How to assess and continuously improve the maturity of health information systems for better health outcomes

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Digital Transformation of the Health Sector in Latin America and the Caribbean
Washington, DC

USAID
FROM THE AMERICAN PEOPLE

MEASURE Evaluation

Agenda

1. Overview of the United States Agency for International Development(USAID)-funded MEASURE Evaluation
2. Purpose of health information system (HIS) assessment and continuous improvement
3. What to measure for continuous improvement?
4. Introducing the HIS stages of continuous improvement tool
5. Questions and discussion

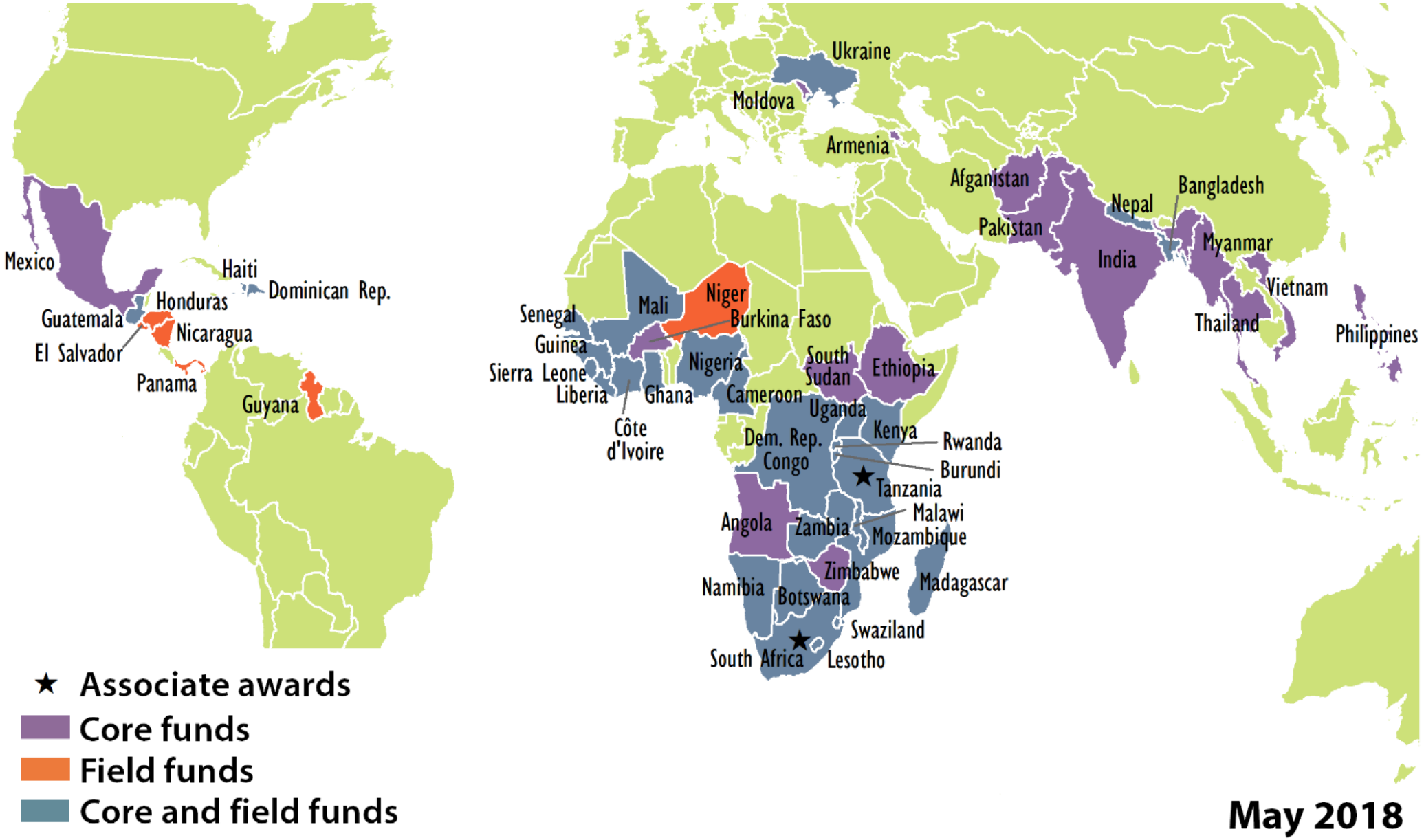
Global, five-year, $232M cooperative agreement

6 partners, led by the University of North Carolina at Chapel Hill (UNC)

Strategic objective

Strengthen capacity in developing countries to gather, interpret, and use data to improve health

Countries where we work



Intermediate results (Phase IV)

Strengthened collection, analysis, and use of routine health data

Improved country capacity to manage health information resources and staff

Methods, tools, and approaches improved and applied to address health information challenges and gaps

Increased capacity for rigorous evaluation

Purpose of HIS assessment and continuous improvement

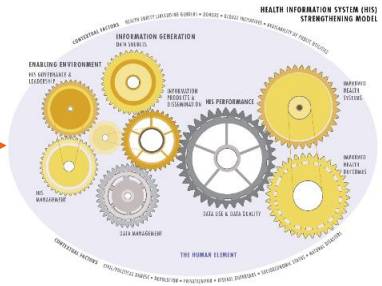
HIS for health system improvement

Health system

Leadership/ governance | Healthcare financing | Health workforce | Medical products, technologies | Information and research | Service delivery

A strong health information system (HIS)

What is a strong HIS?



What are the stages of progression to a strong HIS?

The HIS Stages of Continuous Improvement Toolkit

Intervention tools and packages for HIS strengthening

Performance of Routine Information System Management (PRISM) Tools

Data Demand Use Tools

Interoperability Toolkit

Stages model

A stages model:

- Provides a means of describing stages through which systems can evolve to reach a predefined capability
- Systematic method that is easy to understand and implement
- "Stages," or "levels," refers to the progression toward given performance objectives
- Stages have defined metrics that facilitate progression from one stage to another as a way to characterize improvements

Stages model

What is the added value?

- Identifies stages, domains, and components and subcomponents associated with each domain
- Offers a **holistic** model that demonstrates the interplay of different HIS components
- Strengthens empirical validation and **measurement** indicators
- Provides guidance on **how** to overcome gaps identified by stages or maturity models

Why measure HIS stages of continuous improvement?

Current situation:

- HIS assessment methods and tools focus on individual components
  - For example, these tools focus on data use, data quality, standards, etc., in isolation
- HIS assessments prioritize "as-is" status
  - PRISM, interoperability toolkit

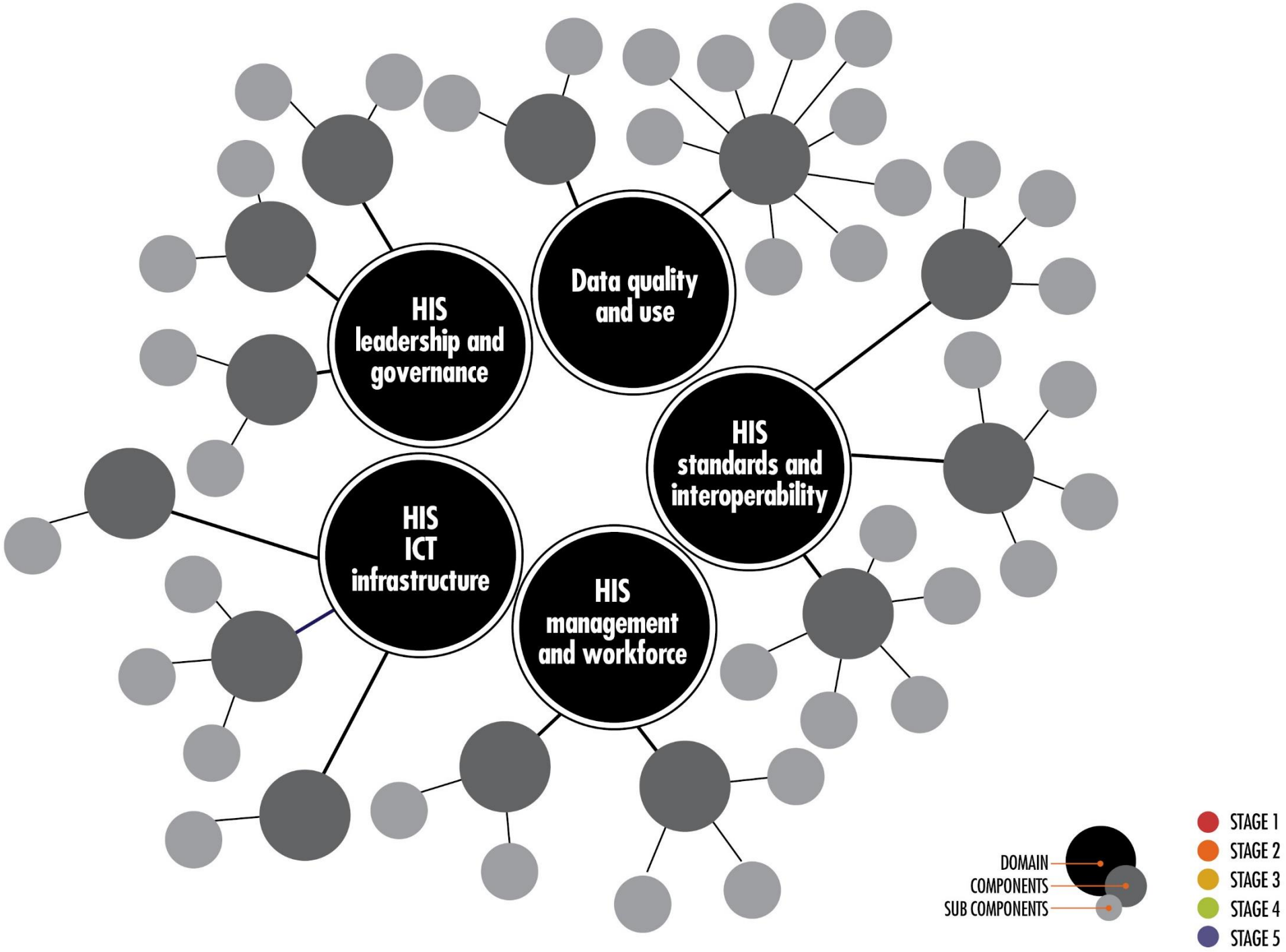
Needs:

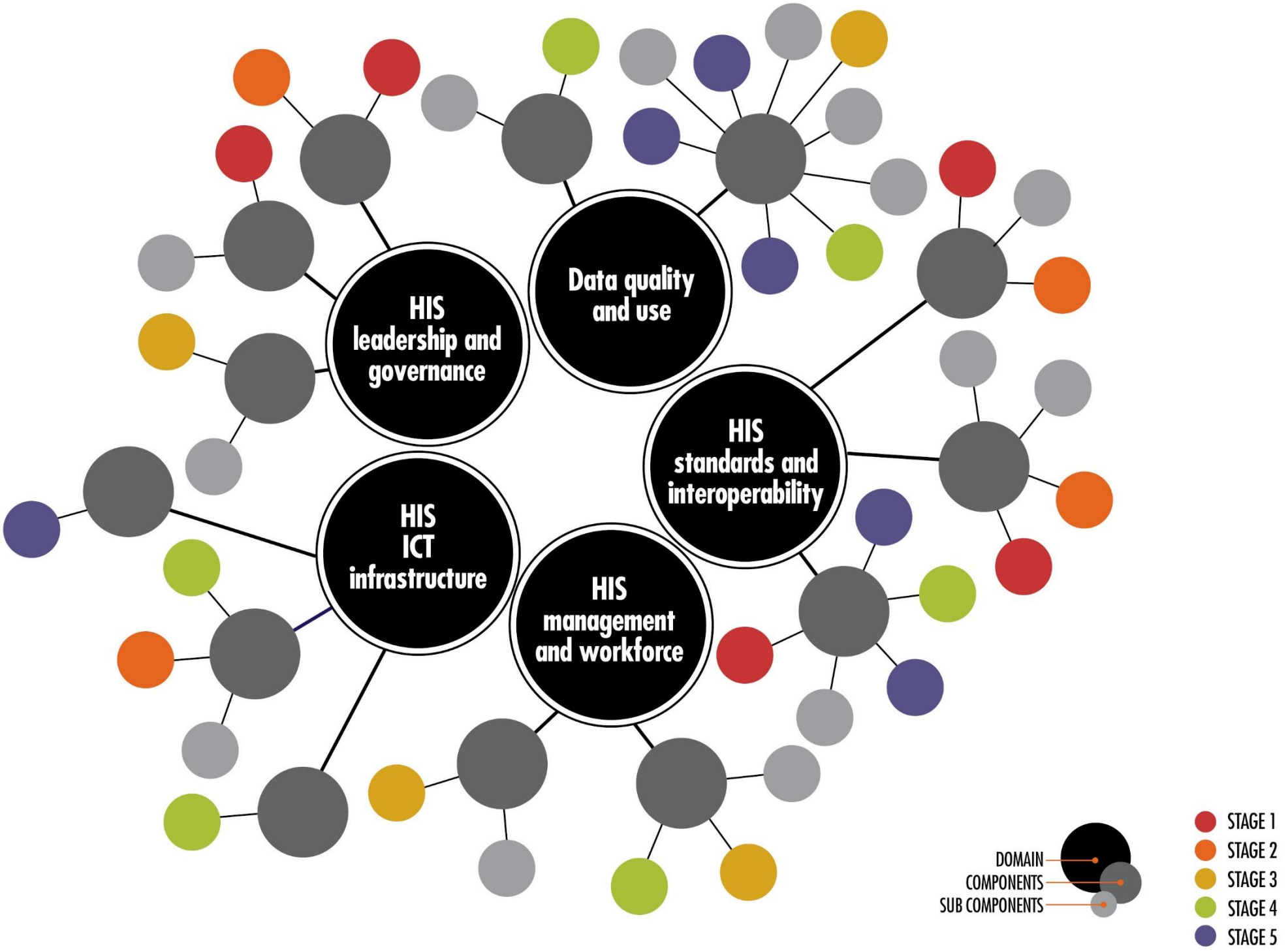
- Assess "as-is" status and identify "future goals" for each HIS component
- Build methodological rigor while balancing practice needs
- A tool that can be applied periodically to track progress

Collaboration for HIS improvement

- HIS improvement is impossible in isolation
- Collaboration between Health Data Collaborative, United States Centers for Disease Control and Prevention, and MEASURE Evaluation
- Prioritizes areas for improvement (e.g., HIS for health outcomes measurement, data exchange)
- Ensures HIS resources are targeted to highest priority and used effectively

What should be measured to ensure continuous improvement?


HIS leadership and governance
Data quality and use
HIS standards and interoperability
HIS ICT infrastructure
HIS management and workforce
DOMAIN
COMPONENTS
SUB COMPONENTS
STAGE 1
STAGE 2
STAGE 3
STAGE 4
STAGE 5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HIS core domains	HIS components
HIS governance and leadership	• HIS strategic plan or HIS strategy • Policy, legal, and regulatory framework and compliance • HIS leadership and governance organizational structures and functions
HIS management and workforce	• HIS workforce capacity and development • Financial management
HIS information and communications technology (ICT) infrastructure	• Operations and maintenance • Communication network: local area network (LAN) and wide area network (WAN) • Business continuity
HIS standards and interoperability	• Standards and guidelines • HIS core services • Interoperability (data exchange)
Data quality and use	• Data quality assurance • Data use

How do we measure HIS stages of continuous improvement?

Five-point measurement scale

Stage	Description
Emerging/ad hoc	Formal processes, capabilities, experience, or understanding of HIS issues/activities are limited or emerging. Formal processes are not documented, and functional capabilities are at the development stage. Success depends on individual effort.
Repeatable	Basic processes are in place, based on previous activities or existing and accessible policies. The need for standard processes and automated functional capabilities is known. Efforts to document current processes are under way.
Defined	Approved, documented processes and guidelines tailored to HIS projects or activities exist. Collaboration and knowledge sharing have increased. Innovative methods and tools can be implemented and used to extend functional capabilities.

Five-point measurement scale

Stage	Description
Managed	Activities are under control using established processes. Requirements/goals are developed, and a process is in place to ensure that they are met through feedback. Detailed measures for processes and products are collected.
Optimized	Best practices are applied and capable of learning and adapting. The system uses experiences and feedback to correct problems and continuously improve processes and capabilities. Future challenges are anticipated, and a plan is in place to address them through innovation and new technology. Processes are in place to ensure review and incorporation of relevant innovation.

Assessment tool

- Part of the toolkit that countries or organizations can use to assess, plan, and prioritize investments to strengthen an HIS
- Maps a path toward improvement
- Documents successes and challenges in HIS progression

Who should use this tool

This version of the assessment tool is meant to be used for national-level HIS improvement. HIS leaders of the ministries and international organizations interested in improving HIS capabilities can use the tool.

The tool can also be used by a team that is

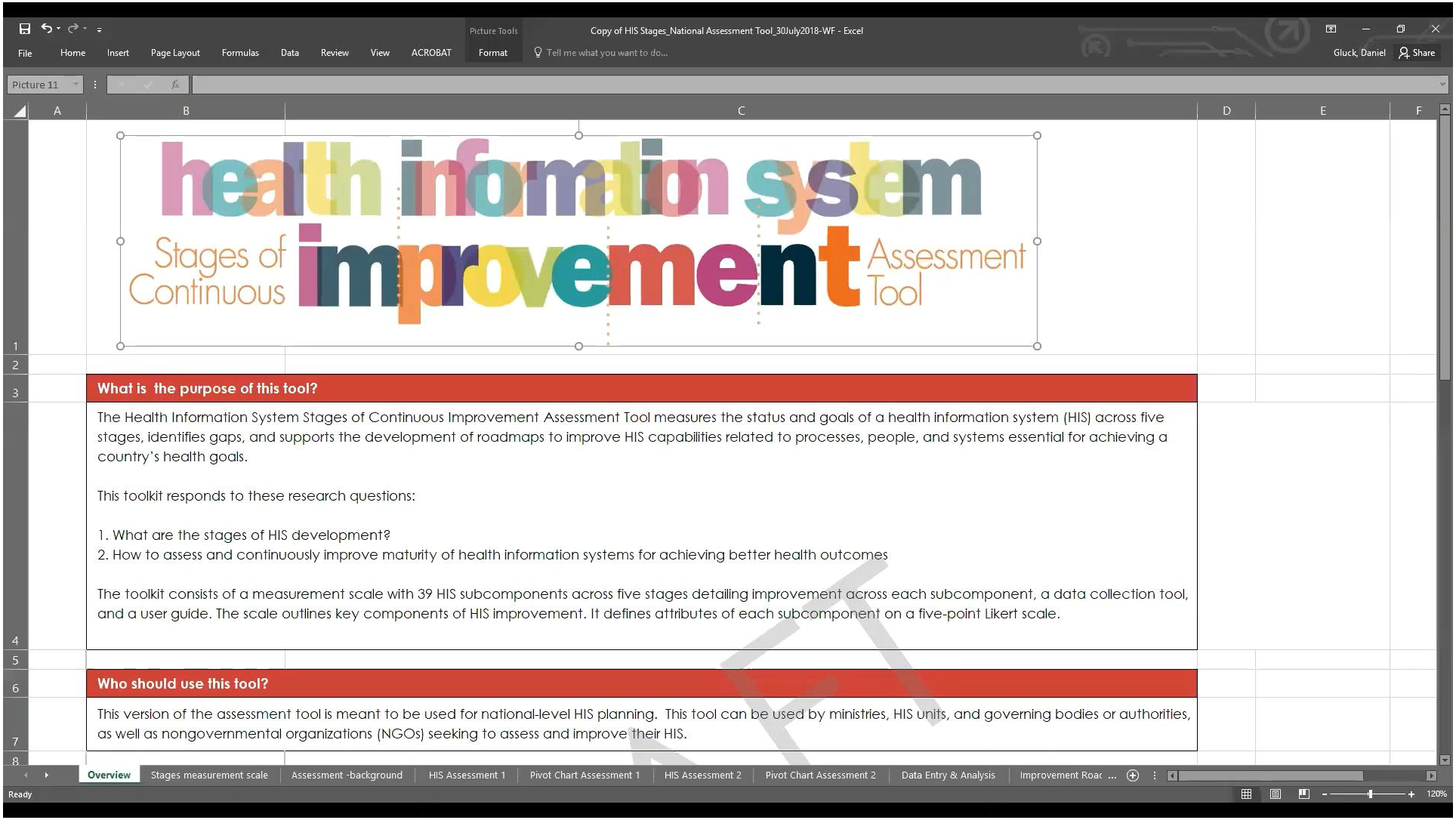
- Assessing the full HIS in a country
- Examining a subset of the HIS system
  For example:
  - The part of HIS managed by the MOH
  - All malaria data sources

Methodology

1. Determine scope and target of the assessment
2. Key informant interviews
3. Consultative workshop
4. Roadmap

Assessment tool

Let's take a look!



4. Road map

Activity	Gap addressed	Who is responsible	What resources are needed	Documentation/ means of verification	Timeline
Identify key program indicators for monitoring and reviewing progress at subdistrict, district, and national levels	Lack priority program indicators to monitor and review progress at various levels	Program manager/ appropriate personnel on the program management team	Financial support to conduct one-day consultation and publish document; availability of key stakeholders, program indicator documents	Document that describes indicators, including a schedule for regular review of indicators	31 March 2019

What's next?

Ongoing

- Solicit feedback and make revisions

2018

- Refine the method
- Implement and improve the toolkit
- Produce other toolkit pieces

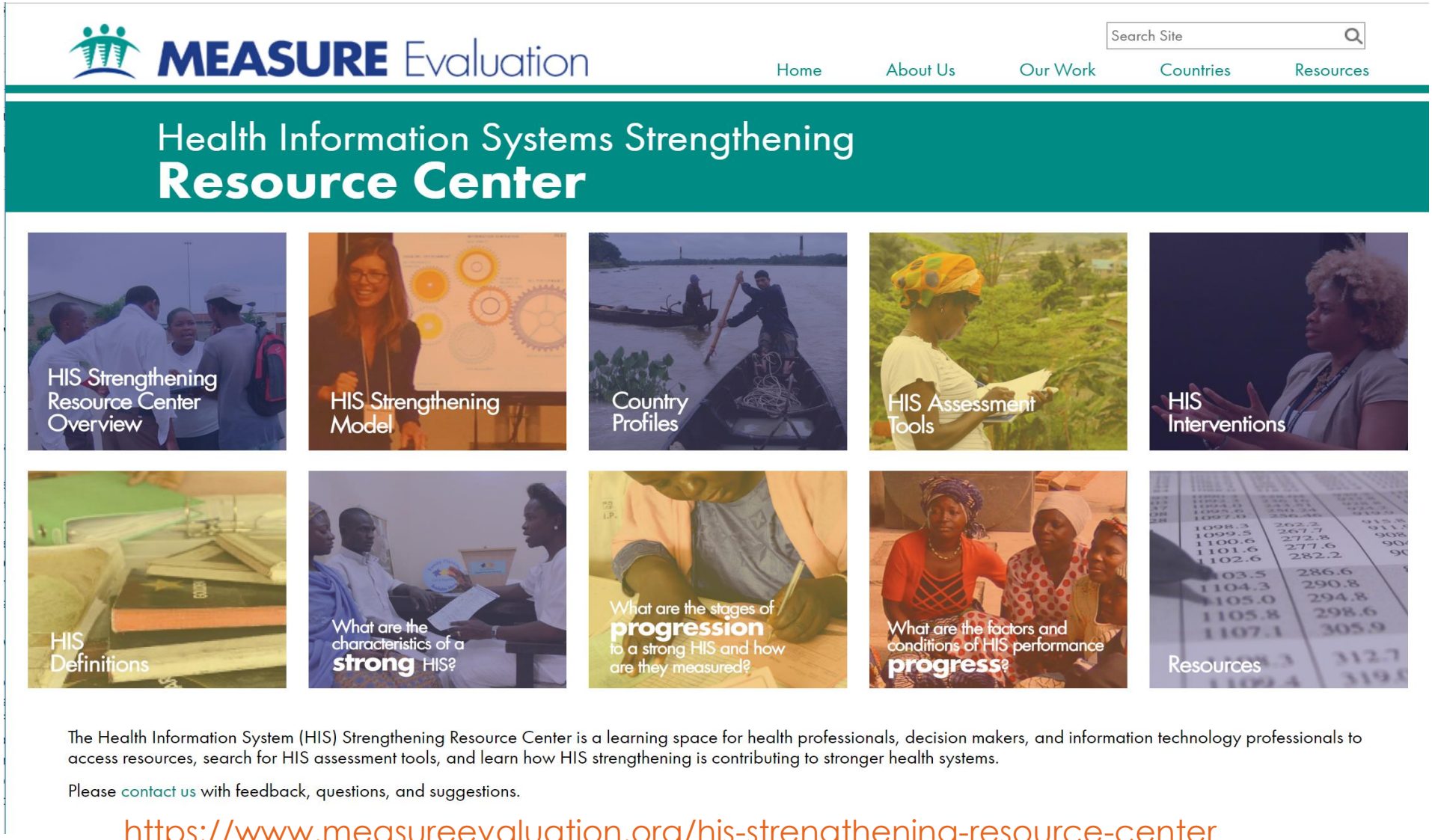
Post 2018

- Continuously improve the toolkit
- Publish online version 2.0

Questions and discussion

Learning

Resource Center: a platform to assemble and share HIS theory, tools, performance profiles, resources, definitions, and interventions



https://www.measureevaluation.org/his-strengthening-resource-center

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