Executive Summary

Health Data Collaborative Digital Health and Interoperability (DH&I) Working Group Meeting
December 15-16, 2016

The DH&I Working Group is one of multiple collaborative platforms that support the Health Data Collaborative (HDC). This Working Group has three key objectives:

1. Optimize the meaningful use and reuse of health information technology in low and middle income countries to support achievement of SDGs through the implementation of foundational digital health infrastructures;
2. Actively promote the development, use, and long-term support of digital health 'global public goods'; and
3. Increase, in a measurable way, the level and alignment of country and partner investments in support of Objectives 1 and 2.

Over the course of a day and a half in December 2016, 57 participants convened for the 2nd in-person meeting of the DH&I Working Group. Five country partners (Malawi, Nigeria, Senegal, Sierra Leone, and Tanzania) delivered presentations detailing their progress toward developing interoperable digital health systems over the last year. Each country indicated specific areas where support is requested from the DH&I Working Group and its members; most requests related either to the provision of technical assistance or to capacity building.

The meeting agenda was devoted largely to hearing and responding to these country-led requests, and finalizing the DH&I Working Group Terms of Reference. In addition, participants agreed to two concrete deliverables that will be taken forward by the Working Group in 2017-2018:

1. The development and operationalization of a digital health ecosystem capability and maturity model to inform appropriate technical assistance and tool development; and,
2. The creation of a business case/value proposition for investment into interoperable digital health public goods.

For a more detailed description of these deliverables, their activities, and roles & responsibilities, see section IV of the Meeting Summary.

Digital Health and Interoperability Working Group

High-level Summary of the December 15-16, 2016 Working Group Meeting

Gaylord National Convention Center, Oxon Hill, Maryland

The purpose of this meeting was to continue the formalization of and work planning for the Digital Health and Interoperability (DH&I) Working Group. The three key meeting objectives included:

1. Identifying strategies and opportunities for country engagement and support
2. Finalizing Terms of Reference for 2017-2018
3. Drafting 2017 deliverables for key objectives in alignment with country-identified needs

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I.   Background:

Health Data Collaborative (HDC) and DH&I Working Group

The Health Data Collaborative (HDC) is a joint effort by multiple global health partners to work alongside countries to (1) improve the quality of their health data and (2) track progress towards the health-related Sustainable Development Goals (SDGs). HDC works through a global network of collaborative platforms, including the Digital Health and Interoperability (DH&I) Working Group. The DH&I Working Group's mandate is multifaceted:

- Objective 1: Optimize the meaningful use and reuse of health information in low- and middle-income countries to support the achievement of the SDGs through the implementation of foundational digital health infrastructures;
- Objective 2: Actively promote the development, use and long-term support of digital health 'global public goods'; and
- Objective 3: Increase, in a measurable way, the level and alignment of country and partner investments in support of objectives 1 and 2.

II.   Setting the Stage

On December 15-16, 2016, 57 participants convened for the 2nd meeting of the DH&I Working Group, following the completion of the Global Digital Health Forum near Washington, DC (see section VI for a complete participant list). The DH&I Working Group met for the first time in June 2016 (for a summary of the first meeting, see Appendix G).

The workshop was organized by DH&I Working Group Co-chairs Adele Waugaman (USAID), Garrett Mehl (WHO), and Paul Biondich (OGAC/Regenstreif Institute), with Lesley-Anne Long (PATH). Kristy Kade (PATH) facilitated the workshop.

Garrett Mehl (WHO), Paul Biondich (OGAC), and William Weiss (USAID) welcomed participants and provided opening remarks. Kathleen Handley (USAID) then provided background on the HDC role and progress since the Working Group's June meeting. She emphasized that at the September 2016 convening of the HDC Steering Committee, members raised the need for greater collective and collaborative financing of digital health global public goods.

Finally, Courtney Matson (USAID) and Merrick Schaefer (USAID) introduced the new PATH-hosted digital health mechanism–not yet formally launched or named–that will support this call to action, as well as act as Secretariat for the DH&I Working Group. That presentation is detailed here.

A new 'digital health initiative'

Background:
The inability to exchange information in an effective and efficient manner created a major roadblock in responding to West Africa's Ebola crisis of 2014-2016. In response to this crisis, and to the consistent calls from the global health community for greater investments into digital health interoperability both within and between countries, USAID created a new funding mechanism. This mechanism will help coordinate donor funding to break down silos in digital health investments and programming.

A digital health initiative:
The initiative is a 5-year, up to $50 million cooperative agreement between USAID's Bureau for Global Health, the U.S. Global Development Lab, and PATH to mobilize and coordinate digital health resources, accelerate global health outcomes and ultimately save more lives.

By encouraging pooled funding for common, integrated, standards-based country-led digital health systems and tools, the digital health initiative aims to reduce fragmented and duplicative donor funding for specific projects and heighten strategic, cross-country investment.

The initiative has 3 key objectives:

1. Align donors and the digital community enabling transformative change at a systems level;
2. Identify existing and support the development of new digital health global goods, while accelerating their reuse and adaptation by countries; and
3. Support regional capacity building, encouraging peer-to-peer learning and implementation support.

The digital health initiative serves as the Secretariat for the DH&I Working Group.

Looking ahead:
PATH and USAID are intensively work planning and will share more about how the broader community can engage in the initiative, as well as next steps, in the coming weeks. In particular, the core initiative

team will reach out to partners engaged in USAID's Broad Agency Agreement (BAA) process to explore opportunities for ongoing collaboration.

III.   Strategies and Opportunities for Country Engagement and Support

Representatives from five countries – Malawi, Nigeria, Senegal, Sierra Leone, and Tanzania – provided updates on their progress toward digital health interoperability (see country PowerPoint presentations in Appendix D).

Each country highlighted a diverse set of priority activities where support is requested from the DH&I Working Group. Generally, these activities fell into one of two categories: (1) technical assistance,[1] and (2) capacity building.[2] In addition, countries called for greater donor coordination in support of and in alignment with country strategies.

Table 1.1 below provides a high-level summary of country-indicated needs. Note: this table is not exhaustive of needs specified during country presentations.

Table 1.1. Country-identified priority areas for support from the DH&I Working Group

Category		Malawi	Nigeria	Senegal	Sierra Leone	Tanzania
Technical Assistance	Develop eHealth Strategy			✓	✓	
	Update eHealth Strategy	✓				
	Operational Plan for Strategy				✓	
	Implementation Support	✓			✓	✓
	Sustainability Modeling		✓			✓
	Priority Applications	✓	✓		✓	
Capacity Building	Human Resources	✓	✓	✓		
	Infrastructure	✓				
	Interoperability Standards		✓			

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[1] Technical assistance refers to the provision of goods or services to countries in direct support of a development objective.

[2] Capacity building refers to many different types of activities that are all designed to improve a country's ability to achieve its objectives and sustain itself over time. Here, we refer to both human and institutional capacity building.

Summary of Country-Expressed Needs

Malawi, Nigeria, Senegal, Sierra Leone, and Tanzania are each at different points along the continuum of digital health systems strengthening, with a corresponding set of needs based on their progress. More detail regarding country requests for potential support from the DH&I Working Group is included in Appendix D.

IV.   Key Deliverables for 2017-2018

During both days of the workshop, participants engaged in activities designed to identify concrete deliverables for 2017-2018 that:

- Respond directly to the needs expressed by countries,
- Align to Objectives 1 and 2 set forth in DH&I Working Group Terms of Reference (above; for additional detail, see Appendix A), and
- Capitalize on investments in activities and deliverables that are already funded, planned, and/or launched.

Based on the aforementioned criteria, participants agreed on two key deliverables for 2017-2018. For a detailed work plan of 2017-2018 deliverables, see Appendix E.

Deliverable 1: Develop and Operationalize Capability and Maturity Model

Context: A key takeaway from the 2nd DH&I Working Group (December 15-16, 2016) is that countries are in different places on the continuum toward strong and interoperable digital health systems. For example, Sierra Leone has just begun to develop a Health Information Strategy (HIS) for 2017-2021. Alternatively, Tanzania recently completed its Digital Health Strategy and is now beginning operationalization of its 17 key investment recommendations. In order to support countries based on their unique progress along the continuum, the Working Group identified the need for a standardized "maturity model."

Proposed Activities:
1. In the spirit of re-use (see the "Principles for Digital Development, Appendix D), a sub-group of the DH&I Working Group will develop a simplified, health-specific version of the existing COBIT 5 methodology.[3]

The model will clearly define (a) the distinct stages of digital health interoperability, (b) concrete benchmarking for each stage, (c) the criteria to advance from one stage to another, (d) the

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[3] The COBIT 5 methodology is the only business framework for the governance and management of enterprise IT. It is the product of a global task force and development team from ISACA, a nonprofit, independent association of more than 140,000 governance, security, risk and assurance professionals in 187 countries.

technologies, templates, and toolkits that could be relevant for countries at each stage, and case studies (in order to facilitate cross-country learning and collaboration). Proposed stages include:
- Stage 0: Curious
- Stage 1: Activated
- Stage 2: Designed
- Stage 3: Consensus
- Stage 4: Implemented
- Stage 5: Sustained

2. After drafting this methodology, the DH&I WG will test and refine it during workshops at two key conferences: The AehIN 5th General Meeting and Digital Health in Asia-Pacific Conference (March 2017) and the OpenHIE Conference (April 2017).
   - Country engagement to facilitate cross-country learning will be a critical component of the workshops; during the workshops, the DH&I WG proposes to connect countries in "mentor/mentee" relationships
3. The DH&I Working Group Co-chairs will bring the final methodology to the HDC for endorsement as a standardized "maturity model". The goal is for the model to function as a global public good that countries can utilize on the road to digital health interoperability.
4. A sub-group of the DH&I Working Group will develop a toolkit (reusing materials where they exist) of diagnostic tools/guidance to assist countries in advancing to the next stage of digital health interoperability
5. Finally, the group will begin to support countries in capacity building and technical assistance.

Output of Proposed Maturity Model:
- Countries can easily identify gaps in their unique progress towards digital health interoperability. This allows for the response of more timely, targeted technical assistance.
- The Maturity Model provides the foundation to a country/regional support network. The support network includes not only donor and implementer support, but support from other countries (in the form of a mentor/mentee relationship).
- The Maturity Model will help donors to see how their investments contribute to the overall progress of a country towards interoperable digital health systems. This could help catalyze a more coordinated effort for country support and investment.

Proposed next steps, including identified needs, are provided in Section V, Table 1.2.

Deliverable 2: Create a business case/value proposition for investments into interoperable digital health public goods

Through a suite of communication materials, the DH&I Working group will articulate the business case of interoperable digital health systems, with tailored messages and value proposition for various stakeholders.

Context: Because funding for digital health initiatives has often been siloed, the DH&I Working Group highlighted the need for a pitch deck and suite of communication materials for key stakeholders that articulate benefits of investments into interoperable standards-based digital health. This set of materials will be used by implementers, advocates, and digital health leaders to demonstrate the value of investment in and prioritization of digital health and interoperability to governments (including ministries of health, ICT and finance) and donors, based on each stakeholder's specific interests.

Proposed Activities:
1. DH&I Working Group will identify existing content and develop a repository of this information via Slack.
2. After soliciting feedback from the broader working group, a "minimum viable pitch deck" will be developed to solicit funding to create a professionally-designed pitch deck.
3. Key working group members will then convene to finalize the product vision and create a scope of work for a design firm, which will be contracted through an RFP process.
4. By the end of 2017, a final pitch deck and suite of communication materials, adaptable and targeted to different stakeholders (donors, ministries, etc.), will be finalized. Proposed materials include:
   - Briefs: use-based case studies, business case illustrations, primer on interoperability
   - Data visualization (including the update of existing visual framework)
   - Series of videos
   - Other design collateral

Objective 3: Increase, in a measurable way, the level and alignment of country and partner investments in support of Objectives 1 and 2

Due to timing constraints, the Working Group was unable to finalize Objective 3 and its key deliverable. Adele Waugaman proposed that the DH&I Working Group develop an Indicator Dashboard in order to measure investments in support of Objectives 1 and 2. A sample dashboard is included below (see Appendix F for more details).

Sample: Indicators Dashboard for Objective 3

Indicator	✓	Activities	Lead	Due	Country	Outcomes
CONVENE						
Organize key stakeholders to facilitate the regular exchange of information about country and regional digital health activities		Monthly calls of the HDC Working Group	Co-Chairs	Monthly	All	Regular updates to members / updates to work plans
		Bi-annual in-person meetings of the Working Group	Co-Chairs	Each ~6 months	TBD	In-person meetings held in Africa and/or Asia at least once every other meeting
		(Proposed) East African Commission Digital Health Forum	USAID, partners	Q2 2017	Kenya	Gathering of East African Community governments to discuss digital health strategies and requirements
IDENTIFY COUNTRY PRIORITIES						
Identify country-led requests for WG interventions in support of digital health strategy development and/or implementation		Kenya				Work plan created, identifying all WG activities as well as those led by individual WG members
		Malawi				Work plan created, identifying all WG activities as well as those led by individual WG members
		Nigeria				Work plan created, identifying all WG activities as well as those led by individual WG members
		Senegal				Work plan created, identifying all WG activities as well as those led by individual WG members
		Sierra Leone				Work plan created, identifying all WG activities as well as those led by individual WG members

Next Steps:

- DH&I Working Group participants should review the materials included in Appendix F in advance of the Q1 DH&I Working Group Audio Call.
- During the Q1 Working Group Call, participants will discuss whether to endorse the development of an indicator dashboard as a key deliverable (and, if endorsed, subsequently identify appropriate roles & responsibilities).

V. Conclusion and Next Steps

Participant Sentiments

When asked to use one word to describe their thoughts on the DH&I working group moving forward, the deliverables identified for 2017-2018, and the feasibility of those deliverables, participants stated the following:

"Impressed, energized, confused, optimistic, excited, psyched, empowered, hopeful"

In particular, participants were impressed by the progress countries have made in the last 12 months alone, as represented by their presentations, and were optimistic about steps this Working Group can take to facilitate digital health interoperability in and between countries.

On-going communication and engagement

DH&I Working Group co-chairs and Secretariat were tasked with creating a Slack channel as the primary mode of communication for the working group. The Working Group also was encouraged to establish an operational document repository that could complement tools used by the broader HDC initiative. Additional methods of engaging with the group will be discussed during the February DH&I Working Group member call.

DH&I Working Group Values

Paul Biondich proposed the following set of values for the DH&I Working Group. These values overlap with and draw from the Principles for Digital Development (Appendix C). These values were met with broad agreement from participants. Moving forward, those interested in joining the DH&I Working Group must also affirm their agreement with these values.

Open:
- We are open, honest, and actively transparent in both our processes and our work together.
- We believe it's important to publicly document and share our knowledge, skills, experiences, and failures.
- We endorse and support the use of open health information standards, and work to app them useful within resource-constrained environments.

User-Centered:
- We respond to specific country and stakeholder demands, not our imagination.
- We design highly adaptable processes and technologies to work in the most challenging environments.
- We believe in upfront planning for sustainability

Collaborative:
- We work collectively to prioritize and address the real world needs of our workgroup participants.
- We believe in the power of community, as the best ideas come from people with different backgrounds and talents
- We believe in harnessing the wisdom of our workgroup by creating a safe place to raise concerns, discuss failures, improve existing ideas, and solve problems.

Next Steps: Co-chair Paul Biondich will accept additional feedback via email before these proposed DH&I Working Group values are finalized.

Immediate Next steps

Table 1.2 below highlights the immediate next steps

Activity	Owner	Timeline
Circulate updated group membership list	PATH	Complete

Set up DH&I Working Group Communications Platform ● Create Slack channel ● Identify roles and responsibility for maintenance	DH&I WG Secretariat (PATH)	As soon as possible
Request feedback on DH&I Working Group Values ● Paul Biondich to set up a one-text platform for Working Group members to provide feedback on the proposed Values ● Working Group members to refine/add values prior to January 15, 2017	Paul Biondich, OGAC	Complete by January 31, 2017
Follow-up Call, Plan of Action ● PATH to organize follow-up call to summarize Working Group action plan and agree to next steps	PATH	Schedule for January 2017
Operationalizing the Secretariat ● Schedule Working Group call to define roles, responsibilities and resources of the Secretariat	PATH	Schedule for January 2017
Deliverable 1: Capability/Maturity Model ● Formalize and convene sub-working group to create a simplified, health-specific version of the existing COBIT 5 methodology Create draft of adopted methodology	Paul Biondich + Nadi Kaonga, HealthEnabled Sam Wambugu, MEASURE Evaluation Alvin Marcelo, Asia eHealth Information Network Tigest Tamrat, WHO RHR, with support from the DH&I WG Secretariat	First call scheduled for Mid-January, details will be sent out to mailing list.

Deliverable 1: Capability/Maturity Model
● Identify working group to plan for the testing and refining of health-specific COBIT 5 methodology at (2) key conferences in 2017
   - The AehIN 5th General Meeting and Digital Health in Asia-Pacific Conference
   - OpenHIE Conference
● Working group to identify funding, participants, objectives, and materials for the DH&I Working Group side sessions at the (2) key conferences noted above
	Paul Biondich, OGAC	Complete by January 2017

Inventory of Global Public Goods ● Develop an inventory of global public goods that the working group can use/support	Lesley-Anne Long (PATH)	Schedule for Q1 2017

Develop detailed, long-term work plan for two key deliverables: (1) Capability/Maturity Model and (2) Business Case ● Identify and convene sub-working groups to build off of strawman developed during the December 15-16 workshop	Co-chairs: Adele Waugaman, USAID Garrett Mehl, OGAC Paul Biondich, WHO	Schedule for Q1 2017
Deliverable 2: Business Case ● DH&I Working Group will identify existing content and develop a repository of this information via Slack ● Establish a sub-working group, and meet to define the parameters of the MVP for the Business case/Value proposition for investment into interoperable digital systems ● Establish a workplan to develop and validate the materials with intended user stakeholder groups.	Garrett Mehl, WHO William Weiss, USAID	Q1 2017
(Potential) Deliverable 3: Indicator Dashboard for Objective 3 ● During the February Working Group member call, discuss whether to endorse the development of an indicator dashboard as a key deliverable ● If endorsed, identify appropriate roles & responsibilities ● See Appendix F	Adele Waugaman, USAID	Q1 2017

VI.   Participant List

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Appendix A: Terms of Reference (DRAFT)

Digital health systems and interoperability Working Group
DRAFT Terms of Reference

Objectives

1. Optimize the meaningful use and reuse of health information in low and middle income countries to support achievement of SDGs through the implementation of foundational digital health infrastructures.
2. Actively promote the development, use, and long-term support of digital health 'global public goods'.
3. Increase, in a measurable way, the level and alignment of country and partner investments in support of objectives 1 and 2.

Scope of work

1a. Facilitate the inventory, registration, appropriate re-use, and review of investments in support of foundational elements of a digital health information system within a country (i.e., point of service applications, data exchange, foundational components of Health Information Exchange).

1b. Within five pathfinder countries, facilitate technical support to governments and digital health solution developers to ensure capacity to effectively invest in tools and platforms that help realize national digital health and eHealth architecture plans in a consistent and effective manner.

1c. Convene key stakeholders for digital health systems in pathfinder countries to improve alignment of digital health investments at the country level, provide joint peer learning and sharing opportunities, share guidelines and standards, and catalyse support for country digital health systems, etc.

2a. In partnership with pathfinder countries, develop practical universal scenarios that demonstrate the added value of establishing interoperable systems along one or more care continuum.

2b. Facilitate the identification of needed, adaptable and reusable global public goods, and foster the development of mechanisms (e.g., value proposition for interoperability, technical documentation, support communities, and peer learning-based capacity-building mechanisms) that strengthen investments into foundational interoperable digital health systems.

2c. Develop and refine frameworks, guidelines, and standards that support the design, integration, and implementation of national digital health architectures and digital health tools in support of country health systems. Convene key stakeholders for digital health systems in low and middle income countries to identify priorities for global and regional goods, improve alignment of digital health investments at global/regional/country levels, provide joint peer learning and sharing opportunities,, share guidelines and standards, and catalyse support for country digital health systems, etc.

3a. Convene key stakeholders for digital health systems in low and middle income countries to identify priorities for global and regional goods, improve alignment of digital health investments for global goods and regional digital health networks, share guidelines and standards, and catalyse support for country digital health systems.

3b. Advocate for and support fundraising efforts to ensure sustainability of global digital health resources—in the interest of accelerating and maintaining the value of digital health investments—by identifying, coordinating, protecting, and promoting the reuse of digital health global goods.

(Potential) Deliverables 2016-2017 by objective

Objective 1

-   In at least one country, support the Facility Data WG to integrate HMIS and IDSR with at least one functioning use case each that enhances the value of HMIS with IDSR data, and enhances the value of the IDSR with HMIS data. [Year 1]
-   Within pathfinder countries, facilitate strategic digital health investment plans based on WHO-ITU Toolkit, WHO Digital Strategy Guidance and Implementation Tools, for systems strengthening and data use in one or more programmatic areas. [Year 1 and 2]
-   A national-level HIS governance/coordination mechanism to provide coordination for planning and digital health investments will be functioning in HDC pathfinder countries. [Year 1 and 2]
-   A costed digital health investment plan exists in each pathfinder country that supports the following: national eHealth plan, digital interoperability architecture, and a digital strategy for one or more programmatic areas. [Year 1 and 2]
-   Health informatics expert will participate in HDC missions to pathfinder countries. [Year 1 and 2]
-   In at least one country/region, establish an Interoperability Lab that supports testing and maintaining digital technology and related documentation related to interoperability. [Year 2]
-   In at least one pathfinder country, provide digital health stakeholders an opportunity to engage in an Interoperability Lab to facilitate and demonstrate interoperability between digital tools and foster local use of comprehensive sets of data that will be made available by a successful implementation of a Health Information Exchange (HIE). [Year 2]

Objective 2

-   Establish and mainstream use within pathfinder countries, a web-based technology registration system (supporting inventory and description of digital products/projects, and associated digital

assets including data elements) that draws from existing global classification standards (ref WHO mTERG). [Year 1]

- Develop guidance and implementation recommendations for government-led investments into digital health strategies for addressing health information constraints for one or more programmatic areas. [Year 1]
- Develop documentation that operationalizes interoperability related to programmatic areas, reflecting the perspectives of different stakeholders groups (e.g. shows the value proposition for interoperability, and illustrates how). [Year 1]
- With pathfinder countries, facilitate the development and validation of an interoperability framework comprising an HIS interoperability assessment, readiness, and guidance tool for HIS enterprise architecture analysis to inform planning (incl. value proposition, reference architecture, procurement language, etc.). [Year 2]
- Develop a global, open-source standard for a national health facility registry. [Year 2]

Objective 3

- Develop operational guidance on investing in digital health technologies in low and middle income countries (e.g., language that can be used in procurements/RFAs put out by governments and donors) to help ensure that digital health investments are functional, sustainable, support national eHealth strategies, and foster re-use and interoperability. [Year 1]
- Convene at least one WG meeting/side-meeting in Asia and Africa to [Year 1 and 2]:
- Help ensure the WG is guided by, and responsive to, the needs of the digital health community - pathfinder country representatives, regional network members (e.g., AeHIN; ANDH), donor partners, digital health organizations, private sector corporate responsibility representatives.
- Help ensure that global public goods reflect feedback and input by stakeholders and intended users.
- Facilitate joint peer learning and sharing.
- Encourage funding/support for global goods, and regional and country health informatics capacity development.
- (Proposed) Approach and organizational arrangements

Organization

The Working Group will comprise a leadership team, a steering group, and key persons from interested partners, with support from a secretariat as follows:

- The Working Group will be led by representatives from USAID, WHO and OGAC.
- The Steering Group will include representatives from key digital health partners agencies (working at global, regional and country levels), especially those engaging around specific countries of interest.
- The wider membership of the working group will be open to all persons willing to participate in the formulation and achievement of working group deliverables.

As resources allow, a secretariat will be established to support the Working Group. The functions of the secretariat may fluctuate over time depending on resources provided. At minimum, the secretariat will

help the Working Group convene meetings and track progress toward deliverables. The director/manager of the secretariat will be a member of the HDC Core Team (based in Geneva) but will be expected to work virtually from a host organization. A goal is having sufficient resources for the secretariat so that it has the staff and infrastructure to pool funds from investors and use these funds to host global goods and/or manage the achievement of one or more Working Group deliverables through collaborating partners.

Approach

During an HDC mission to a pathfinder country, one or two Working Group partner organizations will take the lead for each country and be responsible for helping ensure that an informatics/digital health perspective is included during assessments, discussions and development of a country costed-investment plan for the health information system.

The Working Group will work closely with each of the technical working groups in order to facilitate coordination of specific technical work with countries. Possible models of working at country level in support of the HDC and Working Group objectives:

- Model 1: HDC mission to country to initiate support addressing gaps in the broader HIS over several years. Out of this, digital health/interoperability gaps may be identified that the country wants support addressing. The Working Group can support the local partners on the ground (many of which have counterpart on the Working Group), and/or help identify outside expertise/resources to support.
- Model 2: A country makes a specific request to HDC for help with a digital health/ interoperability problem. The Working Group can help convene local stakeholders to identify an appropriate solution. The Working Group can then support the local partners on the ground (many of which have counterpart on the working group), and/or help identify outside expertise/resources to support.
- Model 3: A country with a history of working on digital health/interoperabilty problems/issues and is already engaged with one or more members of the Working Group, can draw upon the support and expertise of the Working Group, perhaps through a request of the Working Group member(s).
- Model 4: DH&I Working Group works with regional networks (AeHIN, ANDH) to identify gaps/needs of the network and helps support the network and/or help identify outside expertise/resources to support needs such as additional staff, interoperability labs, capacity building in tools/approaches (enterprise architecture, HL7, etc.)

Draft Digital Health and Interoperability Working Group
High-level Meeting Agenda

December 15-16, 2016

The purpose of this meeting is to continue the formalization of and work planning for the Digital Health and Interoperability (DH&I) Working Group. By the meeting's conclusion, participants will:

- Identify strategies and opportunities for meaningful engagement with/support to countries.
- Finalize Terms of Reference for DH&I WG.
- Draft 2017 deliverables for key objectives in alignment with country-identified needs.

DAY 1

Session Title	Description
8:30 to 9:30	Arrival and Breakfast
9:00 to 9:30 Welcome and Introductions	Opening remarks (William Weiss, USAID; Garrett Mehl, WHO; and Paul Biondich OGAC/Regenstrief Institute)
	Introductions, meeting expectations and objectives, agenda.
9:30 to 10:30 DH&I Working Group Scene Setting	Health Data Collaborative Steering Committee (Katy Handley, USAID)
	USAID digital health initiative (Courtney Matson, USAID and Merrick Schaefer, USAID)
	Recap of June 2016 DH&I Working Group meeting and Terms of Reference
10:30 to 10:45	Break
10:45 to 12:30 Country Reflections	Country updates and individual reflections on how the DH&I WG can provide value • Tanzania • Senegal • Nigeria • Malawi • Sierra Leone

12:30 to 1:30	Lunch
1:30 to 2:30 Country Criteria	Discuss shared values for participation in the DH&I WG
2:30 to 3:30 Country Engagement Strategies	Review/refine strawman country engagement models
3:30 to 3:45	Break
3:45 to 4:30	Brainstorm concrete collaboration opportunities between DH&I WG and program countries for 2017
4:30 to 5:00 Daily Summary	Closing and Day 1 evaluation

DAY 2

Session Title	Description
8:30 to 9:00	Arrival and Breakfast
9:00 to 9:15 Welcome and Overview	Recap of Day 1, Overview Day 2
9:15 to 10:30 Finalizing Terms of Reference and Work Planning for Objectives 1 and 2	Review/refine list of potential deliverables from Objectives 1 and 2
10:30 to 10:45	Break
10:45 to 12:00 Work Planning for Objectives 1 and 2	Identify 2 to 3 concrete, actionable projects/deliverables and responsible parties for 2017-2018
12:00 to 12:45 Moving forward	Facilitated discussion on mechanisms for ensuring: ● Actualization of and accountability for DH&I WG deliverables ● Connecting DH&I WG members on an on-going basis, including 2017 meeting schedule ● Coordinating with other HDC WGs

Appendix C: Principles for Digital Development

— THE PRINCIPLES —

1 Design with the User

2 Understand the Existing Ecosystem

3 Design for Scale

4 Build for Sustainability

5 Be Data Driven

6 Use Open Standards, Open Data, Open Source, and Open Innovation

7 Reuse and Improve

8 Address Privacy & Security

9 Be Collaborative

For a detailed summary of the Principles for Digital Development, visit: www.digitalprinciples.org.

Appendix D: Areas Requested by Countries for Possible DH&I WG Support

Country Presentations

Malawi | Areas Requested for Possible Support from DH&I Working Group:

- Financial resource mobilization
- Capacity building in support of:
    - ICT human resources
    - ICT infrastructure
    - Computerized HIS subsystems (e.g. LMIS)
    - Frontline workers
- Technical assistance:
    - To support local teams on updating the HIS Strategy and eHealth Strategy
    - To develop standards and methodologies to support the adoption and diffusion of interoperability
    - To strengthen implementation of patient level electronic systems
- Multi-sectoral promotion of ICT as a key component of measurement and accountability to achieve the SDGs

Nigeria | Areas Requested for Possible Support from DH&I Working Group:

- Capacity building to support the establishment of eHealth standards (towards interoperability). Specifically, capacity building support in IT governance, project & program management, and enterprise architecture requested
- Technical assistance:
    - To develop a single, open source master facility list for the country of Nigeria
    - To define the requirements and standards for priority applications (such as EMRs)
    - To develop an eHealth policy that provides legal backing to the existing eHealth Strategy
- Donor coordination in support of the country Digital Health Strategy (e.g. put resources/support behind DHIS2)

Senegal | Areas Requested for Possible Support from DH&I Working Group:

- Capacity building
    - Trainings
    - Partnership that includes Ministries of ICT, E-governance, Health and others
- Technical assistance
    - To build a national digital health (eHealth) strategy
    - Host strategic workshop to gather all needs of country stakeholders in one place to build a reference library

Sierra Leone | Areas Requested for Possible Support from DH&I Working Group:

- Capacity building
- Technical assistance:
  - To integrate all programs into DHIS2 by the end of 2016. *This was achieved, with an exception of TB
  - To capture aggregate hospital aggregate data in DHIS2 by the end of 2016
  - To electronically capture and manage data at the community health center (CHC) level by the end of 2017
  - To develop an eHealth Strategy and Implementation plan by the end of 2017
  - To develop an operational plan for the HIS strategy by mid-2017
  - To capture patient data is captured using the Patient Tracker Module of DHIS2 by 2018

Tanzania | Areas Requested for Possible Support from DH&I Working Group:

- Tanzania recently completed a digital health roadmap with 17 explicitly costed investment recommendations across 5 categories: (1) enhance health service delivery, (2) strengthen health system performance, (3) optimize resource management, (4) improve data supply and demand, and (5) connect and harmonize data systems.

Appendix E: Key Deliverable Work Plans

Priority Deliverable 1: Capability/maturity model

A. Activity	B. Accountable	C. Member Participants	D. Funding	
Develop draft model ● Develop a simplified, health-specific version of the existing COBIT 5 methodology ● Ensure collaboration with work done thus far to create a capability/maturity model.	Paul Biondich	-County participants -Nadi Kaonga, HealthEnabled (The Global Digital Health Index Group) -Sam Wambugu, MEASURE Evaluation (Interoperability Diagnostic Tool) -Alvin Marcelo, Asia eHealth Information Network	No funding required	
Test and refine methodology ● DH&I WG will test and refine it during side workshops at two key conferences: The AehIN 5th General Meeting and Digital Health in Asia-Pacific Conference (March 2017) and the OpenHIE Conference (April 2017).	Paul Biondich	TBD	Funding for transportation and workshops Funding sources: to explore	
Gain HDC consensus for methodology ● The DH&I Working Group Co-chairs will bring the final methodology to the HDC for endorsement	Co-chairs	TBD	No funding required	
Develop toolkit ● Toolkit will help countries identify where gaps are and provide diagnostic tools/guidance to assist them in advancing to the next stage of DH interoperability	Paul Biondich	TBD	TBD	
Support technical assistance and capacity building in country	TBD	TBD	TBD New digital health intiative?	

Priority Deliverable 2: Value proposition and business case

A. Activity	B. Accountable	C. Member Participants	D. Funding	

Develop product vision. ● Identify existing materials to adapt. ● Define specific audiences, their interests, and asks. ● Develop repository (via Slack). ● Source initial feedback from the broader group via Slack Channel.	Garrett Mehl, WHO William Weiss, USAID	Lesley Ann Long, digital health initiative (PATH) Merrick Schaefer, USAID Edna Soomre, Spider Center Carl Leitner, IntraHealth International County participants	
Create a minimum viable pitch deck to solicit funding.			
Convene working group members (columns B and C) to finalize product vision and develop a scope of work for design firm.			
Contract with a design firm, through RFP process.			Funding required
Final pitch deck and suite of communication materials, targeted to different stakeholders (donors, ministries, etc.). Potential materials: ● Briefs: use-based case studies, business case illustrations, explainer on interoperability ● Data visualization (including the update of existing visual framework) ● Series of videos ● Other design collateral			

Appendix F: Proposed Deliverable 3, Indicator Dashboard

PowerPoint created by Adele Waugaman, Co-chair

*For review and discussion during a Q1 DH&I Working Group Audio Call

Digital Health & Interoperability Working Group Terms of Reference: Objective 3

Current description (from TOR):

"Increase, in a measurable way, the level and alignment of country and partner investments in support of objectives 1 and 2."

Scope of work (from TOR):

3a. Convene key stakeholders for digital health systems in low and middle income countries to identify priorities for global and regional goods, improve alignment of digital health investments for global goods and regional digital health networks, share guidelines and standards, and catalyze support for country digital health systems.

3b. Advocate for and support fundraising efforts to ensure sustainability of global digital health resources—in the interest of accelerating and maintaining the value of digital health investments—by identifying, coordinating, protecting, and promoting the reuse of digital health global goods.

NB: Underlined terms may be measureable.

Proposed deliverables (from TOR):

- Develop operational guidance on investing in digital health technologies in low and middle income countries (e.g., language that can be used in procurements/RFAs put out by governments and donors) to help ensure that digital health investments are functional, sustainable, support national eHealth strategies, and foster re-use and interoperability. [Year 1]

- Convene at least one WG meeting/side-meeting in Asia and Africa to [Year 1 and 2]:

- Help ensure the WG is guided by, and responsive to, the needs of the digital health community - pathfinder country representatives, regional network members (e.g., AeHIN; ANDH), donor partners, digital health organizations, private sector corporate responsibility representatives

- Help ensure that global public goods reflect feedback and input by stakeholders and intended users.

- Facilitate joint peer learning and sharing.

- Encourage funding/support for global goods, and regional and country health informatics capacity development.

Sample: Indicator Dashboard for Objective 3 (1 of 2)

Indicator	✓	Activities	Lead	Due	Country	Outcomes
CONVENE						
Organize key stakeholders to facilitate the regular exchange of information about country and regional digital health activities		Monthly calls of the HDC Working Group	Co-Chairs	Monthly	All	Regular updates to members / updates to work plans
		Bi-annual in-person meetings of the Working Group	Co-Chairs	Each ~6 months	TBD	In-person meetings held in Africa and/or Asia at least once every other meeting
		(Proposed) East African Commission Digital Health Forum	USAID, partners	Q2 2017	Kenya	Gathering of East African Community governments to discuss digital health strategies and requirements
IDENTIFY COUNTRY PRIORITIES						
Identify country-led requests for WG interventions in support of digital health strategy development and/or implementation		Kenya				Work plan created, identifying all WG activities as well as those led by individual WG members
		Malawi				Work plan created, identifying all WG activities as well as those led by individual WG members
		Nigeria				Work plan created, identifying all WG activities as well as those led by individual WG members
		Senegal				Work plan created, identifying all WG activities as well as those led by individual WG members

Indicator	✓	Activities	Lead	Due	Country	Outcomes
		Sierra Leone				Work plan created, identifying all WG activities as well as those led by individual WG members

Sample: Indicator Dashboard for Objective 3 (2 of 2)

Indicator	✓	Activities	Lead	Due	Country	Outcomes
GLOBAL GOODS						
Identify and support global goods that meet country-identified needs while supporting the digital health commons		OpenLMIS	PATH			Updates to forked code shared back via common code repository or global re-use
IMPROVE ALIGNMENT OF DIGITAL HEALTH INVESTMENTS						
Align donor and investments in support of country-led digital health strategies		Kenya				
		Malawi				
		Nigeria				
		Senegal				
		Sierra Leone				

Appendix G: June 2016 Meeting Report
High-level Meeting Summary, June 28 to 29, 2016

Introduction

Earlier this year, the Health Data Collaborative (HDC) was launched, aiming to strengthen country systems to monitor progress toward the health-related Sustainable Development Goals (SDGs) through better availability, analysis, and use of data. HDC works through a global network of collaborative platforms, including the Digital Health and Interoperability (DH&I) Working Group. This working group is focused on mitigating the inefficiencies, fragmentation, and redundancies in existing digital investments and infrastructure.

In June 2016, more than 25 members of the DH&I Working Group met in Washington, DC, to begin to identify joint objectives, develop a structure for coordination and leadership, and formalize terms of reference (TOR). The working group also identified draft activities to pursue in order to meet working objectives. These initial objectives and activities informed a draft action plan, which will be finalized over the coming months. The workshop was organized by the DH&I Working Group co-chairs William Weiss (USAID), Garret Livingston (WHO), and Paul Biondich (OGAC) and Kathleen Handley (USAID), representing the HDC secretariat, and was facilitated by PATH.

The meeting began with an overview of the HDC and the DH&I Working Group. Participants identified working group objectives, related activities being implemented by members, and the working group's scope. Participants then discussed membership, roles and responsibilities, and next steps for finalizing a 2016-2017 work plan.

Setting the Stage: The Health Data Collaborative and the DH&I Working Group

After introductions, Kathleen Handley (USAID) and Ben Nemser (UNICEF) provided an overview of the HDC's mandate and examples of country engagement already underway in Malawi, Bangladesh, and Kenya. Through a facilitated discussion, meeting participants who are engaged in other HDC working groups shared objectives and any progress to date. William Weiss and Adele Waugman (both USAID) provided an introduction to the DH&I Working Group and its goals of strengthening country digital health platforms to support the SDGs and adding value to existing mechanisms.

Identifying Objectives

Building from a draft version of the TOR developed by the DH&I co-chairs, participants divided into two groups to discuss and edit respective objectives. These objectives will be further refined by a small group after the meeting's close. Draft objectives are as follows:

1. *Facilitate country development toward mature, well-governed, resourced, and interoperable digital health information systems that effectively leverage digital health global goods.*
2. *Actively co-create and foster the development, use, and long-term support of digital health global public goods, which include: guidance, standards, tools, templates, and technologies.*

The working group agreed that a third objective—focused on increasing alignment of country and partner investments—would be revisited once the above objectives are finalized.

Scoping Out the Future

As part of determining the scope of the DH&I working group, participants first chose to map their organizations respective activities in relation to each draft objective. This enabled participants to identify areas needing enhanced coordination to avoid duplication, as well as potential gaps. The exercise demonstrated that members of the DH&I Working Group are already engaging in a significant amount of work, across many different countries, which can be leveraged for the HDC.

Participants stressed the importance of defining the scope of the DH&I Working Group and gaining clarity on joint actions to which the working group can commit. To further elucidate objectives and ensure alignment moving forward, participants divided into two groups, each responsible for developing a draft scope of work in support of the objectives. Groups were also given the opportunity to validate and build upon each other's work.

Objective 1

Participants developed a list of activities necessary for facilitating the country development of mature, well-governed, resourced, and interoperable digital health information systems. These included:

- Work to understand the status of focus country governments and key local stakeholders in terms of financial resources, physical infrastructure, health information technology implementation, current health-related data sharing activities, governance structure, and human capacity, among others.
- Facilitate a visioning exercise to identify short-, medium-, and long-terms goals, and develop a work plan to enable the delivery of these goals—including plans for sustainable funding and human capacity development.
- Facilitate technical support to governments and digital health solution developers to strengthen capacity to invest in tools and platforms, ultimately resulting in national digital health and eHealth architecture plans. Evaluations will be conducted on a regular basis to assess the maturity of implementation.
- Convene key digital health systems stakeholders in focus countries to improve the alignment of investments, provide peer learning opportunities, share guidelines and standards, and catalyze support for country digital health systems.

Objective 2

Participants identified six "activity buckets" and associated deliverables to support the development, use, and sustainability of global public goods. These include:

- Develop scenarios that demonstrate the added value of interoperable systems.
- Facilitate the identification of global public goods.
- Develop and refine products, frameworks, guidelines, and standards that support the design, integration, and implementation of digital health architectures and tools at all levels.

- Develop strategies, frameworks, and metrics to ensure alignment of donor investments.
- Support the establishment of policies, financial models, and governance structures for the sustained implementation of global public goods.
- Support mechanisms that strengthen investments into foundational interoperable digital health systems.

As mentioned above, participants established small task teams to finalize Objectives 1 and 2 for validation by the full DH&I Working Group by end of quarter three. Task teams were also created to finalize the activities and deliverables for both objectives.

Focus Country Selection

While defining the working group's scope, participants agreed to prioritize one to two focus countries. In terms of criteria for country selection, participants mentioned existing political will, current or upcoming funding for related activities, and a willingness to engage with the HDC. In initial discussion, Kenya emerged as a leading candidate, given government interest and a working group on interoperability that has already been established. Moreover, there is significant political commitment for improved data use, and UNICEF is already implementing data systems activities. Other countries of interest included Malawi, Tanzania, and Ethiopia.

Based on group consensus, the small task team responsible for finalizing Objective 1 activities and deliverables will identify a short list of focus countries and validate with the HDC Steering Committee and country-based colleagues, as necessary. Because of strong support for prioritizing Kenya, the team will use Kenya as a reference implementation point. Focus countries will be finalized at the next in-person working group meeting, tentatively planned for September 2016.

Working Together to Implement Scope and Achieve Objectives

Membership

Recognizing that not all relevant organizations or agencies involved in DH&I activities were present at the workshop, participants brainstormed additional illustrative membership groups. Specifically, country partners, software developers, and program implementers were recognized as needing increased representation. Organizations or agencies involved in tool-building were also identified as a critical need.

On-going communications and engagement

DH&I Working Group co-chairs were tasked with developing a model of engagement for the working group with specific considerations to bear in mind, including potential for:

- Tiered membership levels to account for organizations with existing time and resources to dedicate to DH&I activities versus those who have less capacity to fully participate.
- Organizational engagement based on working group deliverables and/or needed expertise.
- Regional or geographic divisions when creating smaller task teams within the working group.
- A defined approach to onboarding new members.

- Establishment of a DH&I Working Group secretariat.

Participants also agreed that collaboration with other HDC working groups will be critical in identifying gaps related to interoperability, as well as avoiding possible duplication of efforts. Participants recommended actively reaching out to select HDC working groups that closely align with the DH&I Working Group to co-plan; inviting other working group leads to DH&I meetings; or asking DH&I members who participate in other working groups to act as a liaison. Additionally, it was recommended that the HDC Secretariat foster collaboration by gathering working group leads to share work plans, disseminating roles and responsibilities of each working group, and helping to identify duplication in activities.

Next Steps

In addition to finalizing objectives and respective scopes, participants agreed on a three-month action plan to solidify models of engagement and working group membership, finalize a 2016-2017 work plan, and select focus countries. Small task teams were created to complete these activities in collaboration with the DH&I Working Group co-chairs. It was recommended that task teams complete their workloads by September 2016 to be shared, refined, and adopted by the DH&I Working Group at a second, in-person meeting. Meeting organizers will review the feasibility of a follow-up meeting.

Appendix H: Organizational Work Related to DH&I

OBJECTIVE 1: *Facilitate country development toward mature, well-governed, resourced, and interoperable digital health information systems that effectively leverage digital health global goods.*

Organization / Agency	Existing Work Related to DH&I
OGAC	Work with the Nigeria MOH to develop and implement a national eHealth strategy.
OGAC	Work with Tanzania to develop and implement use cases to iteratively realize the digital health enterprise architecture.
OGAC/Regenstrief Institute	Work with Liberia to educate and peer mentor on concepts of interoperability and how those concepts can integrate into an operational eHealth strategy.
CDC	Working with the MOH in Kenya to automate generation of reporting data (e.g. DHIS aggregate results) directly from three existing EMRs in use at ART sites.
CDC	Working across multiple countries to standardize concept dictionaries used with EMRs.
CDC	Working to exchange data between EMRs and LIS to facilitate linkages and analysis of HIV viral load test results into EMRs.
CDC	Working with multiple country teams to create national longitudinal data sets at national and sub-national levels, by automatically creating electronic messages containing selected data elements, directly from EMRs at clinical facilities.
IntraHealth	Support country implementation of interoperable health information systems. Countries include Tanzania, Zambia, Kenya, Nigeria, and Uganda.
IntraHealth	Provide global technical support for iHRIS, mHero, HWR, and interoperability of related systems.
IntraHealth	Facilitate workshops and train on use of data for decision-making and combining data from multiple systems.
IntraHealth	Train and mentor MOH staff in management, administration, and customization of health workforce information systems.
USAID	Support DHIS2.
USAID	Investing in knowledge communities.
USAID	Invest in facility master lists and registration.
USAID	HSS investment (governance, EMRs, etc.).
USAID	Invest in digital infrastructure and data systems.
WHO	In Sierra Leone, which is preparing an HIS strategy, interoperability workshop to assess digital health investments and plan.
WHO	Kenya Health Observatory linked to WHO AFRO Health Observatory and WHO Global Health Observatory.

PATH	Digital Health Solutions supporting malaria elimination in Ethiopia, Senegal, and Zambia.
PATH	Surveillance systems with DHIS2 in DRC, Senegal, Tanzania, and Vietnam.
PATH	Developing and scaling up immunization registries in Tanzania and Zambia.
PATH	Support stakeholder development of national digital health investment plan in Tanzania.
UNICEF	Statistical standards promotion in country.
UNICEF	DHIS2 implementation.
UNICEF	Digitalizing health data collection through household surveys (MICS).
USAID / URC	Support for implementation research (and capacity building to conduct IR) in LMIC research institutions, many of which also may contribute to national health data systems. Countries include Tanzania, Indonesia, Bangladesh, and Ghana.
USAID / URC	Actively working on our learning management system to roll-out a range of courses in Bangladesh and Indonesia initially. This could support curriculum development and course implementation (distance learning for guidance/tools developed).

OBJECTIVE 2: *Actively co-create and foster the development, use, and long-term support of digital health global public goods, which include: guidance, standards, tools, templates, and technologies.*[4]

Type of global public good	Organization / Agency	Existing DH&I Related Work
Guidance	USAID	Digital principles guidance for USAID and others
	USAID	Interoperability principles (BAA)
	USAID	HSS Investment (governance, EMRs, etc.)
	USAID	Responsible data guidance (privacy and security)
	WHO	Developing WHO guidance on digital health strategies for HSS, UHC, and RMNCH
	WHO	National health observatory guidelines
	WHO	mHealth technical and evidence review group
	WHO	Harmonized national reporting initiative and Global Engagement Management Platform
	WHO	Indicator metadata registry and 100 core health indicators, including sub-indicator definitions and question bank (global scope)
	PATH	Broad digital health global good support
	PATH	Journey to Scale (moving beyond pilots)
	UNICEF	Harmonizing/standardizing indicators for comparability (enabling interoperability)

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[4] Participants chose to group Objective 2 related activities by type of digital health global public good, including guidance, technology, standards, tools, and community and governance mechanisms.

	CDC	Guidance to improve data security privacy
	CDC	Guidance on implementing unique IDs
	IntraHealth	Curate resource libraries of guidance for implementation of digital health systems (e.g. mHero Toolkit, iHRIS Toolkit, and HWR Implementation Guide)
Technology	UNICEF	Modernizing UNICEF data platform
	UNICEF	iHRIS
	UNICEF	mHero
	UNICEF	U-Survey
	UNICEF	U-Report
	UNICEF	Rapidpro (mTRAC and Edutrac)
	WHO	Digital health atlas for inventory, maturity, and functionality
	WHO	Open Smart Register platform (openSRP and openMRS)
	USAID	Supply Chain
	USAID	Investment in facility master list and registration
	PATH	Open LMIS support and barcodes
	IntraHealth	iHRIS
Standards	CDC	Technical specifications for exchanging data
	CDC	Standard code sets for implementing case surveillance reporting
	IntraHealth	Develop interoperable software platforms (e.g. mHero, DATM, etc.)
	IntraHealth	Develop open standards for data exchange
	WHO	DHIS2 content package for standardized WHO data collection and reporting (e.g. 100 core health indicators, TB, HIV, etc.)
Tools	USAID	Invest in digital infrastructure and data systems
	USAID	Maturity matrix (BAA)
	USAID	Learning products
	USAID	e-Logistics management
	USAID/URC	We work with researchers who use data to answer implementation research questions. This could facilitate bringing this perspective.
	WHO	Archive of tools and standards for digital health information systems
	WHO	Interagency country-focused Implementation Guide on digital strategies for HSS/UHC
	WHO	mHealth assessment and planning for scale toolkit
	WHO	Tool for digitizing paper registers (concept dictionary) and process
	WHO/PATH	Planning an information system toolkit for public health managers
	CDC	HIS maturity model
	CDC	Tools for evaluating eHealth
	JSI	Toolkit on requirements gathering for governance and interoperability
	JSI	Capacity building tools

	Regenstrief Institute	Develop toolkit for eHealth data sharing policies and procedures (security, privacy, data access, legal framework)
Communities	PATH	Open HIE implementers community
	PATH	BID Learning Network (immunization data)
	OGAC	Support the Open HIE community
	USAID	Investing in knowledge communities
	IntraHealth	Lead health worker registry community of Open HIE
	IntraHealth/ADX	Advocate for adoption of data exchange standards for HIS components
	Regenstrief Institute	Lead the Open MRS community
	CDC	Distance-based trainings to support HIS implementations
Governance	USAID	DH&I (BAA Tech Registry) secretariat
	USAID	Global goals administration
	PATH	Health enterprise architecture