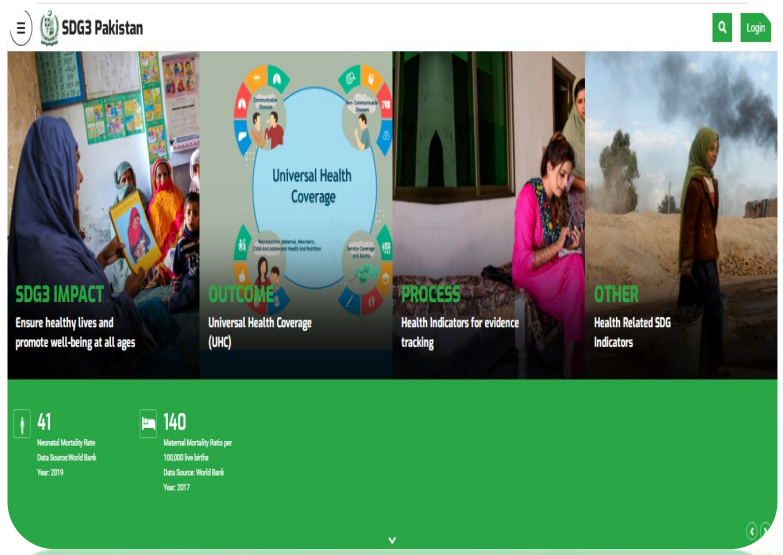
SDG 3 Agenda:

- ‘**13**’ Targets and **27+** indicators
- ‘Linkages’ and ‘Leverage points’ within SDG 3 and with other SDGs targets
- Linkages with National Health Priorities
- Baseline (2000 & 2015), Milestones and Targets (2030)
- Trend analysis
- 2030 Targets - Expected (country level) and Required (global)
- Data sources at national/ provincial and district level
- Disaggregation of data; and frequency at international and national level



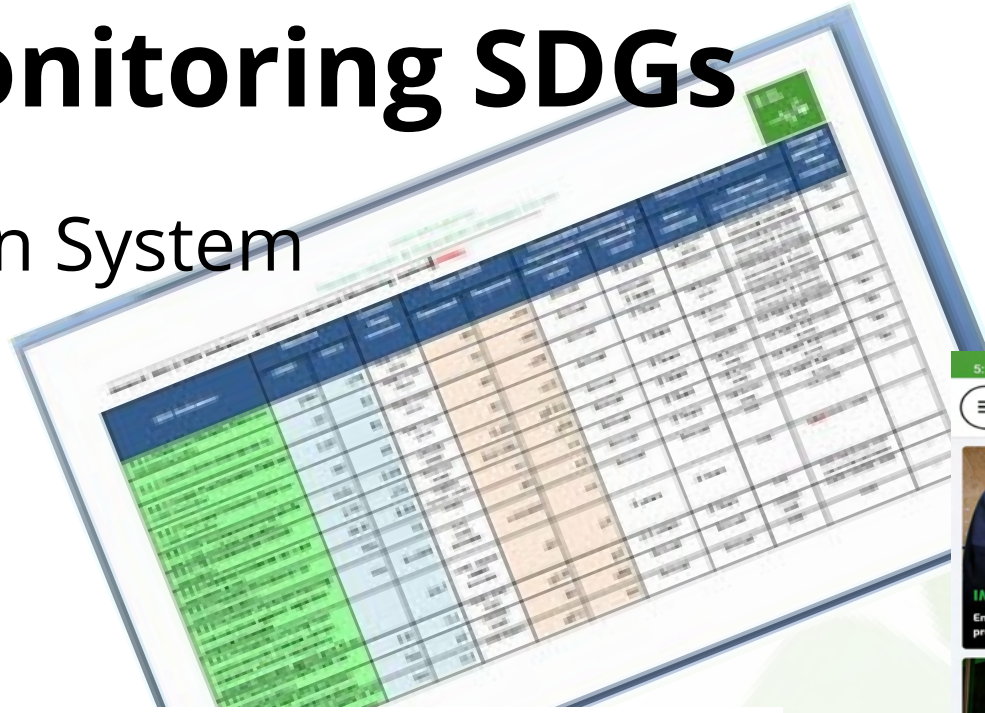
Monitoring & Reporting System

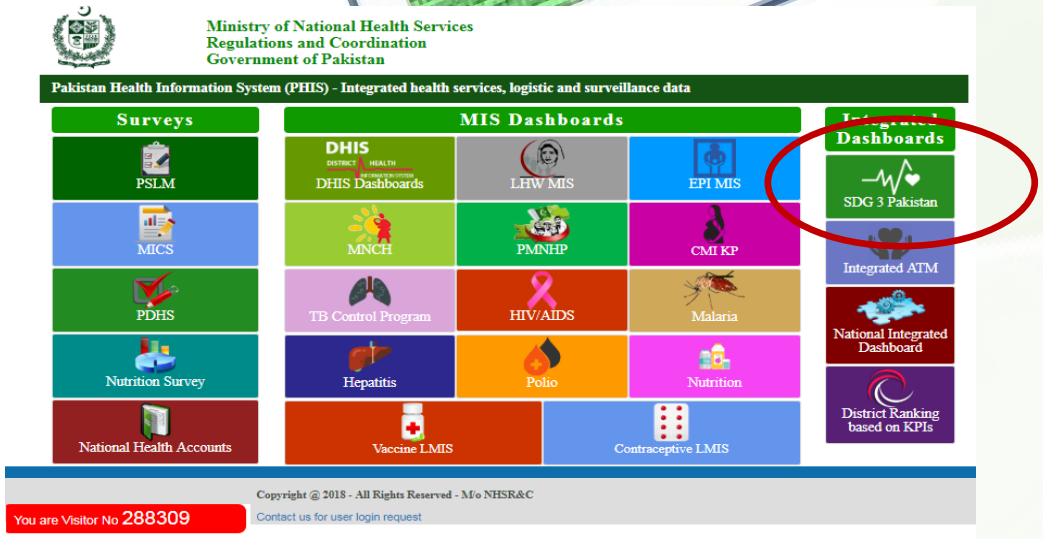
- **A web and mobile based application** was developed to monitor progress in the first phase
- **National Stakeholders Consultation** Meeting on Development of Reporting and Monitoring System for SDG 3 at National and Provincial Level on 29-30 September, 2020
- **Digital Monitoring & Reporting System** (https://sdg3.nhsrc.pk/) for SDG-3 & Health related Goals (web and mobile based) was revamped with new features and functions

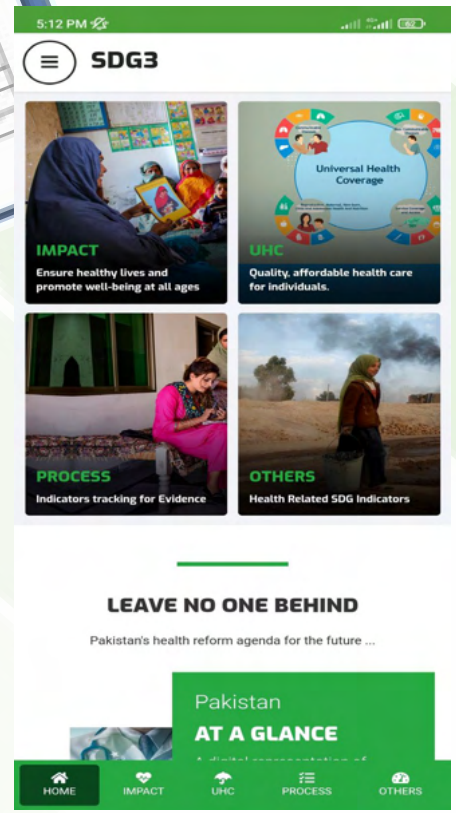


Data set use for monitoring SDGs

- District Health Information System
- Vertical program MIS e.g.
  - LHW
  - CMW
  - ATM
  - VLIMS-Immunization
  - CLIMS- contraceptives
- Surveys
  - PDHS
  - MIC
  - NHA
- UN estimates
- UHC service score





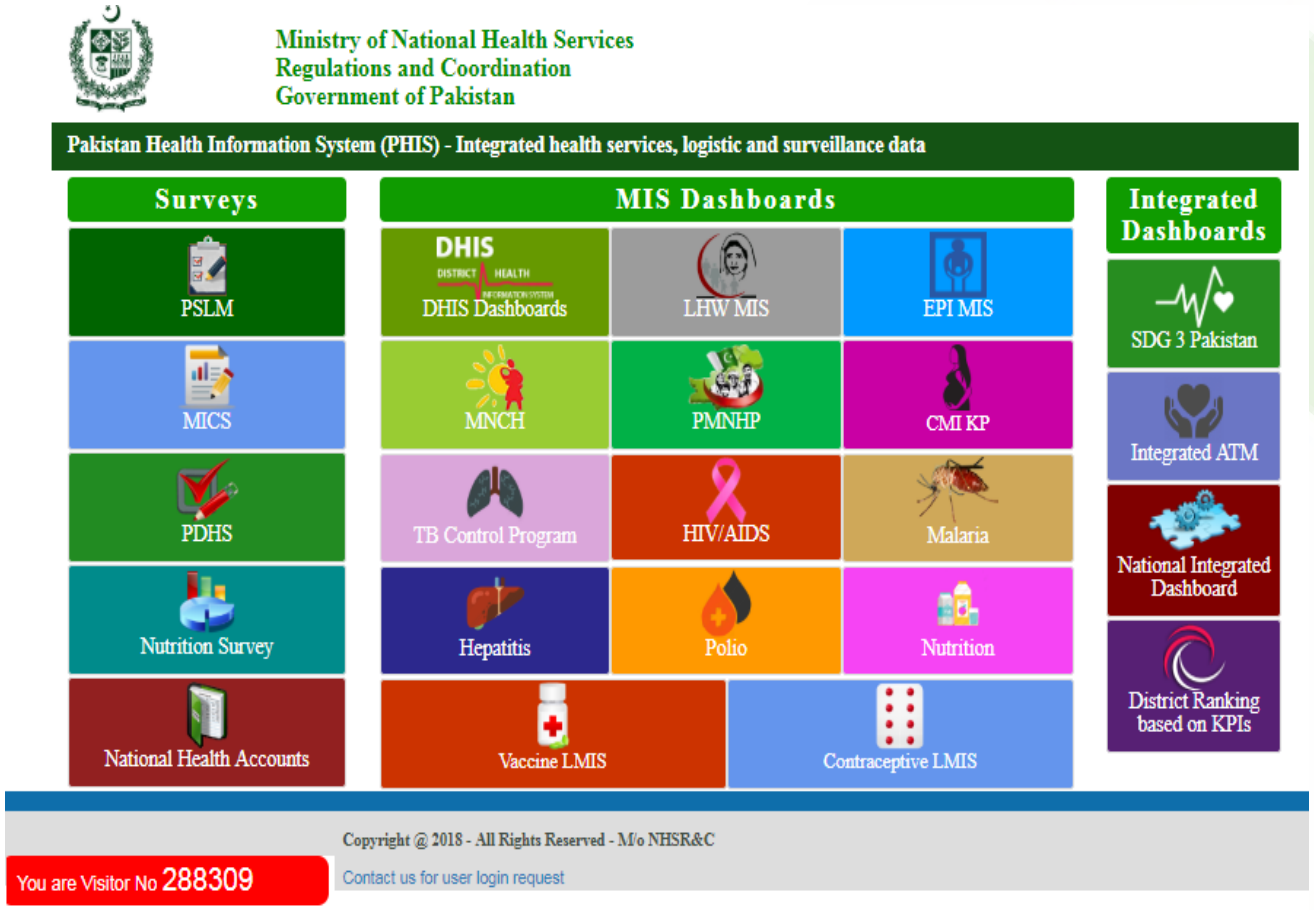


Successes

Routine health statistics through

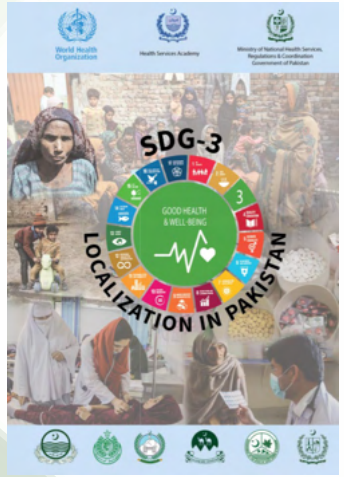
- District Health Information System (DHIS) and
- programme Management Information Systems (MIS)
  - MNCH-MIS,
  - LHW-MIS,
  - Nutrition, Family Planning,
  - Contraceptive LMIS,
  - EPI-MIS,
  - Polio,
  - Malaria,
  - TB control,
  - HIV/AIDs,
  - Hepatitis.

PHIS (http://nhsrc.pk/) Dashboard since 2015. It is the main hub /data repository which is linked with surveys, routine and other information systems through a basic IT platform



Successes

- A WHO scoping mission on HIS was conducted in December 2016
- Situational analysis/review of Pakistan's HIS was carried out in 2017
- Development of National and provincial HIS action plan (2019-2023)
- Development of National Digital Health Framework (2022-2030)
- HIS Steering Committee and TWG are notified, meets regularly last meeting in Feb 2023
- The EDMS program in the ICT region to bring together the population registration & provision of preventive and curative care functions recorded and reported at the PHC levels



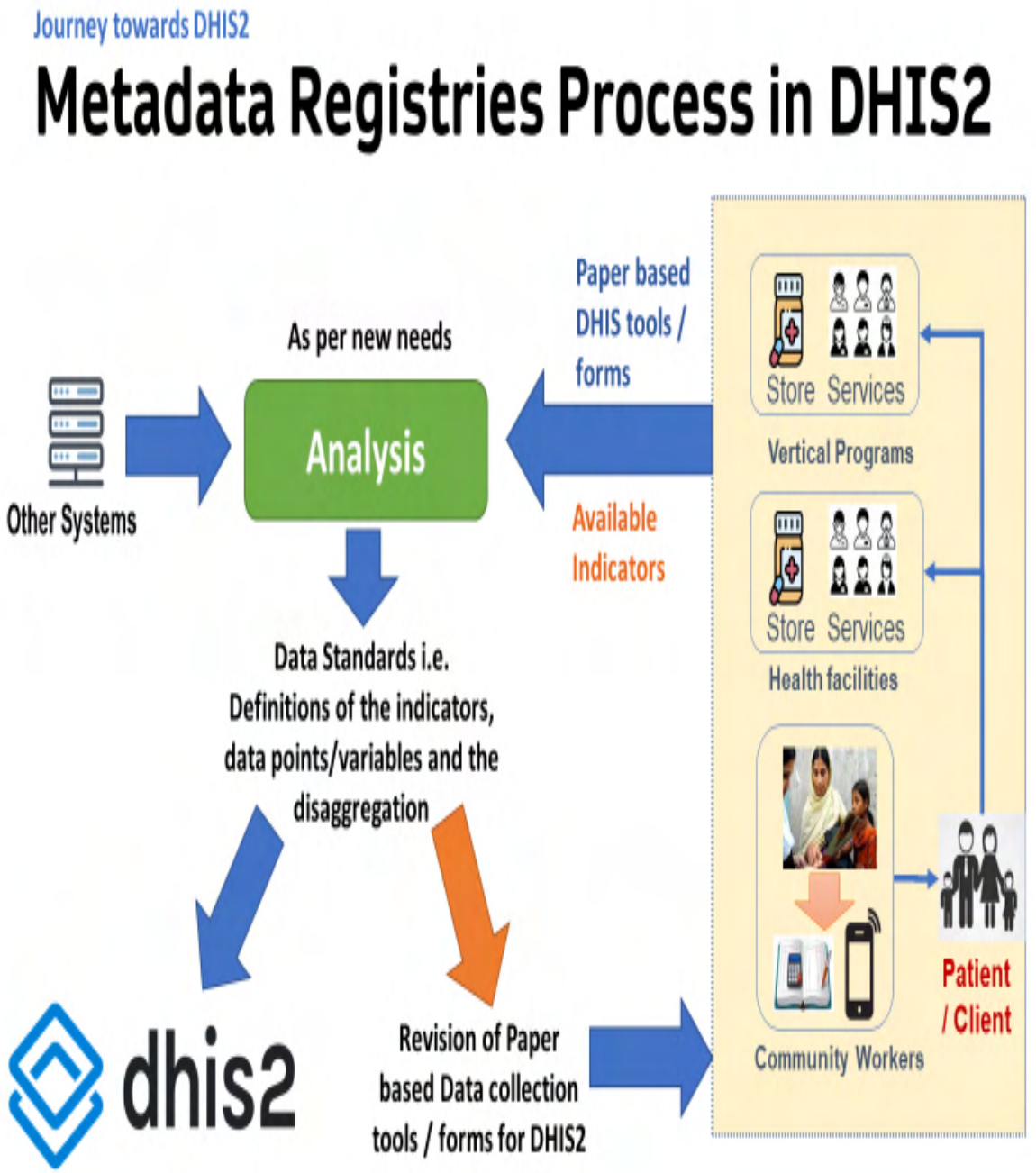
- SDG3 localization was done and being used as the Monitoring framework of National Health Vision and National Action Plan (2019-23)
- Digital Reporting and Monitoring System for SDG 3 at National and Provincial Level (https://sdg3.nhsrc.pk/) has been developed.
- UHC indicators are calculated annually through estimates. UHC index is calculated for national, provincial and district level

Challenges and Gaps

Health Data Collaborative

Way forward

- Development of provincial strategies in line with national health digital framework
- Switching to DHIS-2
  - Standardized definition of variables
  - Inclusion of new variables
  - Age/sex disaggregated data
- Linkage with tertiary care and parastatal bodies
- Interoperability with other data streams
- Coordination with other sectors e.g. climate
- Bringing synergies and complementariness in donor support
- Engaging private sector



MINISTRY OF NATIONAL HEALTH SERVICES, REGULATION AND COORDINATION

National Level Integrated Dashboard

Indicators Results displayed for Quarter 3, 2021

Interval ○ Annual ◉ Quarter ○ Month Year: 2021 Month: –Select Quarter: Quarter Preview

1,412,683 First Antenatal Care Visit (Source: DHIS and CMW-MIS)	**648,931** Postnatal Care Visits (Source: DHIS and CMW-MIS)	**227,544** Deliveries (Source: DHIS and CMW-MIS)
668,381 Fully Immunized Children (Source: DHIS)	**501,868** Live Births (Source: DHIS and CMW-MIS)	**20,762** Live Births with Low Birth Weight (Source: DHIS and CMW-MIS)
53,260,963 Overall OPD (Source: DHIS)	**1,519,066** Diarrhea < 5 years (Source: DHIS)	**1,621,336** Diarrhea > 5 years (Source: DHIS)
271,518 Pneumonia < 5 years (Source: DHIS)	**184,961** Pneumonia > 5 years (Source: DHIS)	**10,884** Suspected Measles (Source: DHIS)

National Level Integrated Dashboard
http://nhsrc.pk/integrateddboard.php

Thank you

Session 3: Strategies to strengthen HIS in countries

Friday, May 19

Session 3: Strategies to strengthen HIS in countries

Video HDC Botswana The Power of the Data Journey

Investing in data for SDGs: Data with purpose and an investment case for data

Claire Melamed (Chief Executive Officer, The Global Partnership for Sustainable Development Data)

1. Routine Health Information Systems (RHIS): investment case
Background literature, stakeholder interviews and country case studies

Xavier Bosch-Capblanch (Project Leader at the Health Systems Support Unit, Swiss Tropical and Public Health Institute) and Christian Auer (Public Health Specialist, Swiss Tropical and Public Health Institute) on behalf of Health Data Collaborative Routine Health Information Systems Working Group

Craig Burgess (HDC Secretariat) on behalf of external experts group

2023

IS THE YEAR TO UNLOCK THE POTENTIAL OF DATA

MULTIPLYING PROGRESS THROUGH DATA SYSTEMS

BETTER DATA SYSTEMS

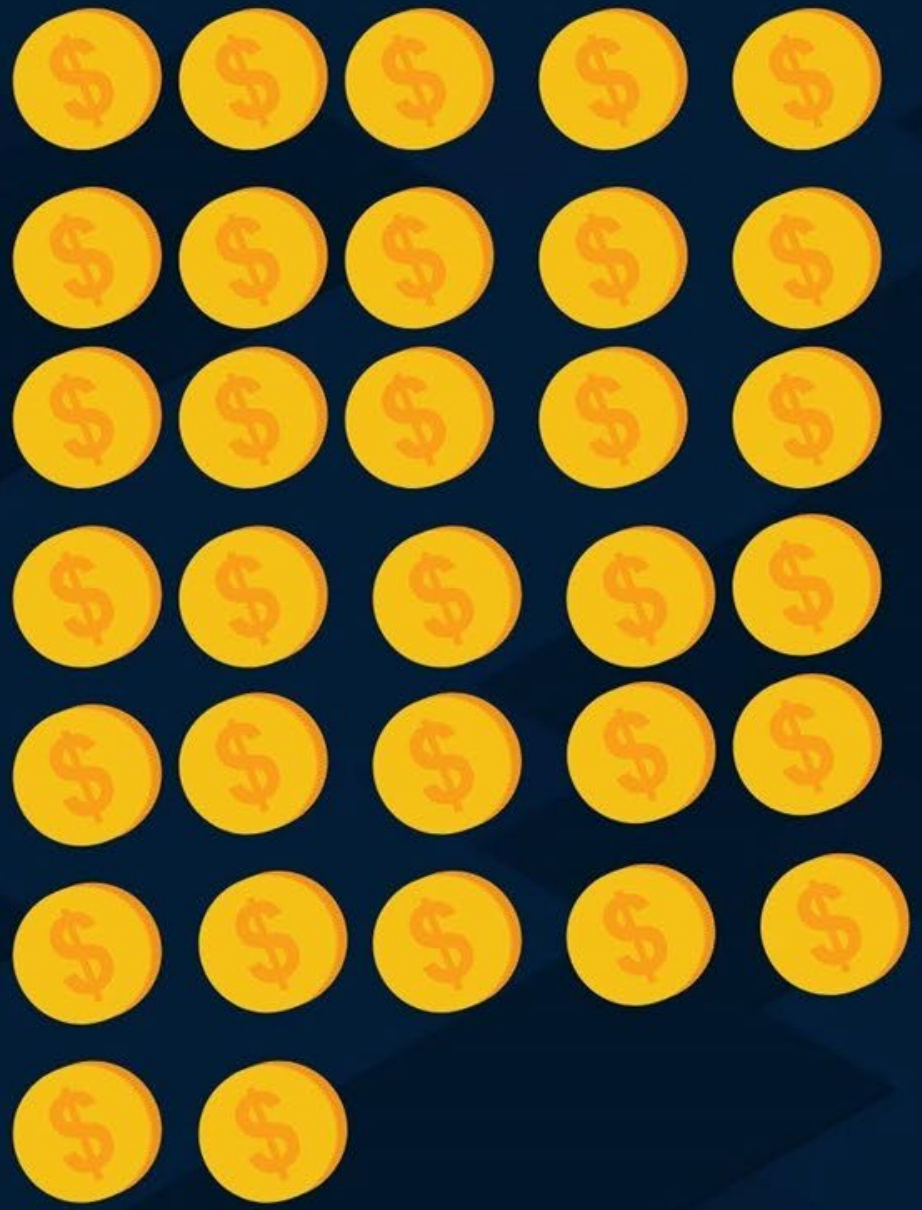
BETTER DECISIONS

BETTER OUTCOMES

$7-$73

IN ECONOMIC BENEFITS

FROM A SINGLE DOLLAR



TO $32

OF ECONOMIC IMPACT

3 CORE PILLARS

BUILDING CUTTING-EDGE NATIONAL DATA PARTNERSHIPS FOR TIMELY, ETHICAL, AND EFFICIENT DATA

STRENGTHENING DATA CAPACITIES

SECURING SMARTER NATIONAL, BILATERAL AND MULTILATERAL FINANCING FOR DATA SYSTEMS

JOIN US

TO UNLOCK THE DATA DIVIDEND

Swiss TPH

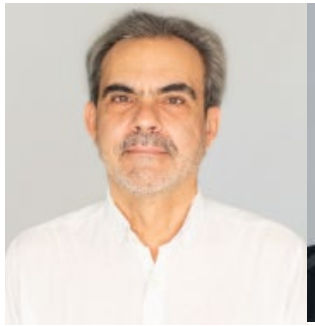
Making the case for investing in Routine Health Information Systems (RHIS) to achieve the health-related SDGs

RFP-2022-DDI-DNA-CNG-0001 | HQ/DDI/DNA/CNG and HQ/DDI/DNA/HIS

Synthesis of findings

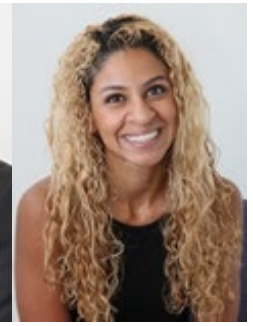
Xavier Bosch-Capblanch, on behalf of the team

Geneva, 19th May 2023









Xavier Bosch-Capblanch | Christian Auer | Fabrizio Tediosi | Marguerite Batta | Natalie Leon | Edward Nicol | Donnela Besada

Swiss TPH

1 Perspectives and objectives
2 Methodological considerations
3 Synthesis of findings
4 Conclusions and the future

Swiss TPH

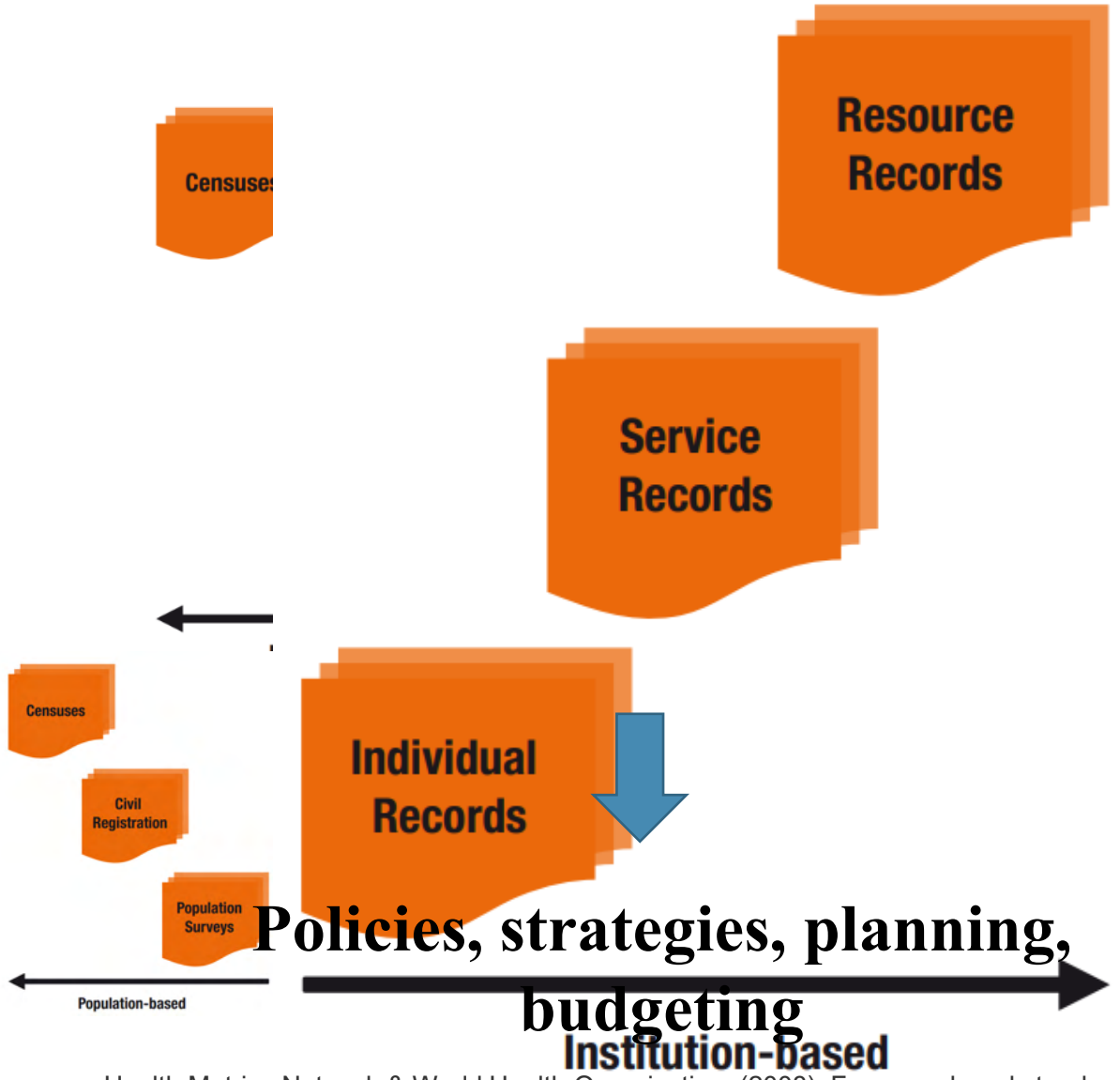
1 Perspectives and objectives

RHIS perspective

RHIS collect health service data **directly from the health facilities**, where they are produced by the **health-care workers and community health workers**.

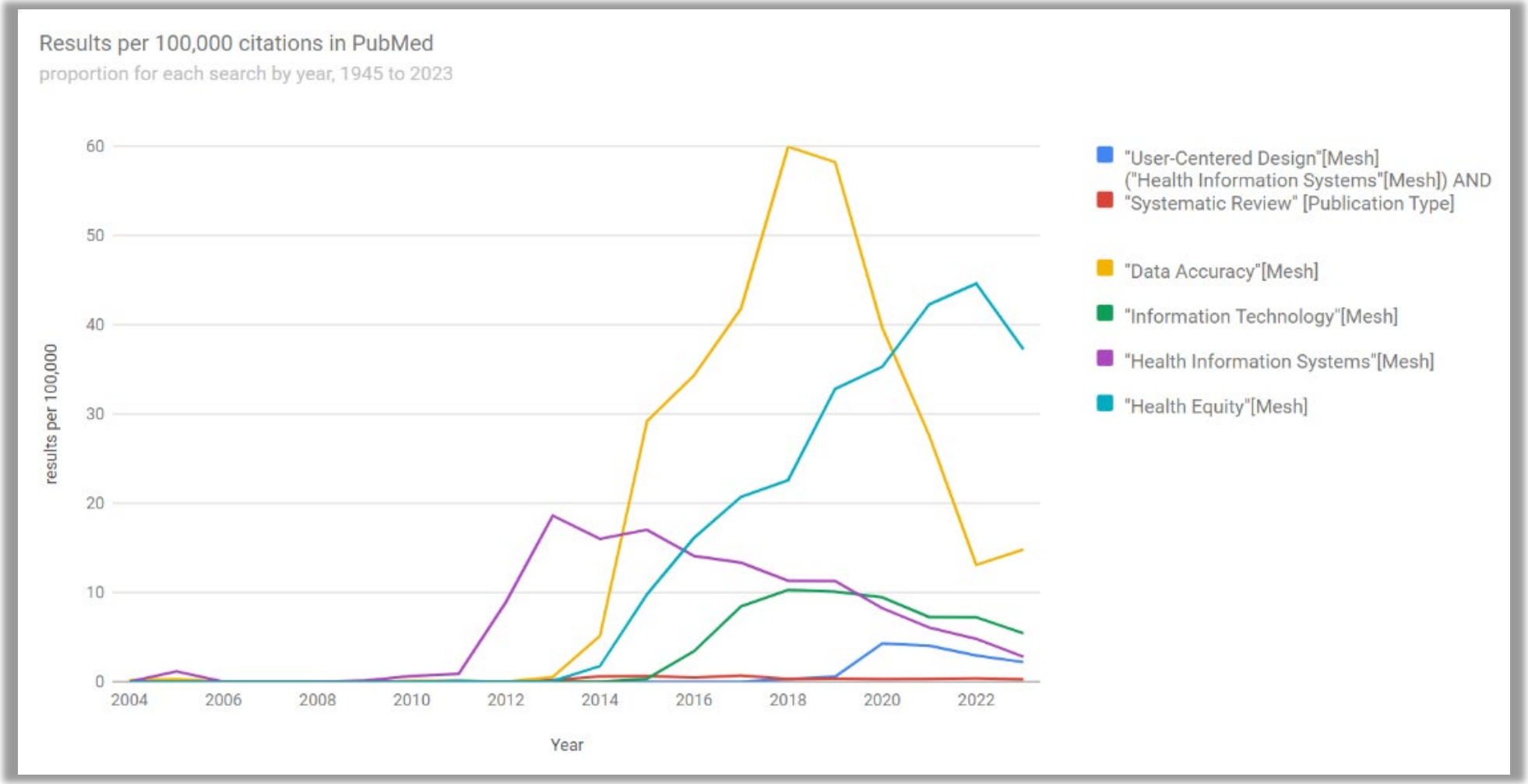
[…] RHIS have the potential to produce frequent – almost real-time – information on service **performance** and **quality** at all levels of the health system.

Global Strategy for Optimizing Routing Health Information Systems in Countries. Adapted from the Final Draft Terms of Reference 23 October 2020 of the Routine Health Information Systems (RHIS) Working Group of the Health Data Collaborative (HDC).

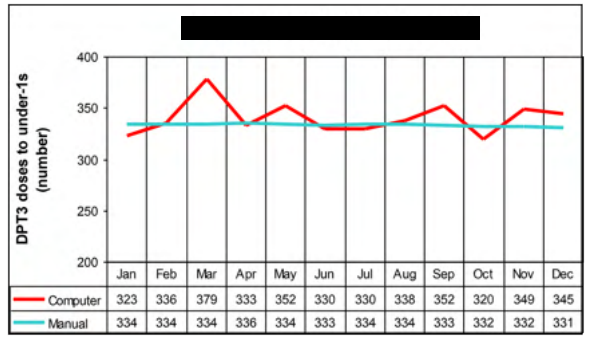


Health Metrics Network & World Health Organization. (2008). Framework and standards for country health information systems, 2nd ed. World Health Organization. https://apps.who.int/iris/handle/10665/43872

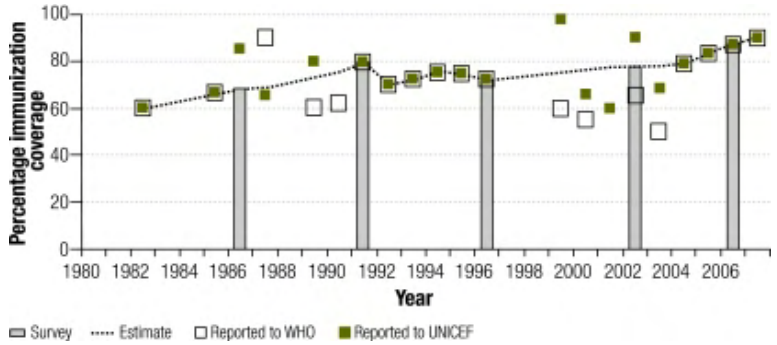
Historical perspective



Reality perspective



Xavier Bosch-Capblanch – personal communication



Burton A, Monasch R, Lautenbach B, Gacic-Dobo M, Neill M, Karimov R, Wolfson L, Jones G, Birmingham M. WHO and UNICEF estimates of national infant immunization coverage: methods and processes. Bull World Health Organ. 2009 Jul;87(7):535-41. doi: 10.2471/blt.08.053819. PMID: 19649368; PMCID: PMC2704038.

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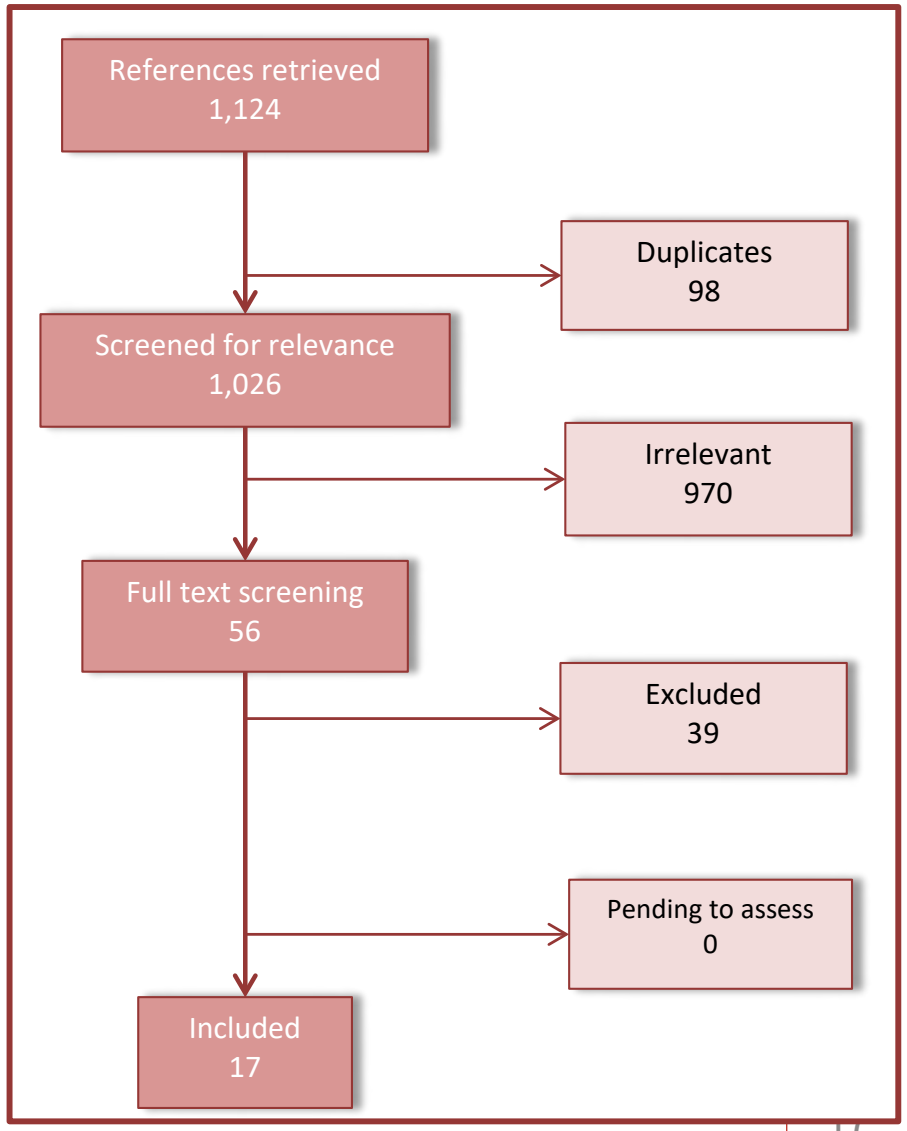
2 Methodological considerations

Objective 1 - Scoping review on examples of returns of investments

- Selection criteria
  - studies showing investments and returns
  - with health systems components / interventions
  - excluding merely clinical interventions or tools
  - from 2007

- Single selection and data extraction
- No assessment of risk of bias

- 17 included | 39 excluded



Objective 2 (1/2) - Country case studies

- Protocol based
- Selection of countries criteria
- WHO contacts with country offices
- Swiss TPH teams
- Data collection tools in XLSForm
- Levels of uncertainty data / documents / expert opinion
- Clearance
- **Integrating data from South Sudan**

6 National

2 Sub-national:

Cross River state (Nigeria)

Western Cape (South Africa)

Objective 2 (2/2) – Economic analyses

- Amenable deaths: prevented through public health interventions policies + appropriate services
- Healthcare Access and Quality Index (Global Burden of Disease)
  - comparative assessment of health system performance across countries
  - indicator for potential health care improvements that can be achieved globally (UHC, quality of care)
- Value of lost output: indication of GDP losses over time; value of lost welfare, reflecting losses.
  - calculated using the WHO Projecting the Economic Cost of Ill-health (EPIC)
- Per capita investments in HIS across 6 countries
- Relationship between investments in HAQ

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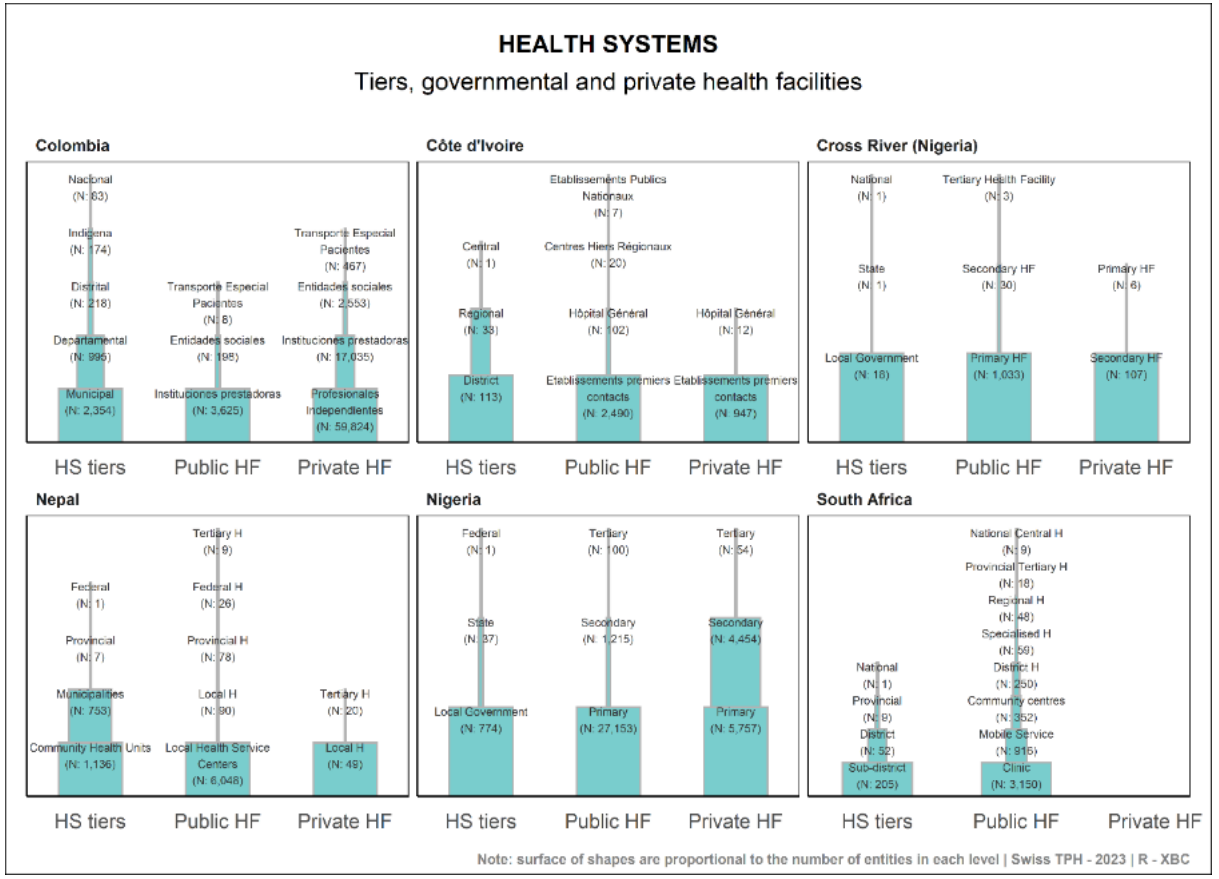
3 Synthesis of findings

RHIS are “special”

No other information system…

- encompasses the whole health system, from Tertiary University Hospitals up to community health workers – **65 million health workers**
- is permanently active, in each and every encounter with service users – **the whole population**
- has a universal distribution in all countries and territories, even in humanitarian crises – **all countries**
- data collection point = data use point – **is a process of care**
- carries personal information – **data security**



Boniol M, Kunjumen T, Nair TS, Siyam A, Campbell J, Diallo K. The global health workforce stock and distribution in 2020 and 2030: a threat to equity and 'universal' health coverage? BMJ Glob Health. 2022 Jun;7(6):e009316. doi: 10.1136/bmjgh-2022-009316. PMID: 35760437; PMCID: PMC9237893.

RHIS in countries – generic issues

- Fragmentation / partners and duplication leading to over-reporting and high workload (Côte d'Ivoire, Nepal)
- Lack of integration with hospitals information (Côte d'Ivoire)
- Lack of integration of multiple systems / duplicity (Colombia)
- Lack of integration of HIV programme data (Nigeria)
- Lack of integration with the private sector (Colombia, Nigeria)
- Undifferentiation between health care and data activities (all countries)
- Unequal compliance with data requirements, particularly by community health workers (Nepal)
- Multiplicity of sub-systems

  DHS2, ESIGL, OPEN Elis, SIGDEP, MSupply, MAGPI, DATIM (DHS2), COMCARE, SiHO, REPS, SIPE, ReTHUS, MIPRES, MiVAcuna, Massive Survival Consultation, RUAFND, ICD 11, ICF, ICHI, eLMIS, eTB register, SORMAS

RHIS in countries – Covid-19 related issues

- New databases, new procedures and new management (Côte d'Ivoire)
- New digital tools specific to Covid-19; however other health care events ceased to be reported timely
- Establishment of the Information Management Unit, outsourced to local companies, specific for Covid-19 (Nepal)
- Covid-19 stopped the uptake of the NHMIS 2019 changes; weak reporting through regular mechanisms (Nigeria)
- Multiple adaptations reported, including organisation of health care (South Africa)

HIS status across the six countries

Funding of RHIS

- Governmental budget for RHIS (USD, % of health expenditure)
  - Colombia: 35 million (0.2%)
  - Nigeria: 2.2 million (0.1%)
  - South Africa: 0.8 million (0.004%)

- External support as proportion of RHIS
  - Nigeria: 30%
  - Nepal: 20%
  - Items: infrastructure, software, direct financial support, equipment, training

Annual costs of RHIS (x 1,000 USD)

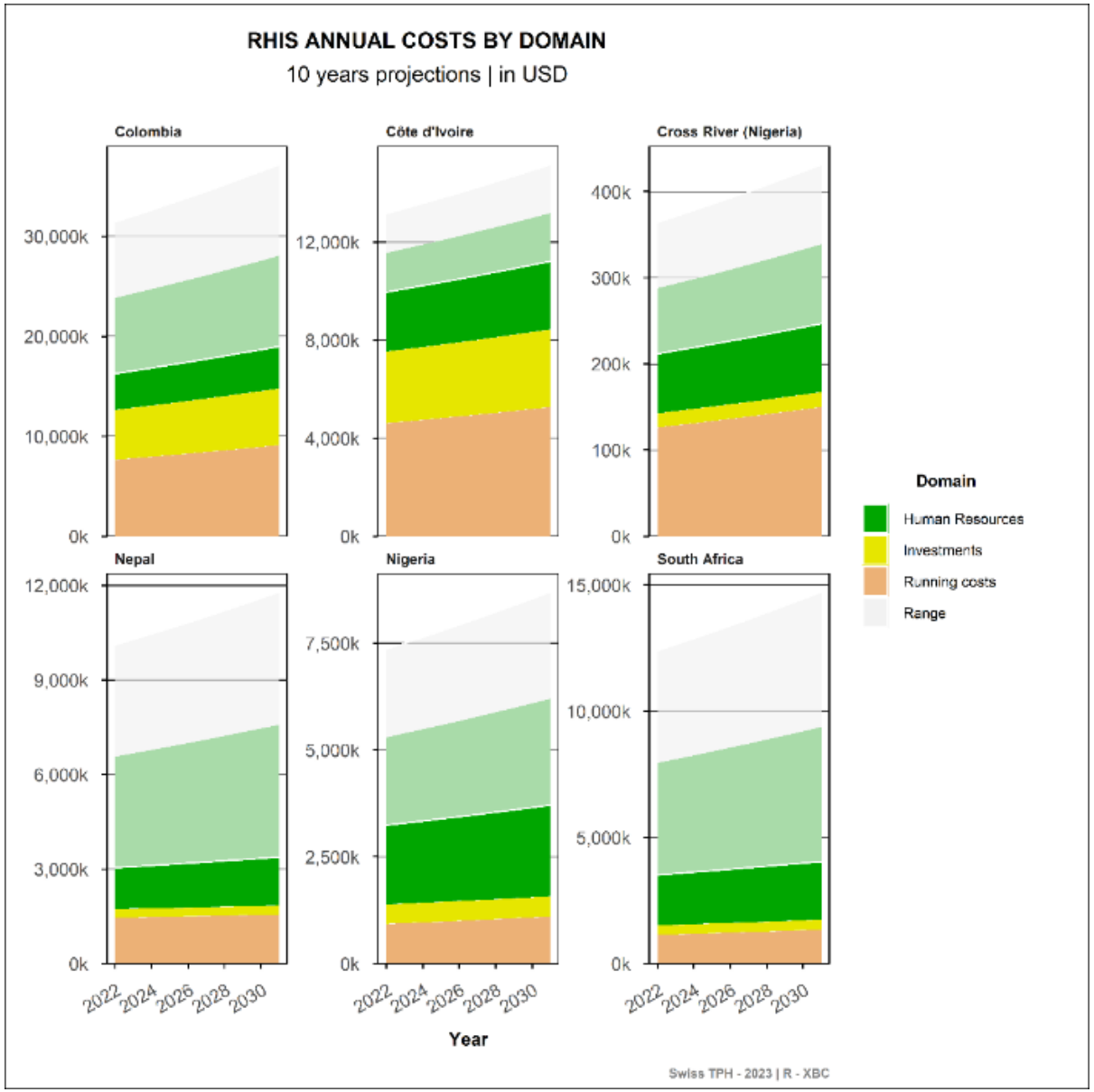
	Minimum	Mid-point	Maximum
Côte d'Ivoire	9,960	11,560	13,160
Colombia	16,270	23,840	31,420
Cross River (Nigeria)	210	290	360
Nepal	3,040	6,570	10,110
Nigeria	3,240	5,300	7,360
South Africa	3,520	7,950	12,390

Annual person-time (hours) spent on data in the whole country:

- Colombia: **26 million**
- Côte d'Ivoire: **8 million**
- Nepal: **11 million**
- Nigeria: **43 million**
- South Africa: **5 million** (?)

Annual costs of RHIS by domain (x 1,000 USD)

- Costs are dependant on the estimated proportion of workload dedicated to data
- Human resources (green) get the greatest share of costs (Nepal, Nigeria and South Africa
- Most of human resources costs are incurred at peripheral level
- Median cost per capita: 0.5 USD



Economic analysis (2/3)

Assumptions

Value of Lost Welfare (VLW) due to Amenable Mortality in 2015 (millions, 2015 IND) using baseline Value of statistical Life (VSL) assumptions; VLW expressed as equivalent proportion of 2015 GDP and Value of lost welfare in 2022 USD

Country	Value of Lost Welfare 2015 (USD in mlllions)	% of GDP	Value of lost Welfare 2022 USD (millions)	Cost of RHIS (2022)	% RHIS vs foregone welfare
Colombia	35,419,000 (28,578,000 to 45,426,000)	5.4% (4.4% to 6.9%)	28,024,414	24,276,886	0.0001%
Côte d'Ivoire	17,249 (9,730 to 29,942)	22.2% (12.5% to 38.6%)	8,235	11,726,870	0.1424%
Nepal	8,755 (4,919 to 14,463)	12.3% (6.9% to 20.3%)	3,001	6,678,443	0.2226%
Nigeria	182,022 (111,440 to 318,036)	17.0% (10.4% to 29.8%)	1,589,108	53,914,580	0.0003%
South Africa	125,031 (103,540 to 148,511)	17.6% (14.6% to 20.9%)	62,714	8,100,216	0.0129%

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4 Conclusions

Overall conclusion

The most comprehensive and needed health information system (RHIS) is inextricable from health care processes, diverts health workers attention from health care, is poorly used, suffers from protracted problems, may cause harms and receives marginal funding.

- This situation has to be reverted.

What next?

- Multilaterals
  - Promote RHIS as a "health technology" (HTA)
  - Safeguard the link between RHIS and provision of care / UHC
  - Support high quality research
  - Convene partners to adhere to ethical principles of RHIS
- Governments
  - Demand a regulatory framework for RHIS (e.g. HTA)
  - Budget RHIS specifically, factoring contributions
  - Establish funding scenarios
- Technical partners
  - Stop unduly influencing RHIS
  - Use experts with up to date knowledge and expertise on key methods (e.g. HCD)
  - Adhere to ethical principles of data governance and also health care
- Funders
  - Stop unduly influencing RHIS
  - Acknowledge the radical importance of RHIS to achieve SDG / UHC
  - Factor the RHIS within competing funding needs
  - Fund high quality research

- No further evidence is required

Paradigm change

×Past	✓Future
×Data – dashboards	✓Quality of care
×'Technocratic' approach	✓Human Centred Design
×Speculative 'use of data'	✓Clinical / public health / managerial / strategic decisions
×Blaming health workers	✓Improving the system
×Observational research	✓Experimental research
×Pilotitis	✓No harms / de-implementation

HDC – RHIS working group

- Jim Ricca
- Michelle Monroe
- Maria Petro Brunal
- Kuntal Saha
- Taavi Erkkola
- "Khondkar RifatHossain (co-chair)"
- "Eman AbdelkreemAly"
- Arash Rashidian
- Daniel Low-Beer
- Regina Guthold
- Elizabeth Katwan
- Theresa Diaz
- Wendy Vender
- Anh Chu
- Andrew Porth
- Chika Hayashi
- Ifeoluwa Olokode
- Norah Stoops
- Jean-Pierre de Lamalle (co-chair)
- Theo Lippeveld
- Debra Jackson
- Jorn Braa
- Derek Kunaka
- Lisa Bursales (co- chair)
- Arthur Heywood
- Bob Pond

- Craig Burgess
- Carolina Salles
- Melanie Bertram
- Hong Anh Chu
- Dejan Loncar
- Khondar Rifat Hossain
- Rifat Hossain
- Luhua Zhao
- Mwenya Kasonde

Thanks

Swiss TPH

Health Data Collaborative

May 19

RHIS investment case: External expert group feedback

- *Sally Stansfield, HIS expert, previous Director for Health Metric Network*
- *Bob Pond, HIS expert*
- *Theo Lippeveld, Data systems and HIS expert*
- *Dejan Loncar, Health Economist*
- *Juliet Fleischl, RHIS and HIS consultant*
- *Julius Merks, Health Financing, HIS and systems expert*
- *Michelle Munroe, Global Fund to Fight AIDS, TB and Malaria*
- *Bill Weiss, USAID*
- *Shaida Badiee, Open Data Watch*
- *Jorn Braa, University of Oslo*

4 formal calls and several informal calls to guide the STPHI work

Expert external panel

1. **'Difficult' work**: RoI
2. **Country case studies:** what works and what does not
3. **RHIS part of broader eco system:** HIS, NSOs, other sectors
4. **Counter argument:** 'what if there was no investment in RHIS?'
5. **Communities left behind:** data from CSOs and private sector
6. **Don't think 'investment case'** think > efficient / better investment: financial, technical, political
7. **Ministries of Finance main target audience,** not donors

Possible future work / GAPS

- Work Global Health Initiatives (GAVI / GFATM / GFF) & WB
- Costing tools
- Make the economic and social argument - SDGs
- Sub district RHIS > important

Session 3: Strategies to strengthen HIS in countries

Health Data Collaborative

2. Investing in multiple data sources for optimal decision-making using SCORE:
   - Survey Population and Health Risks
   - Counting births, deaths and causes of death
   - Optimize health service data (RHIS + HHFA)
   - Review Progress and Performance
   - Enable data use for policy and action (global and country levels)

Presentation by Anh Chu, Health Information Systems, WHO DDI

With reflections by Pakistan and comments from Bloomberg Philanthropies, Data for Health Initiative

SCORE & Objectives

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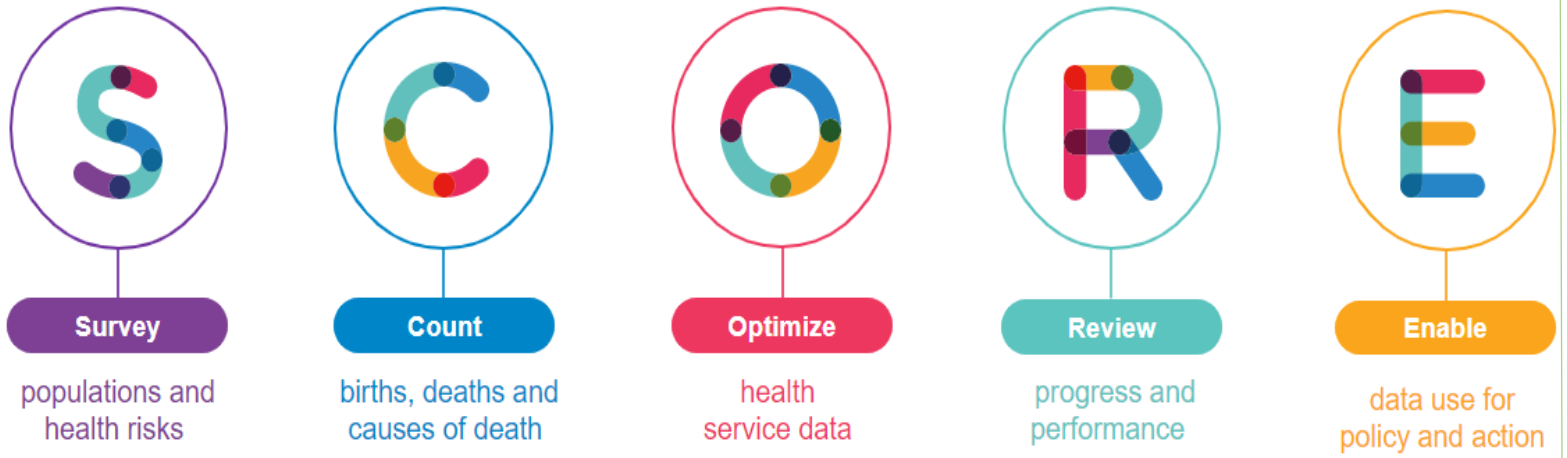
A WHO initiative to assist Member States in assessing, monitoring and strengthening their health data systems consisting of five interventions



Purpose

- Provide a global landscape of country health data **capacity in monitoring progress** toward SDG/UHC targets
- Assist countries to **identify gaps** in HIS capacity for strategic prioritization
- Provide access to the **best practice action, standards and tools** for improving HIS systems
- Guide the **monitoring countries** HIS
- Provide a **framework to synergize efforts** across partners, guide investment to achieve the best cost-effectiveness

Components of SCORE Technical Package

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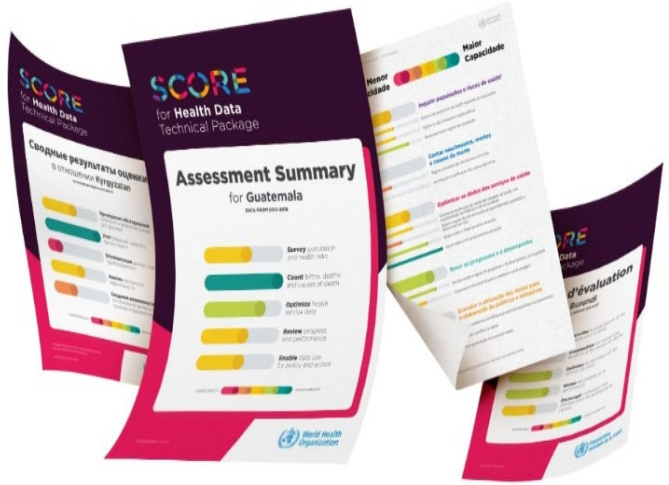

Survey populations and health risks: Global Status

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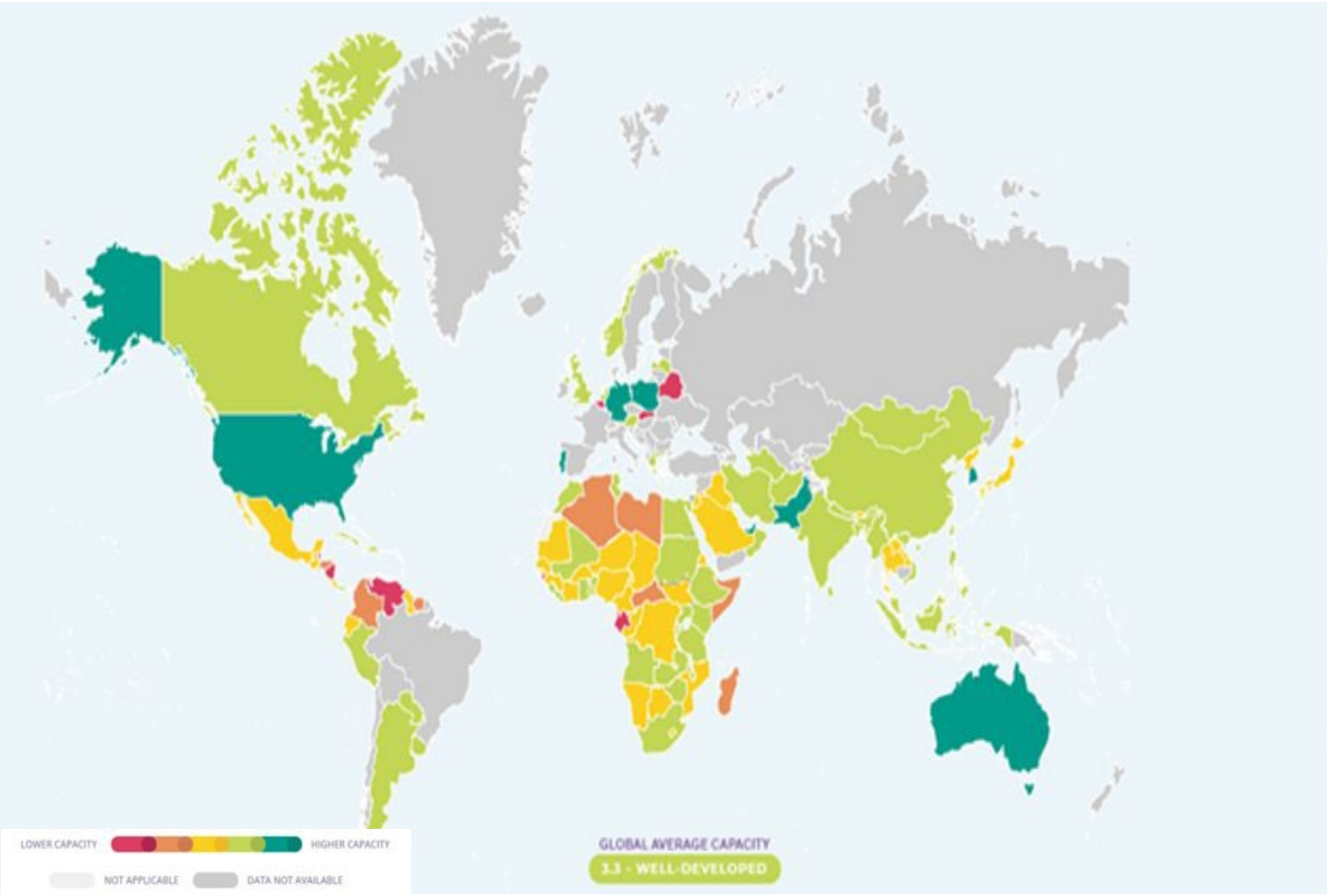
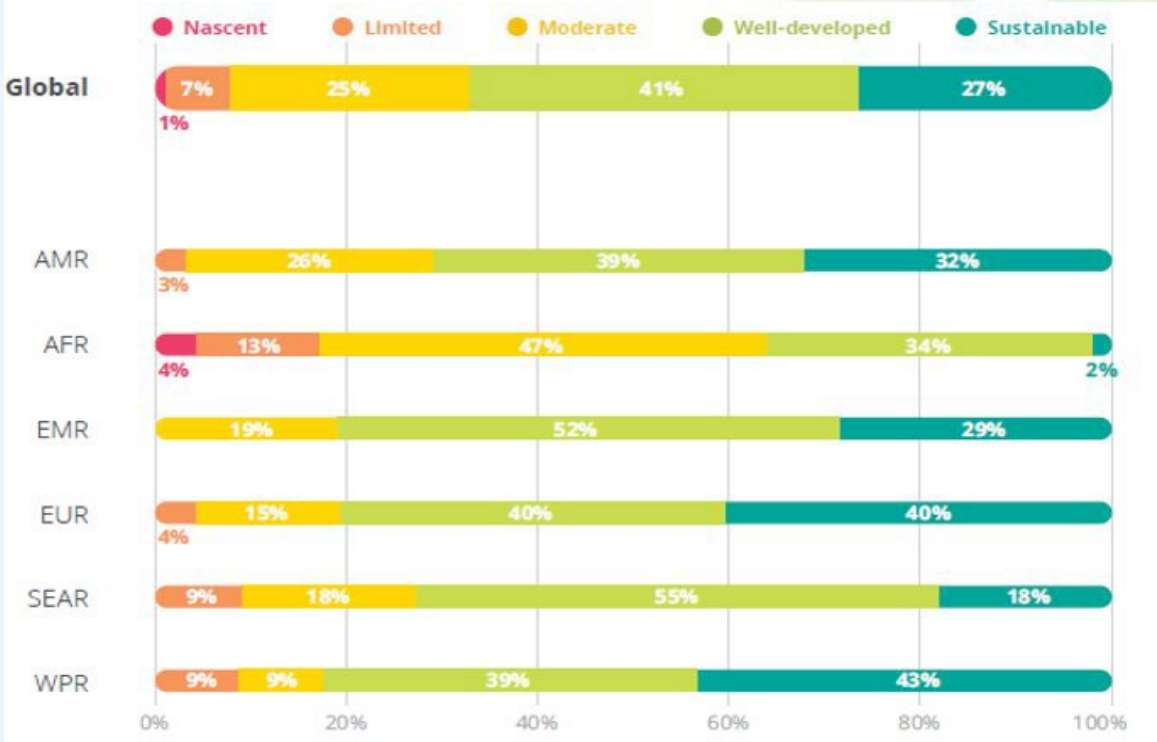
Survey capacity

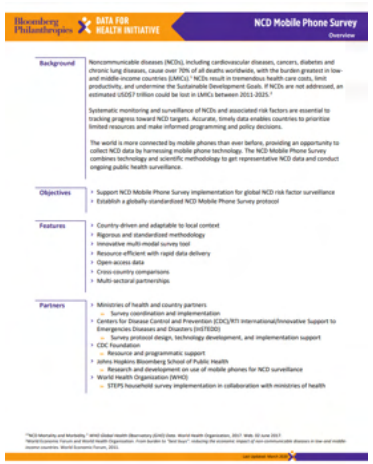


27% countries have sustainable capacity to survey public health threats



Survey

populations and health risks: Essential Tools



WHO WORLD HEALTH SURVEY PLUS

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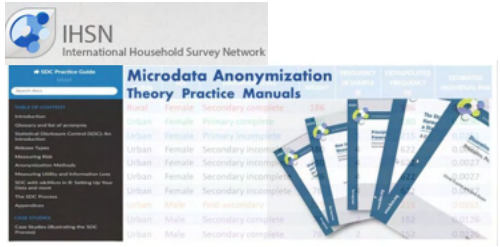
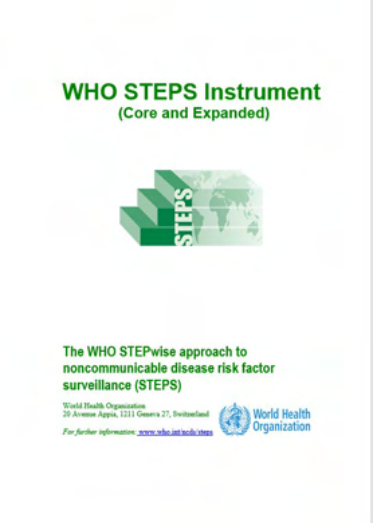


JOINT EXTERNAL EVALUATION TOOL
SECOND EDITION
INTERNATIONAL HEALTH REGULATIONS (2005)

The DHS Program
Demographic and Health Surveys

unicef | MICS



OIE - WAHIS

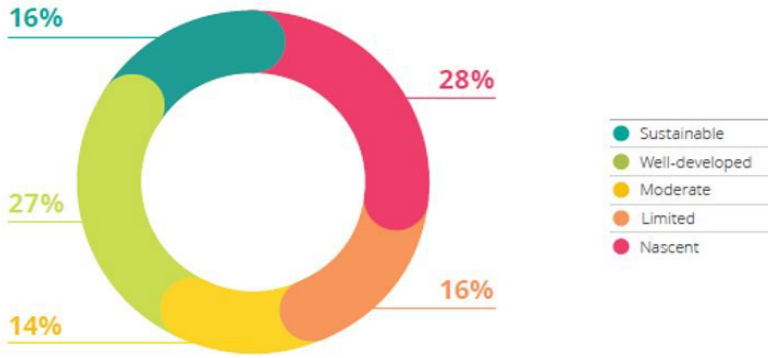
e-SPAR
STATE PARTY ANNUAL REPORT

Counting births, deaths and causes of death:
Global Status

Health Data Collaborative

.... beyond counting ....

Percentage of countries by capacity to count births, deaths and causes of death



NEARLY **40%** of the world's deaths are not registered.

Low-income countries record cause of death in ONLY **8%** of reported deaths.

Disaggregated CRVS data when cross-analyzed with other administrative data are powerful in measuring inequality in society

CRVS is key to monitoring and improving government services and many SDG goals, such as:

- Improved child mortality, maternal health and other health services (SDG 3)
- Gender equality (SDG 5)
- Better education (SDG 4)
- Decent work (SDG 8)
- Reduced inequalities (SDG 10)
- Justice (SDG 16)

Counting births, deaths and causes of death

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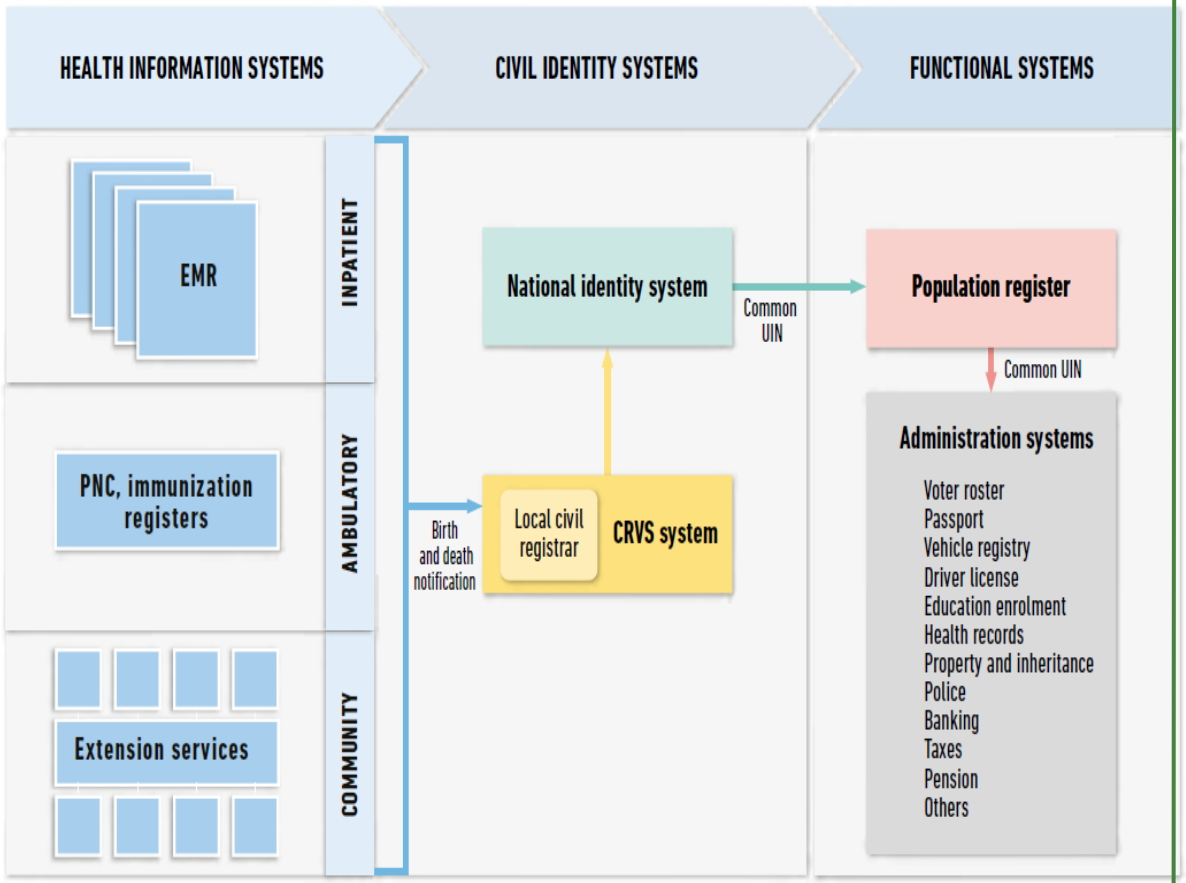
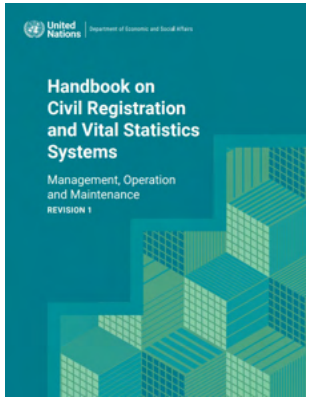
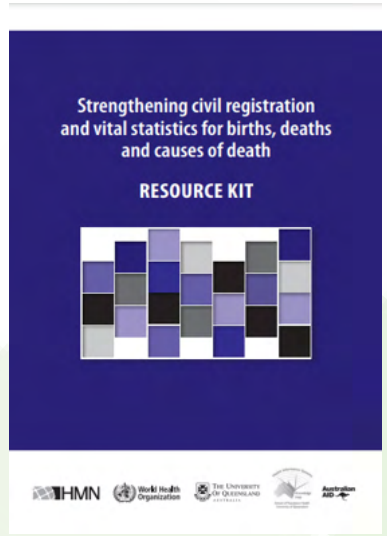
Harnessing an individual's vital information within the civil identity system and functional systems for improving service deliveries

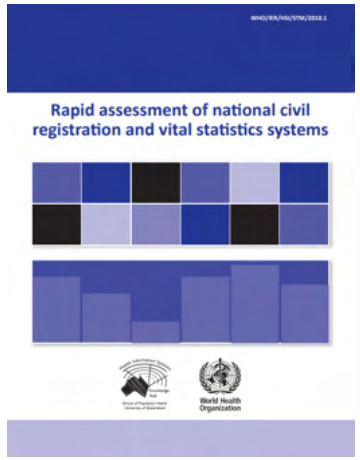


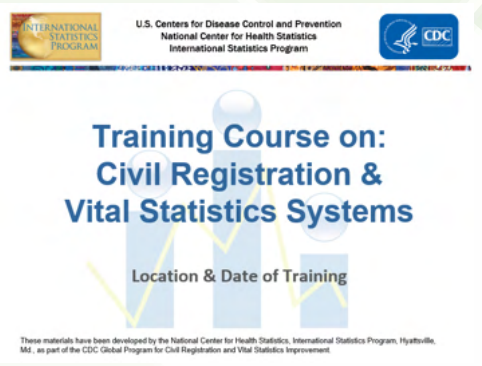
Note: EMR – electronic medical record; PNC – postnatal care; UIN – unique identification number.

Essential Tools









Optimize health service data: Global Status

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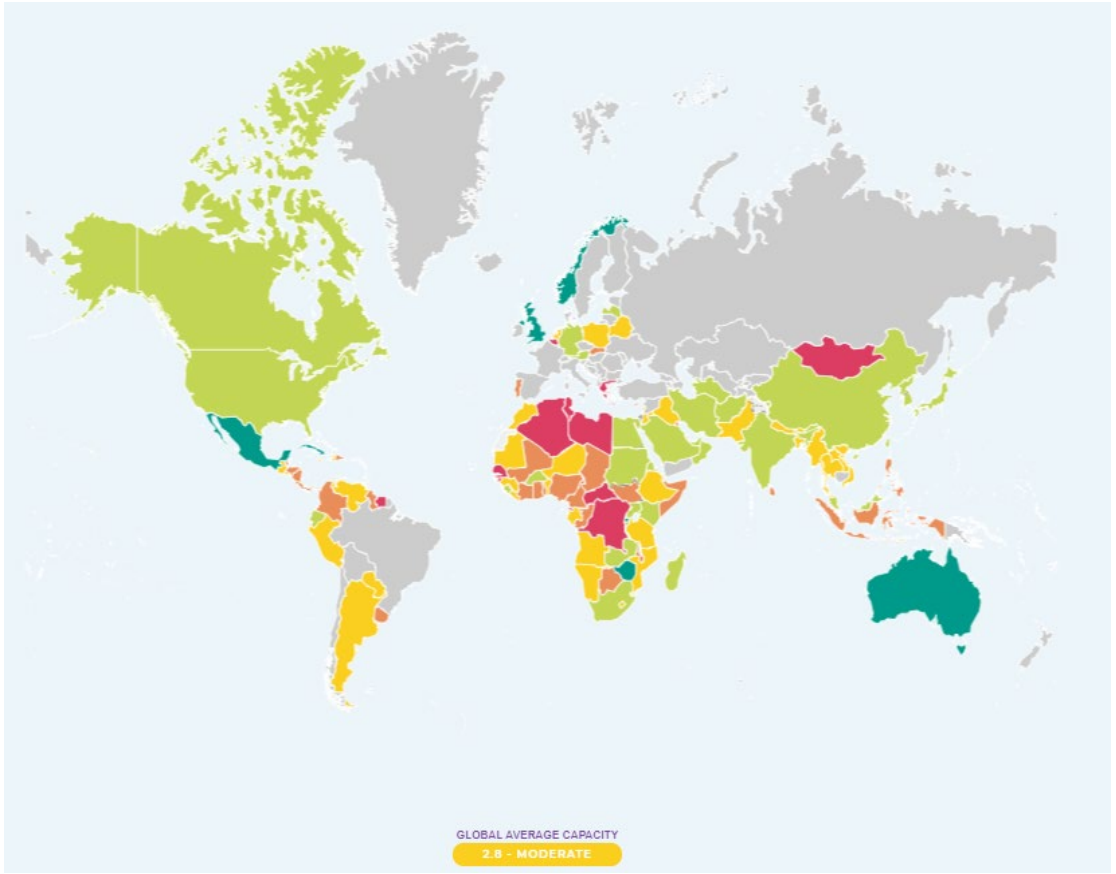
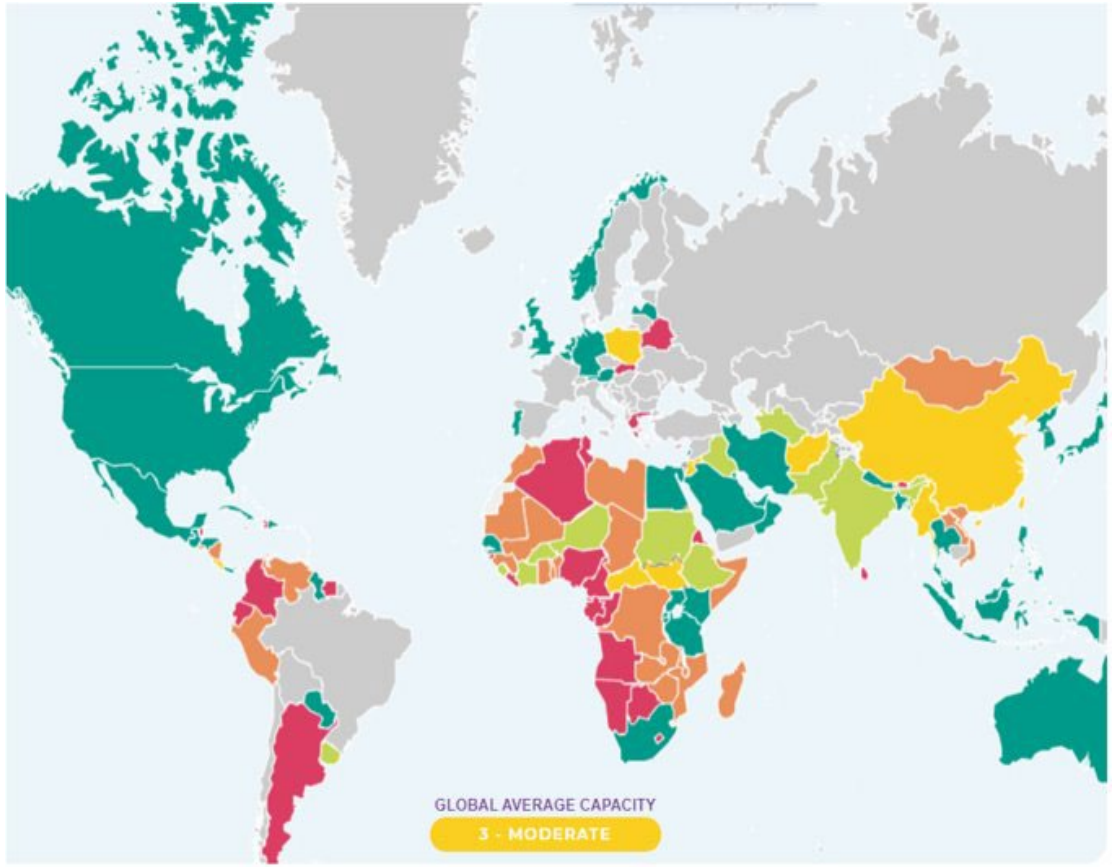
Routine facility and community reporting system with patient monitoring capacity



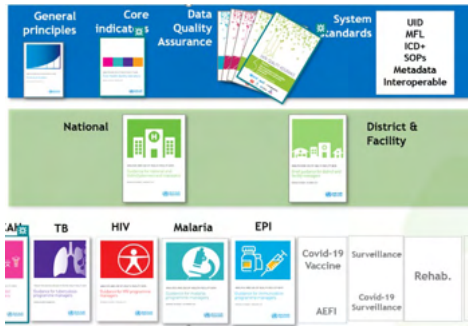
Regular system to monitor service, availability, quality & effectiveness

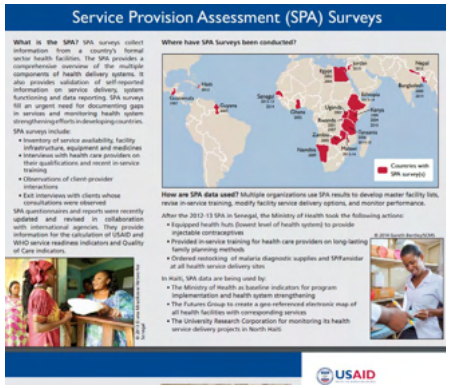


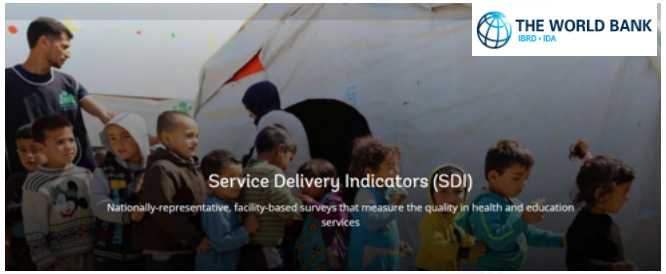
NASCENT LIMITED MODERATE WELL-DEVELOPED SUSTAINABLE

Optimise health service data: Essential Tools

RHIS toolkit







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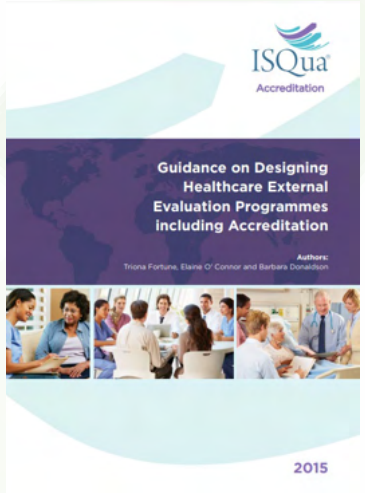
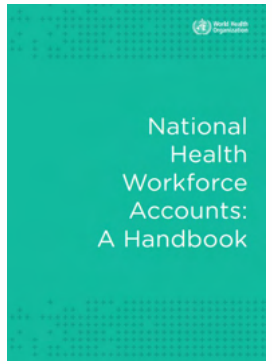




Review Progress and Performance to inform decision: Global Status & Essential Tools

Health Data Collaborative

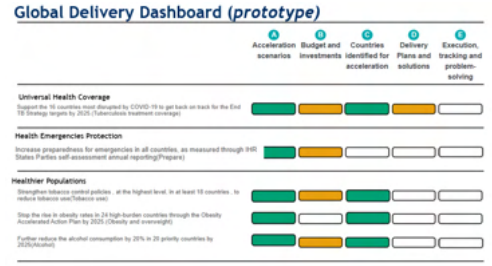
KEY ELEMENTS

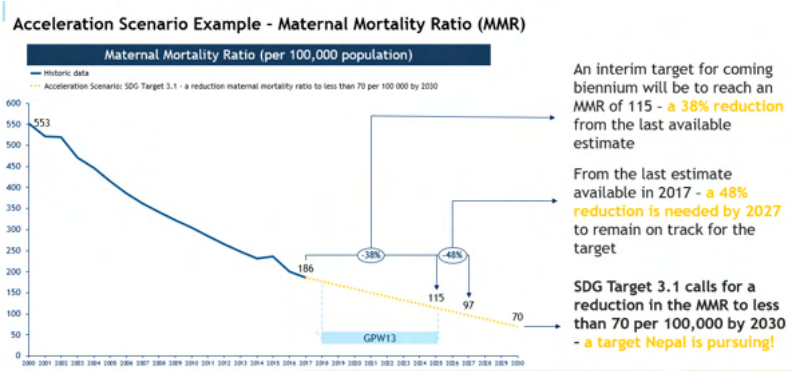
R1. REGULAR ANALYTICAL REVIEWS OF PROGRESS AND PERFORMANCE, WITH EQUITY

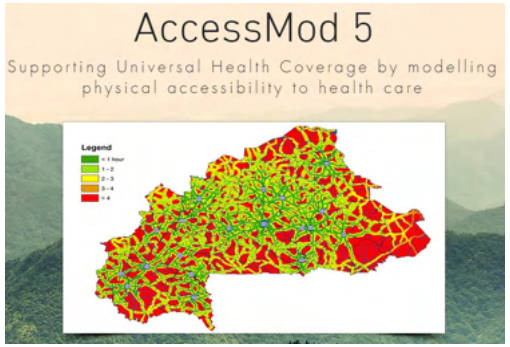
ONLY **38%** of countries review health sector performance by socio-economic status.

R2. INSTITUTIONAL CAPACITY FOR ANALYSIS AND LEARNING

ABOUT **50%** of countries have well-developed or higher capacity





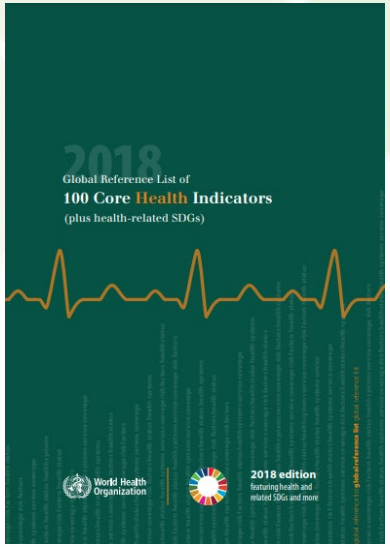


EXEMPLARS IN GLOBAL HEALTH

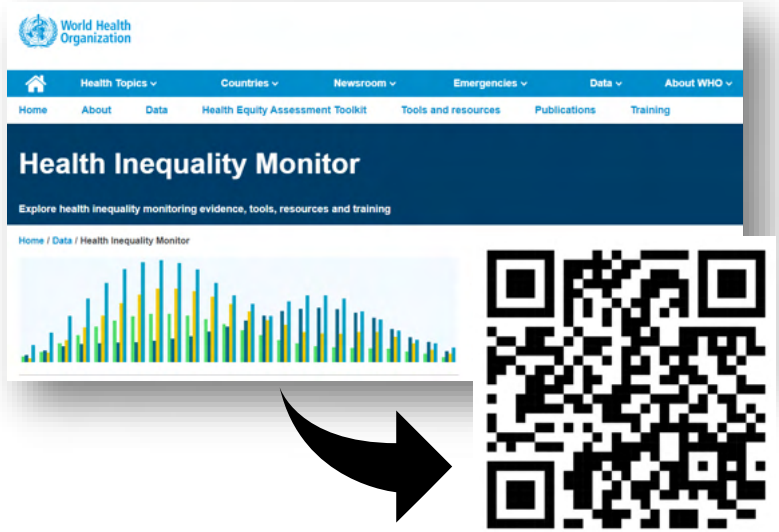
LEADING BY EXAMPLE

A resource for global health decision makers

LiST The Lives Saved Tool



Review Progress and Performance to inform decision: WHO Health Inequality Monitoring tools & resources



WHO Health Inequality Monitor

https://www.who.int/data/inequality-monitor

- **Health Inequality Data Repository**

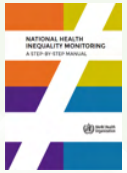
The largest global collection of disaggregated data about health and the determinants of health

- **Health Equity Assessment Toolkit**

Software application for interactive exploration, analysis and reporting of health inequality data

- **Tools and resources**

Including a handbook, step-by-step manuals and statistical codes



- **eLearning courses**

Free and self-paced training courses

Enable Data Use for Policy and Action: Global Status & Essential Tools

Health Data Collaborative

KEY ELEMENTS

E1. DATA AND EVIDENCE DRIVE POLICY AND PLANNING

40%

of countries include health system strength analysis in strategic plans.

E2. DATA ACCESS AND SHARING

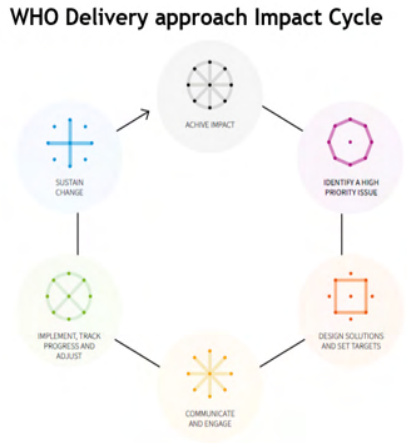
25%

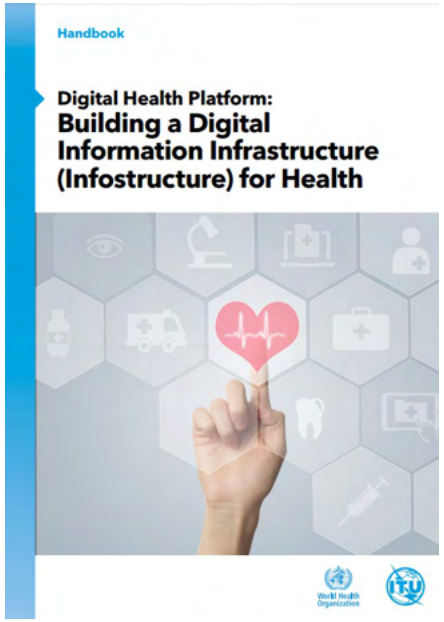
of countries update their global health portal more than once a year.

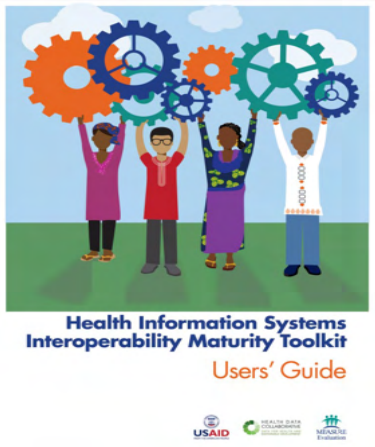
E3. STRONG COUNTRY-LED GOVERNANCE OF DATA

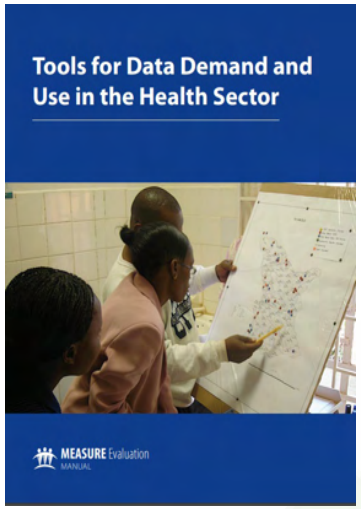
74%

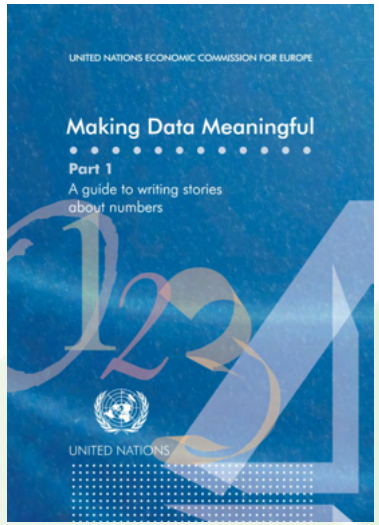
of countries have an M&E plan and a national eHealth strategy.



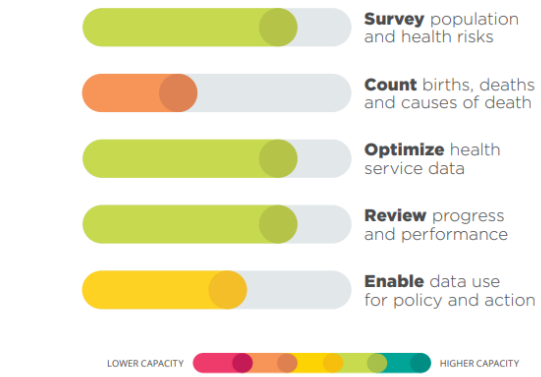








Potential use of SCORE as an investment framework



SCORE

- o Surveillance of public health threats
- o Certification and reporting of causes of death
- o Full birth and death registration

Nepal's weakest SCORE elements as per the assessment

- Drive strategic & operational planning
- Convene partners for HIS investment
- Guide budget discussion with the Ministry of Finance
- Review & monitor progress with periodic SCORE assessments
- Enable deep dive in specific HIS areas

World Health Organization

New frontiers for GIS in Public Health

19 May, 2023

Ravi Shankar

WHO GIS Centre for Health

With a vision of connecting maps, apps, data and people, the WHO GIS Centre for Health is dedicated to supporting countries to make informed public health decisions faster

With an implementation **methodology** that combines **advocacy**, **capacity development**, **service and support**, the Centre provides technical assistance and fosters geospatial capacities for Health at all WHO levels through the Country and Regional Offices with Ministries of Health (MoHs).

Advocacy

- Bilateral Meetings
- Key UN Meetings
- Mission
- Conferences
- Events
- Presence

Service

- Technical Assistance
- Maps
- Projects
- Request
- Conceptualization
- Definition
- Planning
- Execution

Capacity Development & Support

- Workshops
- Training – Online, In-Person
- Webinars
- Events
- Office Hours
- Mentoring
- Missions

Meet the GISC team

The WHO GIS Centre for Health (GISC) team boasts a wide range of skills and backgrounds, spanning across nearly 20 countries and 10 time zones. By connecting maps, apps, data and people, GISC is dedicated to support countries and partners to make informed public health decisions faster and to extend the reach of geospatial information across the Organization.

Adam
Coder, geodatabase specialist

Ali
Monitoring and Evaluation

Ana
GIS specialist, project facilitator

Anare
GIS Specialist

Anna
Spatial biologist

Annette
GIS specialist

Asela
GIS specialist and data expert

Bodour
Project facilitator

Cam
GIS Specialist

Carlos
Geospatial Health Analyst

Catherine
Project facilitator

Chris
Emergency specialist, project facilitator

Cici
Geospatial data scientist

Daniel
GIS server expert

Deen
Statistician

Denise
Monitoring and evaluation

Gopi
GIS Specialist

Ian
GIS specialist

Inge
Training and capacity development specialist

Jaouad
GIS specialist, project facilitator

Jessie
Project facilitator

Jing
Product evangelist

Jo
GIS specialist

Jon
Partnerships

Julia
Geospatial data assistant

Kshitij
Web and IT specialist

Kt
Cartographer

Lucy
Geospatial data assistant

Marc
Project facilitator

Marissa
Administrative support

Michael
Business analyst

Mojdeh
Program support

Nadika
Geospatial Health Analyst

Nick
GIS data and research specialist

Nim
Project facilitator

Nomsa
Business analyst

Oluwaseun
GIS specialist

Paul
GIS Specialist

Prashant
GIS specialist, project facilitator

Ravi Shankar
GIS team lead

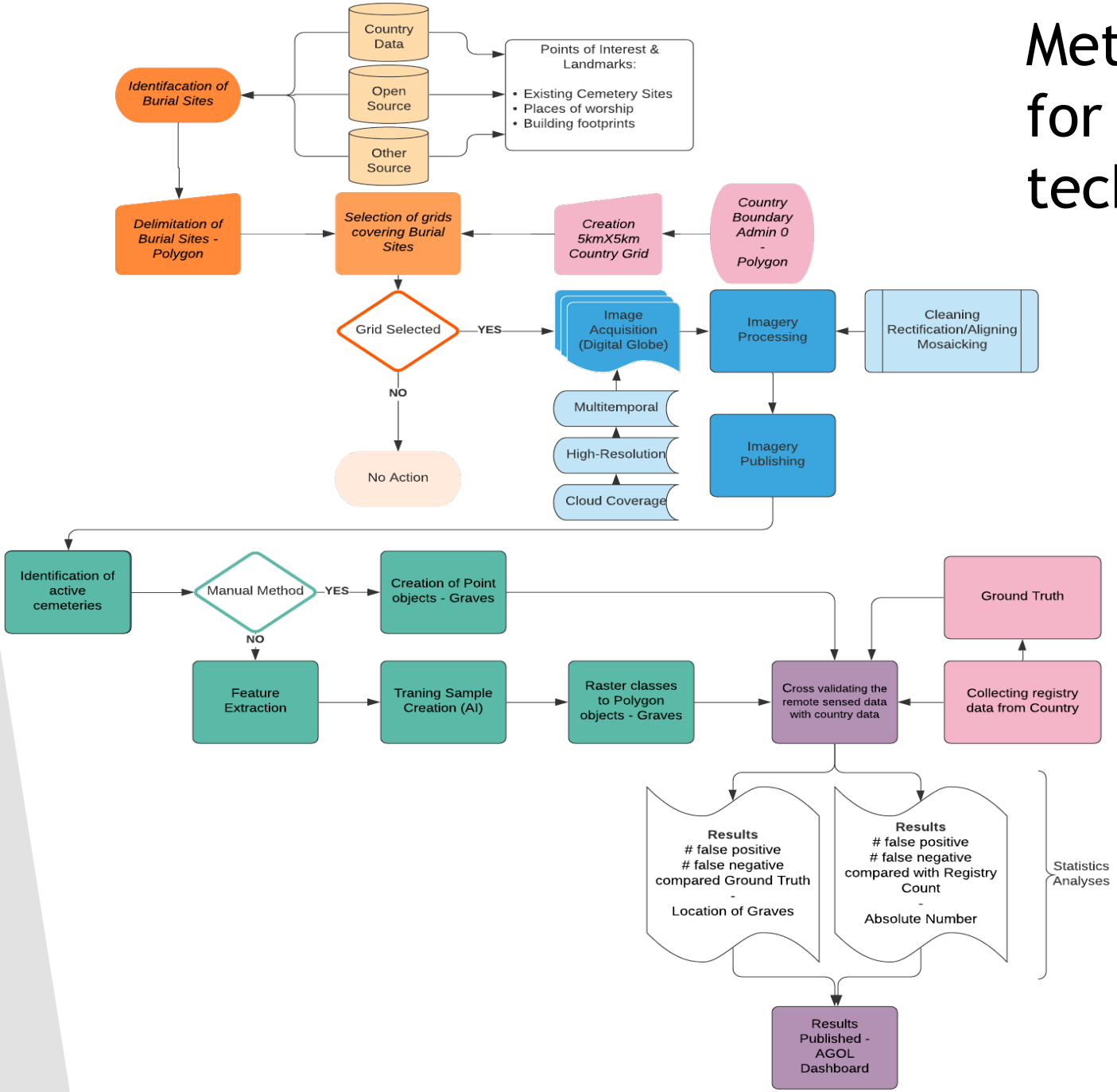
Samuel A.
GIS specialist, project facilitator

Samuel O.
GIS Specialist, Project facilitator

Tamer
GIS specialist, project facilitator

Counting deaths using High Resolution satellite Imagery

Methodology for longitudinal statistical analysis techniques to model burial rates



2016

2018

2019

2020

Between 2019 to 2020 (12 Months)

272

New Graves

Between - 2018 to 2019 (10 months)

122

New Graves

Between -2016 to 2018 (33 Months)

546

New Graves

Upto 2016

301

New Graves

Geo-enabled Microplanning Handbook

Geo-enabled microplanning is the application of geospatial data and technologies to improve last-mile decision-making, ensuring that health services reach every corner of a community. Geographic information systems (GIS) enable microplanners to reach more households more efficiently, sustainably and equitably. The Geo-enabled Microplanning Handbook is a step-by-step resource to designing, planning, implementing, and sustaining a geo-enabled microplan, crowd-sourced from expert authors in the field and facilitated by the WHO-UNICEF COVAX GIS Working Group.

WHO GIS Centre for Health
Division of Data, Analytics and Delivery for Impact

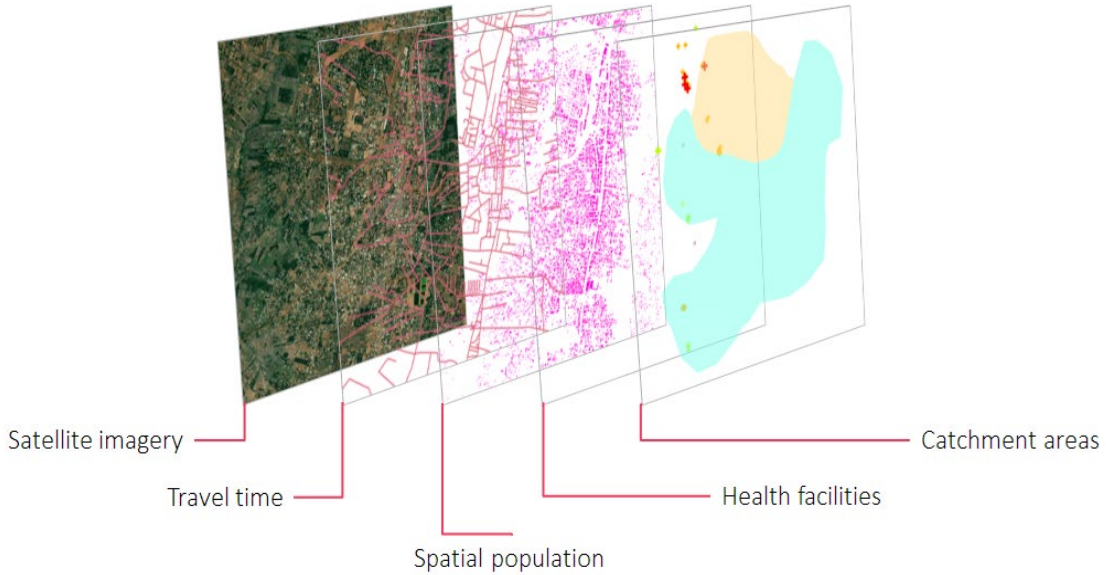
www.who.int/data/gis gissupport@who.int

World Health Organization

Geo-enabled Microplanning

“Geo-enablement” is the application of geospatial data and technologies to the microplanning process.

Microplanning using sketch maps and non digital tools

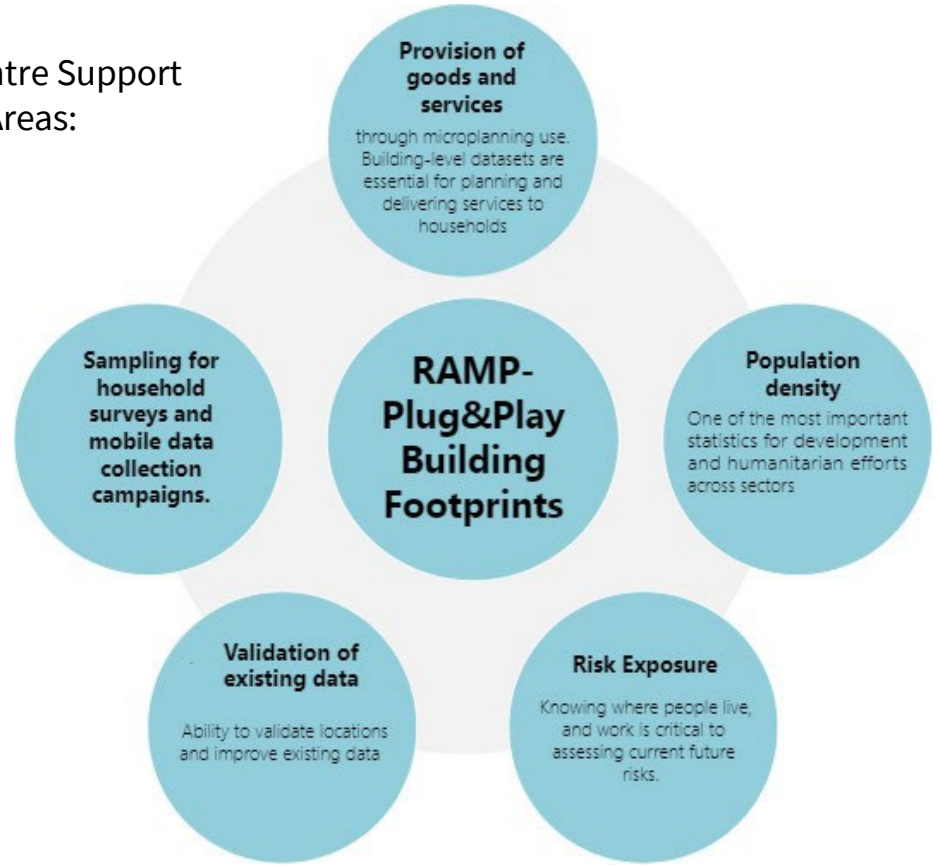


A data-driven and digitally enabled microplan using geospatial data and technologies

RAMP AI Plug&Play

Provides essential capacity to identify buildings, one pivotal layer to supporting humanitarian response.

GIS Centre Support Focus Areas:



Geolocated Health Facilities Data (GHFD) Initiative

The GHFD Initiative prioritizes offering a **georeferenced Health Facility Master List (HFML) per country** that is actively maintained, shared by the MoH, and used for health advancement.

GIS Centre Support Focus Areas:

- Provide the world with the first centralized, accessible, public database with regular synchronization of HFMLs from each country, with the goal to have all 194 WHO Member States regularly updating the HFML by 2027.
- Provision of global database with each of the following:
  - Contact details of the HFML focal point
  - Official definition of the health facility concept
  - Classification table of health facility types
  - Link to the HFML on MoH's website
  - Specific data elements extracted from HFML (unique identifier, official name, type and location) to which WHO will add a global unique identifier.

The GHFD initiative works with MOHs:

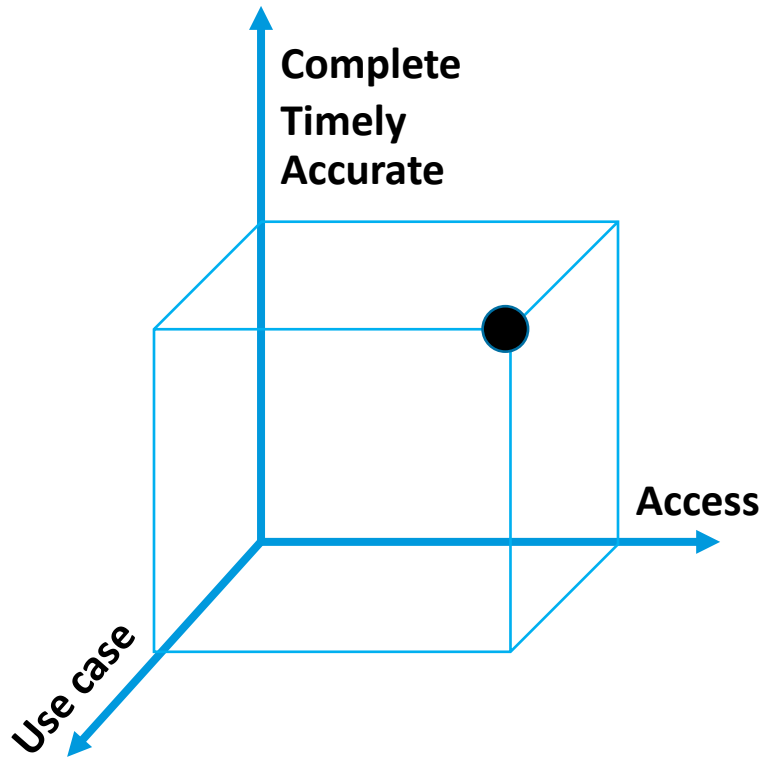
Manage elements:

1. Unique ID
2. Name
3. Type
4. Location

Share:

1. MOH Website
2. Global Directory

NOTE: Each HFML will have health facility definition, classification table, and metadata.



Understanding the landscape

GHFD Initiative Strategic Framework

STRATEGIC OBJECTIVES

National Level
MOHs empowered to establish, maintain, openly share and use the HFML

Regional Level
Technical assistance available for countries to establish, maintain, share and use HFMLs

Global Level
Supporting environment in place to establish, sustain and share countries' HFMLs through the GHFD

STRATEGIC PATHWAYS

Seven strategic pathways act as enablers to support the implementation and sustainability of the project at the country level.

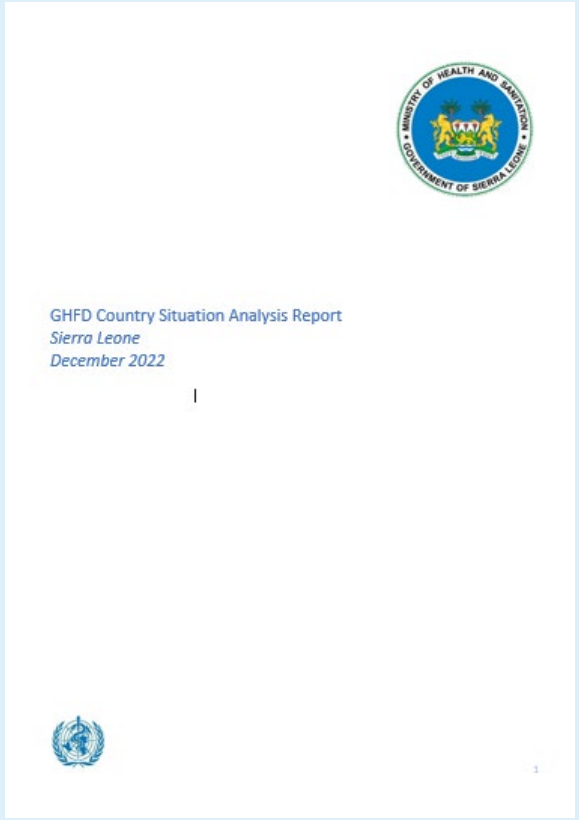
- Governance & Policies
- Advocacy & Communication
- Capacity
- Financial Sustainability
- Partnerships & Collaboration
- Interoperability & Data Management
- Innovation & Technology

GUIDING PRINCIPLES

- Quality
- Openness
- Empowerment
- Cost Effectiveness & Sustainability

World Health Organization

Identified Key Areas of Support for Sierra Leone



Governance and Policies

- Support the MoHS in developing an official SOP document and in enforcing the creation of relevant policies and guidelines

Partnerships and Collaboration

- Partners will have to continuously engage the MoHS on the advantages of public access of the HFML.
- Improve coordination of key stakeholders

Data Management and Interoperability

- Provide support around building a robust health facilities database that can accommodate a wider range of attributes

Innovation and Technology

- Addressing the lack of a functioning GIS setup, including software and hardware
- Improve and increase data-related accessories and equipment for data collection, management, and storing.

Capacity

- Identify possible areas of external support The MoHS is also stretched and understaffed, particularly in ICT. The WHO CO could partner with its IT department to provide external support and assistance.
- Training and support to hire an experienced, permanent GIS professional or department to coordinate all GIS related issues within the MFL's management.

Advocacy and Communication

- Raise awareness of importance of the timely sharing of information across all levels and technical expertise
- Simple, easy-to-access communication materials may also need to be produced.

Financial Sustainability

- Support subcontracting a consultant to assist or seek assistance from WHO through the GHFD initiative for writing proposals.
- Dedicated GIS resource in the MoH to maintain the datasets.

World Health Organization

TIER 1

SIERRA LEONE

WHO Region:	**AFRO**
Population:	**8.4mil**
Health facilities:	**1,558**
Health facility master list publicly available::	**Pending**
Estimated initial investment for the GHFD initiative:	**USD $143,925**

Country Situation Analysis Completed:

Yes | No

CSA Endorsed by Country MoH:

Yes | No

World Health Organization

Partners


OPEN DATA WATCH


Gavi
The Vaccine Alliance


wellcome


UNIVERSITY OF
OXFORD


CDC
CENTERS FOR DISEASE
CONTROL AND PREVENTION


unicef


MORU
Tropical Health Network


IQVIA


BILL & MELINDA
GATES foundation


intentional futures


HOT
Humanitarian
OpenStreetMap
Team


eHealth
AFRICA


GRID3


World Health
Organization


iMC worldwide


Humanitarian
Data Exchange


Palladium
MAKE IT POSSIBLE


WorldPop


BLUESQUARE


esri


CLINTON
HEALTH ACCESS
INITIATIVE


FLOWMINDER.ORG


KEMRI | Wellcome Trust


PDC | GLOBAL


PEPFAR
U.S. President's Emergency Plan for AIDS Relief


UNFPA


CCIH
Christian Connections
for International Health


World Health
Organization

AccessMod Next Generation

GIS Centre Support Focus Areas:

- Developing version 5 of the online platform in partnership with the University of Geneva to **support health facility accessibility determination and GIS capabilities** as part of Universal Health Coverage (UHC).

Current AccessMod Tool Developed Capabilities:

- Current standalone AccesMod tool available online and developed in partnership with BlueSquare for accessibility analysis.
- This means that from a web browser, Users can determine the **time needed to reach the nearest facility.**
- Decision-makers can determine:
  - **The percentage of population in a target area with access to health facility.**
  - **Where a new health facility can be added to meet the population needs.**

Access to Healthcare

Scenarios: Scenario 2 | New | Manage | % Counts/Percents | Sign In

Learn more about access to healthcare...

Layers | Analysis

Target Population

- All
- Maternity
- Children

Travel Mode

- Walk
- Bike
- Ride
- Walk / Ride

Hospitals

Use Hospitals *(42 + 3)* | Add

Excluded Hospitals

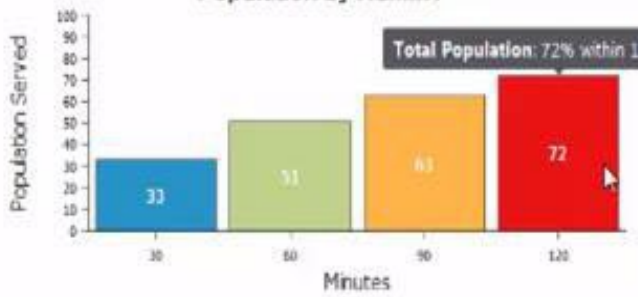
Health Centers

Use Health Centers *N/A* | Add

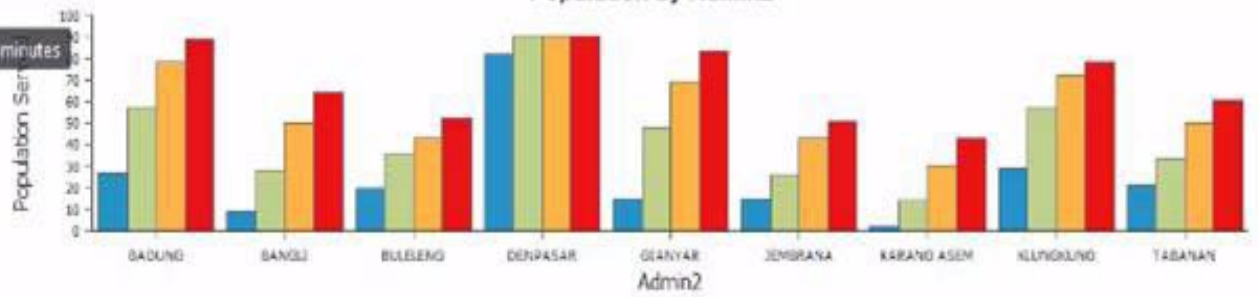
Excluded Health Centers

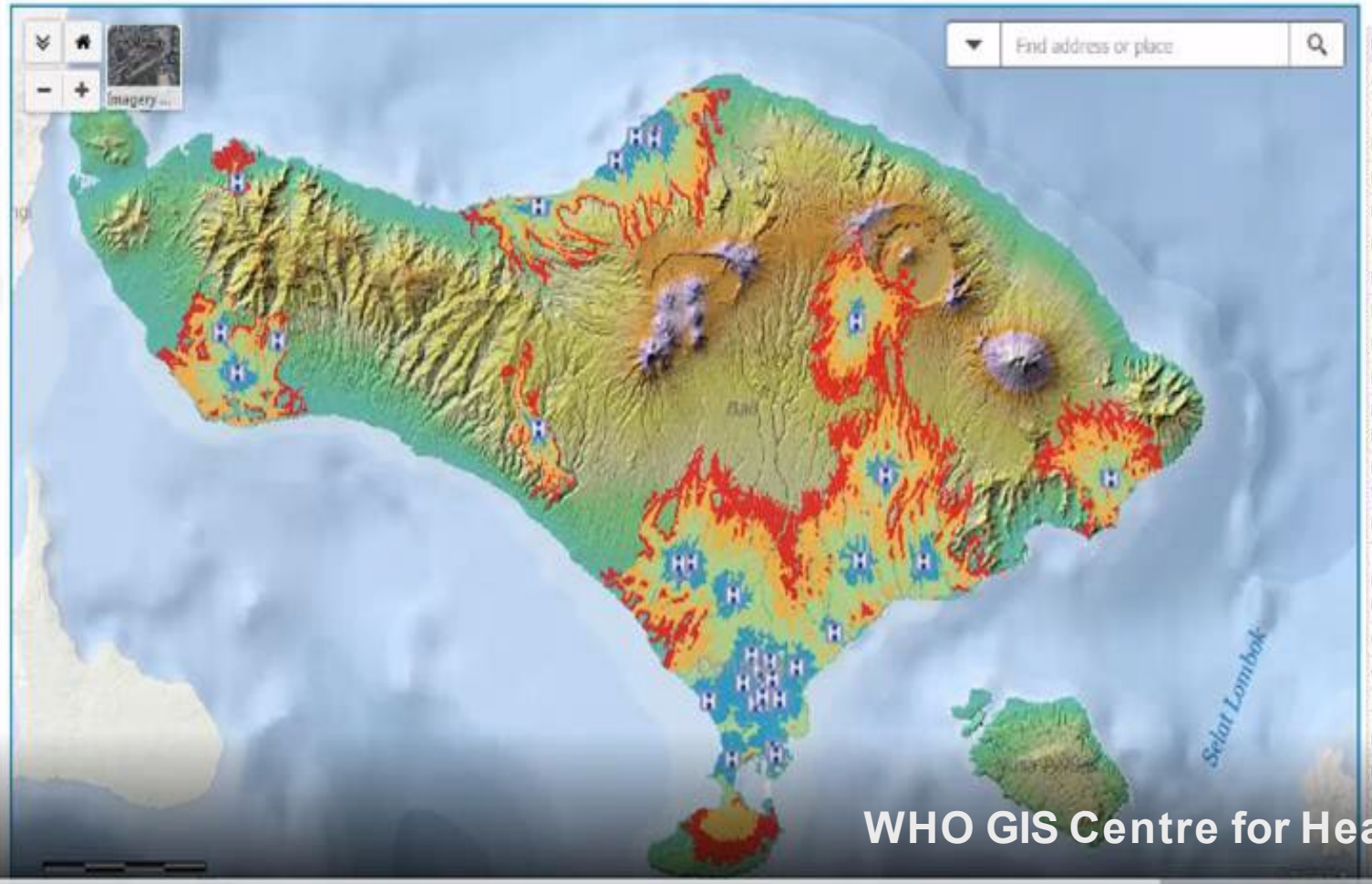
Calculate Access to Health Care

Population by Admin1



Population by Admin2





Population by Admin3

Name	30	60	90	120
ABANG			13	29
ABIANSEMAL	1	29	70	88
BANGLI	30	51	76	88
BANJAR	8	40	52	61
BANJARANGKAN	13	55	82	92
BEBANDEM	1	23	66	86
BLAHBATUH	12	75	94	96
BULELENG	71	85	90	90
BUSUNGBIU			0	21
DAWAN	4	39	74	89
DENPASAR BARAT	85	90		
DENPASAR SELATAN	75	88	88	89
DENPASAR TIMUR	85	90	90	
DENPASAR UTARA	85	92	92	
GEROKGAK	0	0	0	14
GIANYAR	42	83	96	98
JEMBRANA	30	59	80	85
KARANGASEM	10	43	70	82
KEDIRI	27	47	79	94
KERAMBITAN	14	32	66	78
KLUNGKUNG	63	90	94	96

2:42 / 3:43

WHO GIS Centre for Health, DNA/DDI

Health Data Collaborative

Session 4: Advocacy & Action

Proposed action to move these agendas forward - 2023-2024

Session 4: Action to invest and improve HIS & data governance in countries

Moving from principles & recommendations to action

Improved investment in country HIS and stronger health data governance (2023/24)

This is what we've heard...

Importance of data (HIS and HDG) for improved health outcomes and UHC/SDGs

- **Stronger HIS** - interoperability and integration of systems; reduce duplication and fragmentation; strengthened data collection and monitoring; capacity; infrastructure; data utilisation and analysis; data-driven policy
- **Stronger HDG** - data protection & facilitating data sharing for public good; address fragmentation/non-alignment of regulation/standards; facilitate cross-border data flows; govern data collection/use of all actors; stronger regulation/HDG frameworks

→better/more equitable health outcomes + build trust in data systems

- Governments in the driver's seat (setting the agenda)
- Multi-stakeholder collaboration
- Partnership
- Inclusive approaches
- Learning from countries and good practices (and from challenges)
- People centred
- Equity and rights based
- Sustainable solutions

Proposed action to strengthen health data governance

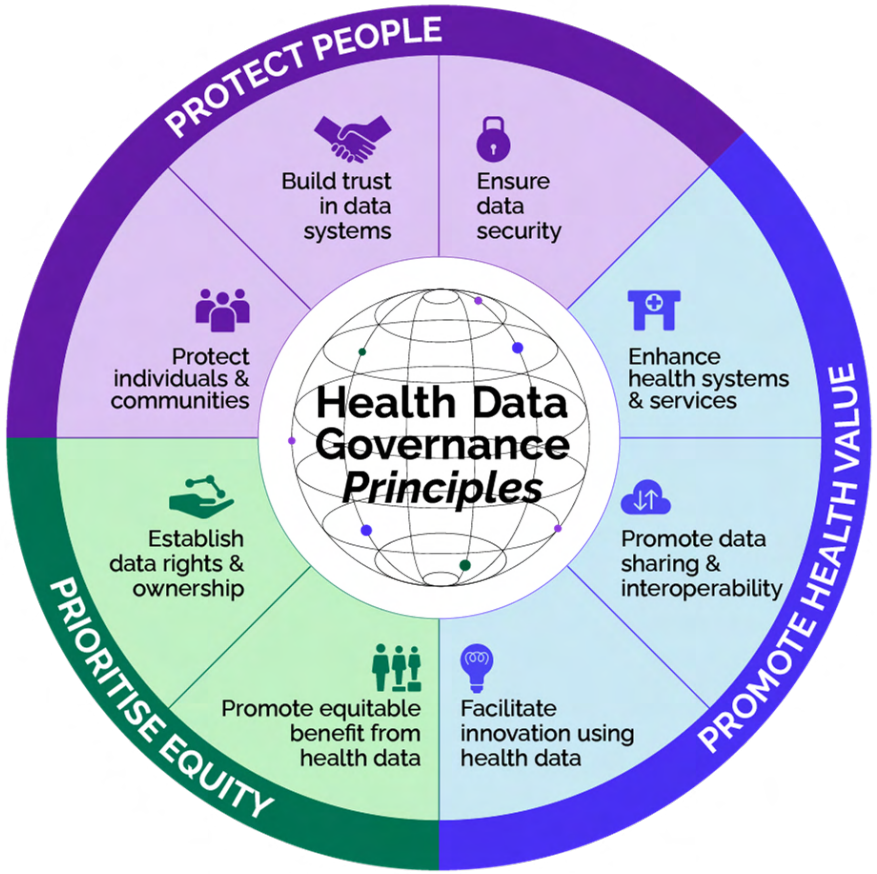
Develop a **global health data governance framework** - for adoption through a World Health Assembly resolution (WHA77 - May 2024)

- **Driven by governments** - calling on WHO (e.g. at WHA and directly) to lead the process on behalf of/together with Member States; championing the process; sponsoring a WHA77 resolution.
- **Strengthen country consensus and alignment on common regulatory standards** - to strengthen national legislation/regulation and govern health data sharing across countries (going beyond technical aspects).
- Process **facilitated by WHO, HDC (and others?)** on behalf of governments, with the support of partners from multiple sectors.
- Developed through a **transparent, inclusive multi-stakeholder process**, with meaningful engagement of civil society and communities.

Roadmap towards a global framework

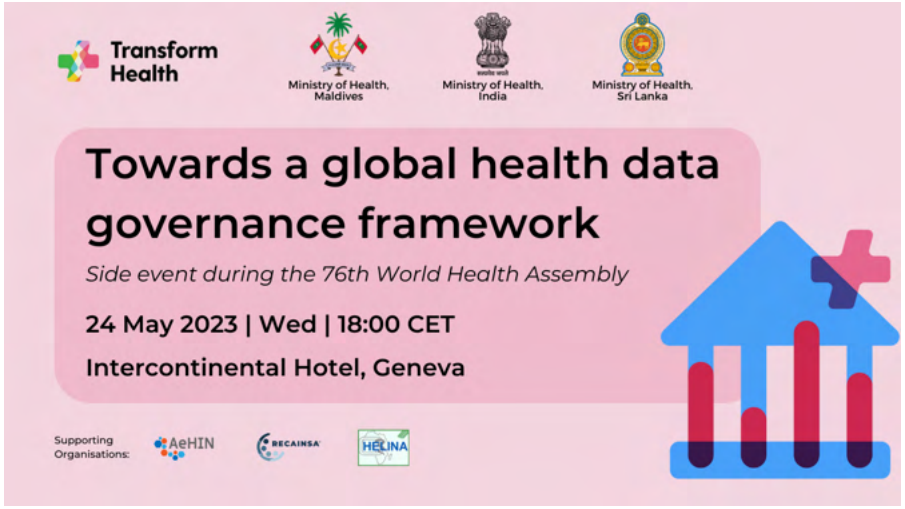
- **May 2023:** Concrete actions and government support to initiate development of a global framework.
- **June-Oct 2023:**
  - Inclusive process to develop global framework.
  - Key moments/events/processes/initiatives leveraged to advance progress and consult with stakeholders.
- **October 2023**: Draft resolution for adoption of a Framework proposed for inclusion on 154th WHO Executive Board meeting agenda.
- **January 2024**: Draft resolution tabled at WHO Executive Board meeting.
- **January to May 2024**: Member States prepare for resolution to be adopted at 77th World Health Assembly in May 2024.

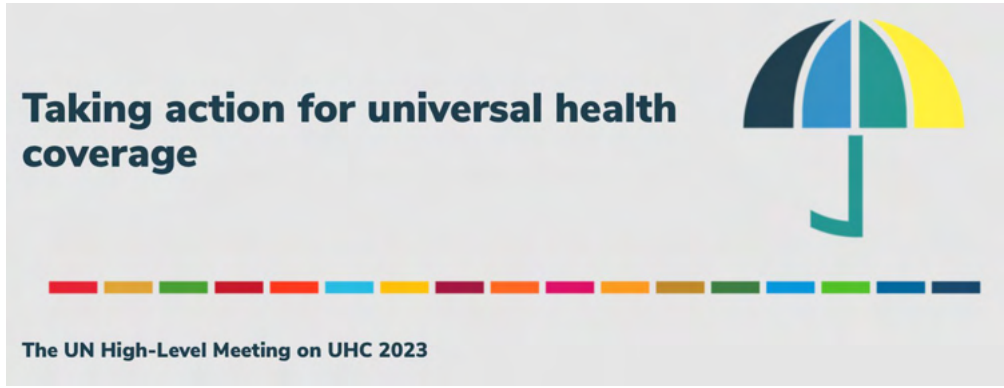
Approach to developing a global framework



- Based on **guiding principles** - e.g. health data governance principles
- Complement/incorporate **existing duty obligations** and **global standards**
- Build on/learn from **good data governance practices** (and challenges)
- Learn from the **existing landscape** - e.g. evidence/analyses, principles, tools
- Inclusive/consultative approach to bring in **wide perspectives and expertise**
- Leverage inputs and **guidance from experts**

Opportunities to advance efforts in 2023/24





SDG SUMMIT 2023

G20 भारत 2023 INDIA

AFRICA CDC
Centres for Disease Control and Prevention
Safeguarding Africa's Health

Global Digital Compact

Common Agenda

Health Data Collaborative

WORLD HEALTH SUMMIT

HIS next steps

Health Data Collaborative

1. Country focus
- 26 countries by 2025
- SCORE as a framework
- Timing aligned with planning and budget cycles

2. Capacity building
- Analysis & use
- Regional and national institutes

3. Communications & build momentum
- Blogs / advocacy 2023-24
- Political events
- Common messaging

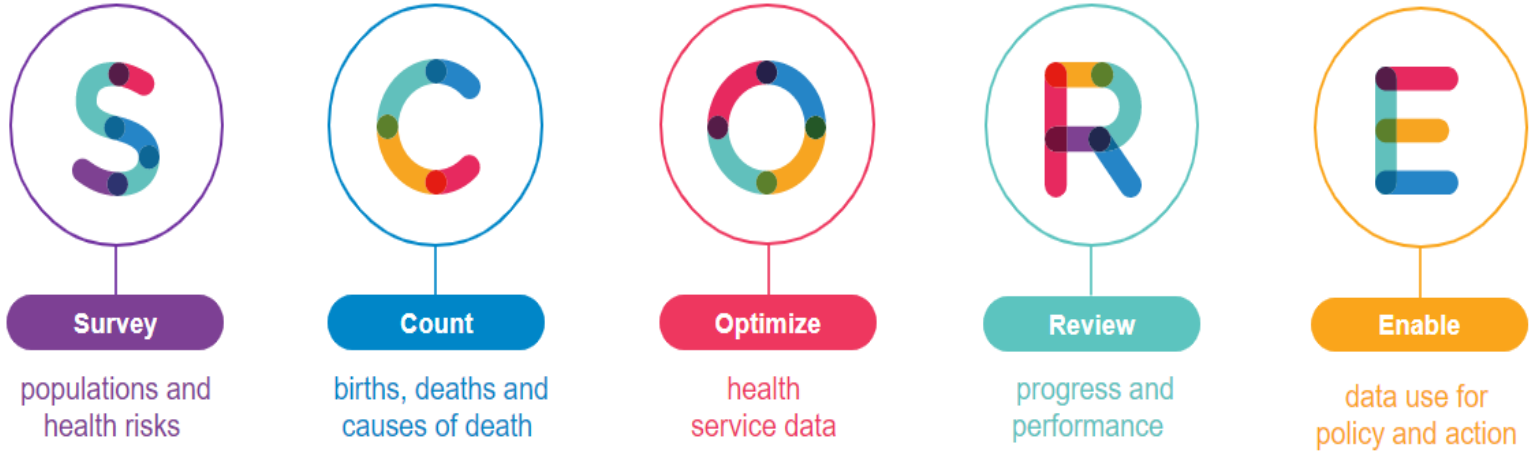
4. Making the case
- Social & Economic
- Broader than health – linking to SDG outcomes

HDC SDG3 GAP partnership platforms

- Globally
- In countries
- Country leadership focused on planning and budgeting cycles
- Partnership approaches solution orientated

SCORE & Objectives

A WHO initiative to assist Member States in assessing, monitoring and strengthening their health data systems consisting of five interventions



SCORE

- Assessment tool, trends in HIS
- CRVS – equity focused
- Range of possible interventions
- One common survey?
- Links with planning and policy

How can we take this forward together?

- General reflections on proposed next steps and suggested timeline?
- How can we strengthen the regulatory environment for stronger and more equitable health data governance?
- How can we align technical and financial resources for strengthened HIS and health data governance in countries?
- What opportunities can we leverage over the next year to further progress?
- What governments can champion and drive these agendas?
- What stakeholders can/should work with governments to help facilitate/support this work?
- How can we ensure diverse stakeholder voices are included (e.g. civil society and communities)? How can we engage the UHC/SDG community?

Health Data Collaborative

Partner Roundtable

Setting the context for Partner Roundtable

Health Data Collaborative

Summary of country needs for investment in HIS and good data governance

*Onalenna Seitio-Kgokgwe (Deputy Permanent Secretary Health Policy Monitoring, Evaluation and Quality Assurance, **Botswana** Ministry of Health and Wellness and co-chair of the HDC)*

SDG3 Global Action Plan: Lessons learned and possible model for supporting countries

*Hendrik Schmitz / Isadora Quick (**SDG3 GAP Secretariat**)*

Better Data for Better Health

Investing in Country Health Information Systems to Accelerate Progress toward Health-related SDG

18-19 May 2023

Geneva

Countries Perspectives

Countries represented

- Botswana
- Cameroon
- Ethiopia
- Zambia
- Tanzania
- Uruguay
- South Sudan
- South Korea
- Maldives
- Malawi
- Nepal
- Pakistan
- Togo
- **ALL OTHER COUNTRIES- NOT HERE**

Country Needs for Investment

Area	Countries Status	Required Partner Support
Leadership & Governance for HIS	▪ Existence of structure responsible for HIS/M&E ▪ Existence of sector & HIS policies, strategies, frameworks and plans ▪ Challenges remain in legislative frameworks–especially around data sharing across countries, data security etc	▪ Align support with country priorities identified on strategic plans **ONE PLAN** ▪ Acknowledge and support countries to take leadership and control/**COUNTRIES ON THE DRIVING SEAT** ▪ Support single monitoring & evaluation framework **ONE M&E FRAMEWORK AND SYSTEM** ▪ Support development of in-country governance frameworks/ adaptation of global frameworks

Area	Countries Status	Required Partner Support
HIS Resources- Infrastructure , Systems & Technologies	▪ Most countries use DHIS 2 or have some form of national electronic system ▪ Fragmented systems with varying levels of investment ▪ Other countries are predominantly paper based	▪ Subscribe to and support/strengthen national electronic system. **DO NOT ESTABLISH PARALLEL SYSTEMS** ▪ Fund development of comprehensive and integrated systems to improve efficiency of data management. **FUND NATIONAL PRIORITIES-**

Area	Countries Status	Required Partner Support
HIS Resources- Human Resource for HIS	▪ Countries use health worker for collection and management of health data ▪ General lack of data management and analysis skills ▪ Inadequate numbers	▪ Support countries in capacity building at different levels ▪ **Training** **Subnationa**l- data collection, management, analysis (TOT) **National- Technical** Data analytics, reporting, promoting data use **National- Leading & managing :** Data driven decision making - **Preservice-** Long term sustainability- integration of data science concepts and skills in preservice curricula • **Technical Assistance-** skills transfer • **Budget support for additional HR**

We Thank you

Better data for better health
Presentation of SDG3 GAP progress
HDC – 19 May 2023

WHAT WORKED?
WHAT DIDN'T?
WHAT'S NEXT?

2023
progress report on the Global Action Plan
for Healthy Lives and Well-being for All

About SDG3 GAP – *Stronger Collaboration, Better Health*

Stronger multilateral collaboration to accelerate SDG progress

GOAL: Accelerate progress towards the health-related SDGs.

HOW: Improve SDG-focused collaboration and joint action among multilateral agencies in support of national priorities.

WHO: 13 multilateral agencies:

Gavi The Vaccine Alliance
GLOBAL FINANCING FACILITY
International Labour Organization
The Global Fund
UNAIDS
UNDP
UNFPA
unicef
Unitaid
UN WOMEN
THE WORLD BANK
WFP World Food Programme
World Health Organization

WHY:

Global health architecture is complex, sometimes leading to duplication, inefficiencies and a high burden on countries.

Many countries are off-track to achieve the health-related SDG targets by 2030.

Stronger collaboration across the multilateral agencies is one way to accelerate progress towards the health-related SDGs.

2023 Progress report - Context

- **SDG3 GAP was launched in 2019** as a self-commitment of 13 multilateral agencies to collaborate better in support of countries' efforts to achieve the health-related SDGs

- **2023 is the mid-point to the SDGs** and the world is going only at a fraction of the pace needed to achieve the SDGs by 2030

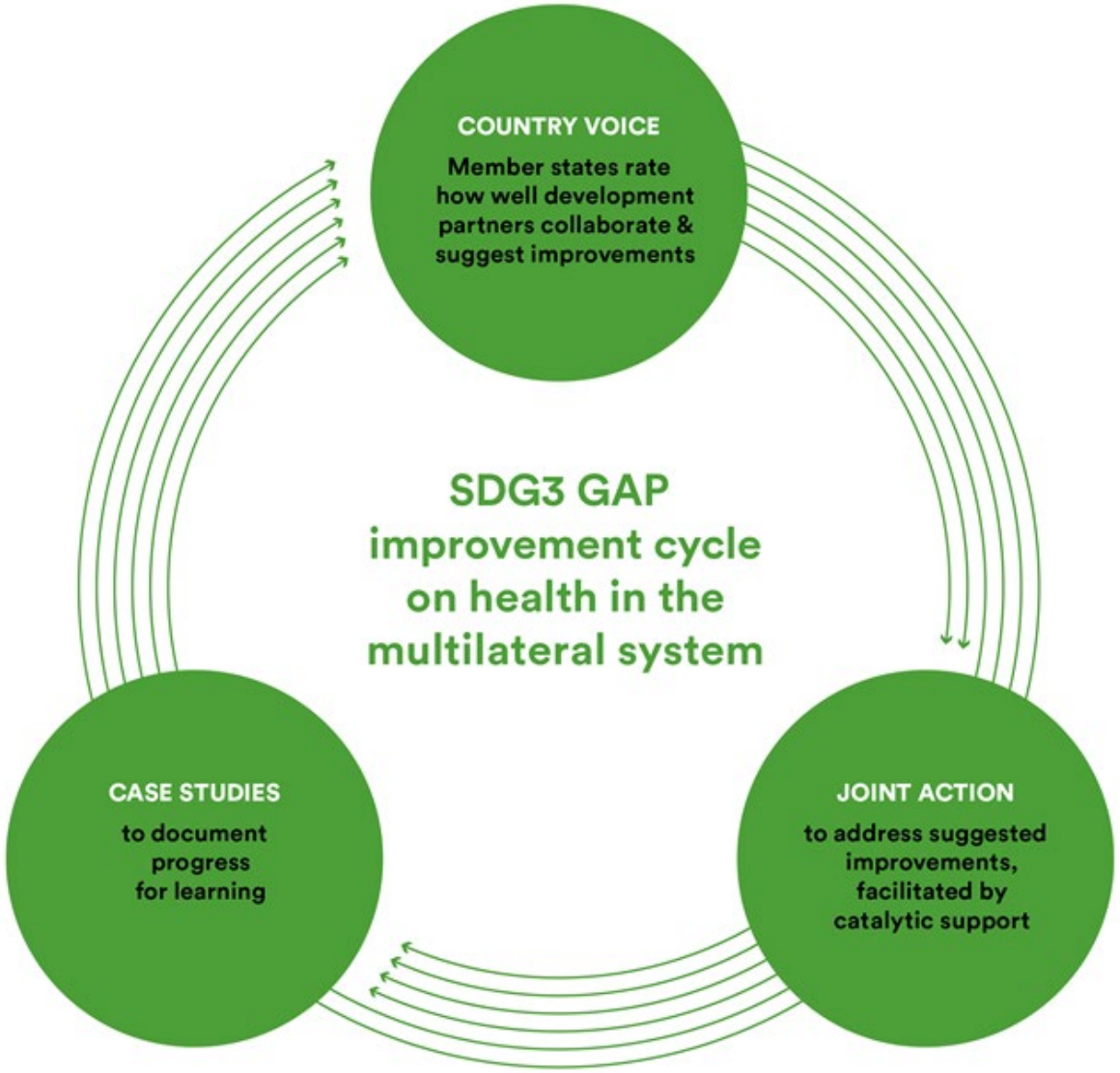
- **Enhanced collaboration** within the multilateral system is therefore **more important than ever to help accelerate progress** towards the SDGs

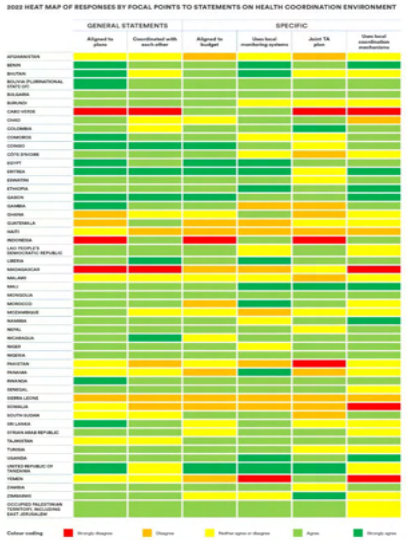
- Through the 2023 progress report, SDG3 GAP agencies discuss what has worked and what has not worked since 2019 and make **6 recommendations for the future**.

What has worked under the SDG3 GAP?

1. SDG3 GAP provides an **improvement cycle on health** in the multilateral system
2. SDG3 GAP provides **structures for collaboration**
3. **Country-level** specific and thematic approaches show promise

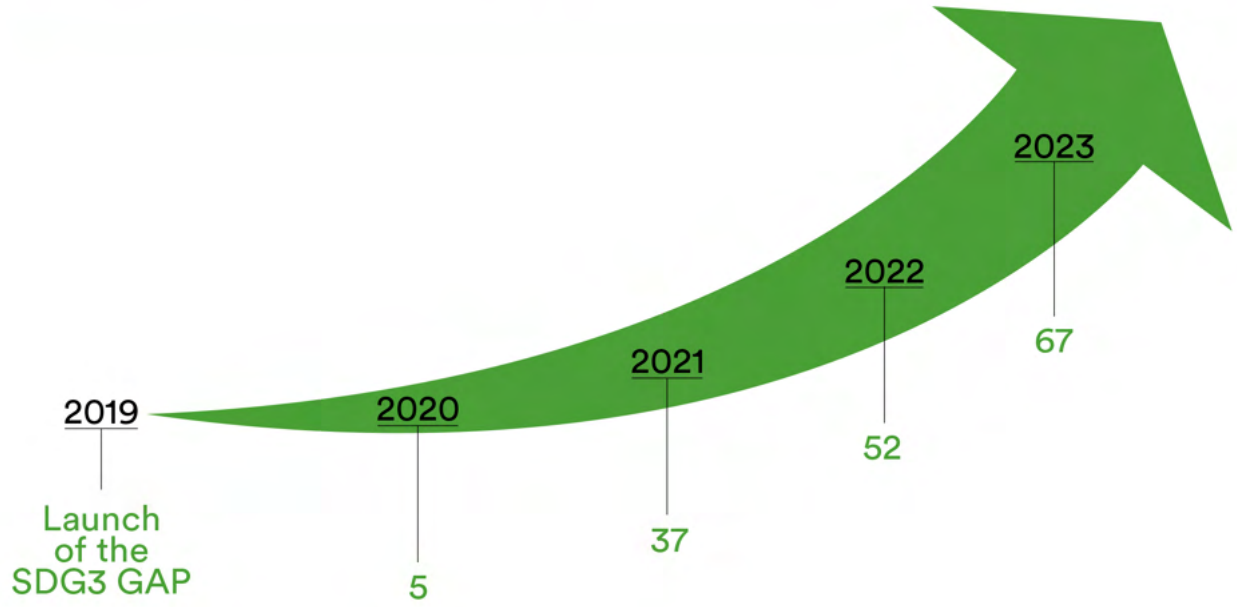
FIGURE 1: SDG3 GAP improvement cycle on health in the multilateral system



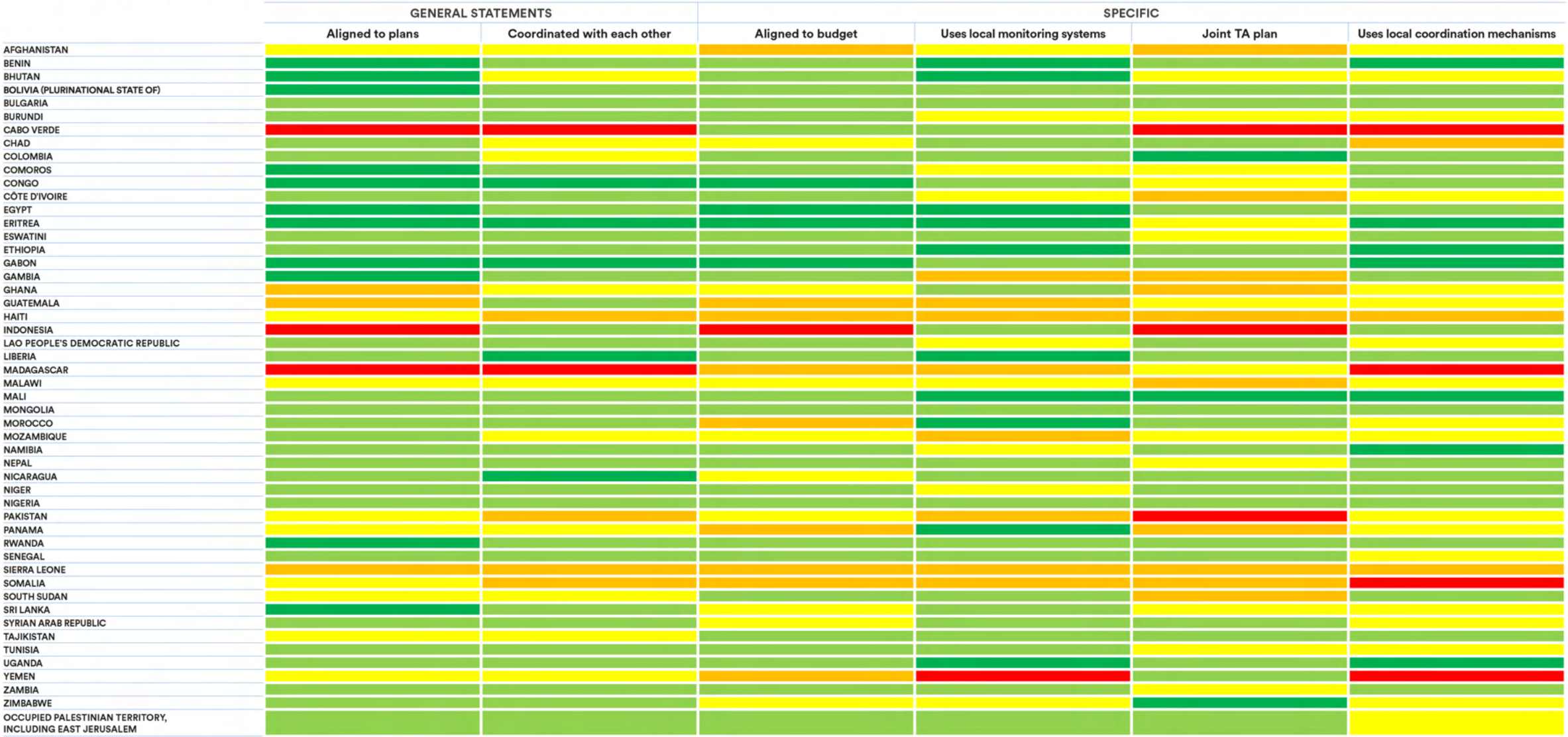


What has worked under the SDG3 GAP?

FIGURE 2: Number of countries engaged under SDG3 GAP, by year



2022 HEAT MAP OF RESPONSES BY FOCAL POINTS TO STATEMENTS ON HEALTH COORDINATION ENVIRONMENT



Recommendations to sustain and bring to scale the elements of SDG3 GAP that are working

1. Strengthen the SDG3 GAP **improvement cycle for health** in the multilateral system: amplify country voices and helps shift power dynamics in favour of countries
    - Roll out the second round of country questionnaires by the end of 2023
    - Make incentives and resources available to catalyse stronger collaboration
    - Publish annual progress reports & case studies to document improvements
2. Maintain SDG3 GAP as an effective **structure for collaboration** on health in the multilateral system
    - Retain current structure of agency focal points & accelerator working groups
    - SDG3 GAP Principals should meet annually to review and discuss progress
3. Better focus work under SDG3 GAP at the **country level** and foster greater cross-accelerator collaboration in countries
    - Further emphasize successful country approaches
    - Implement coordinated country action with clear targets

What has not worked under the SDG3 GAP?

4. Translation of SDG3 GAP commitments into **action at the country level** has varied considerably
5. Initial **engagement of civil society** at the SDG3 GAP's inception has not been sustained
6. **Incentives for collaboration**: SDG3 GAP illustrates that "self-commitments" by agency principals at the global level may improve collaboration but can only achieve so much in the absence of external incentives that reinforce collaboration, esp. at country level

Recommendations to address the elements of SDG3 GAP that are not working

4. Enhance joint **action at the country level** through new approaches, such as delivery for impact
5. Strengthen **engagement of civil society** and communities through consultations to explore their interest in contributing to work under SDG3 GAP
6. Strengthen **incentives for collaboration** in the areas of
    - *Political leadership*: work with MS to develop and implement an approach to strengthen ownership and accountability to countries
    - *Governance direction*: each relevant agency governing body could review the annual progress reports and country-level coordination and alignment
    - *Funding for collaboration*: agencies should demonstrate what efforts are being mobilized to drive and deepen collaboration

Next steps

Through this progress report, and in the run-up to the 2023 SDG Summit and the other high-level meetings of the United Nations General Assembly in September 2023, SDG3 GAP agencies will:

- Consult with Member states, civil society and interested stakeholders to understand how best to jointly implement the 6 recommendations for the future
- Collaborate with other initiatives such as the GFF Alignment Working Group and the Future of Global Health Initiatives to improve collaboration

We have made important progress, but we still have a long path to travel to improve the way that multilateral organizations work together to support countries. We must listen to what countries tell us and act upon their guidance. I thank the partners for their collaboration and for the honest self-assessments contained in this report.

Dr Tedros Adhanom Ghebreyesus,

WHO Director-General and Chair of the SDG3 GAP Principals Group


Gavi
The Vaccine Alliance

GLOBAL
FINANCING
FACILITY

International
Labour
Organization

The Global Fund

UNAIDS

UN
DP

UNFPA

unicef

Unitaid

UN
WOMEN

WORLD BANK GROUP

WFP
World Food
Programme

World Health
Organization

Better data for better health: possible use of SCORE for health data as a framework for partner alignment and to accelerate progress towards health-related SDGs

Health Data Collaborative

Main objectives:

1. Comparative advantages of each partner organisation and approaches for better alignment with country priorities
2. Stepping up country capacity from 2018 SCORE assessment to 2024/25 assessment
3. Prioritising support on Least-developed Countries by 2024

Partners share insights to the following themes:

- Effective partner collaboration: better alignment amongst donors to prioritise investment and promote good data governance practices
- Aligning partner priorities with country priorities
- Strategies to attract investment in country HIS: why is there low or inefficient investment in HIS?
- Operationalising good data governance
- Tracking our collective progress and using HDC platform to leverage comparative advantages

Health Data Collaborative

Conclusions and Action steps

Conclusions, Tashi Chozom

Health Data Collaborative

What is wrong with the current approach?

Same old issues
Poor HIS infrastructure
Low capacity
Fragmented HIS
Fragmented investment
Data access & availability issues

- Sustainability at the core of HIS efforts (~~project based~~)
- Strengthen **national** data systems, technical capacity and regulatory frameworks
- Multisectoral approaches missing
- Embrace different data sources inc. CSOs & private sector
- SCORE: a potential tool to drive HIS investment (countries & partners)
- Political opportunity to make data a strategic asset – HIS and Data Governance: make the economic and social case

Huge political momentum: "Now is the time!"

Effective partner coordination mechanisms

Action steps, Mwenya Kasonde

Health Data Collaborative

- One plan, one M&E framework led by Govt
- Develop **Data Governance** framework underpinned by **trust &** equity in 2023-4
- Investment HRH **capacity building** of HCWs & **digital infrastructure, especially in rural areas**
- Align with country **planning** & budget cycles
- **Request for GIS support** from **South Sudan, Togo and Cameroon**
- Support in country HDC platforms

Data Governance and HIS

Health Data Collaborative

1. Country focus & Govt driven
- 26 countries by 2025
- SCORE as a framework
- Timing aligned with planning and budget cycles

2. Capacity building
- Analysis & use
- Regional and national institutes

3. Communications & build momentum
- Blogs / advocacy 2023-24
- Political events
- Common messaging

4. Making the case with others
- Social & Economic
- Broader than health – linking to SDG outcomes

Using HDC SDG3 GAP partnership platforms

- Globally
- In countries
- Country leadership focused on planning and budgeting cycles
- Partnership approaches solution orientated

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