Workshop Outcomes:

Collaboration for Scaling Digital Health at the National Level

April 20-21, 2016

Washington, D.C.

USAID FROM THE AMERICAN PEOPLE

mPOWERING FRONTLINE HEALTH WORKERS

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The World Bank

Overview of Contents

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Meeting Background and Issue Statements

- Meeting purpose and issue statements provided context and specific direction for the workshop.

Meeting Background

The purpose of this meeting is to discuss the creation of stronger cross-sector collaboration between health and ICT authorities in order to close the gaps preventing countries from reaching national scale in digital health to improve service delivery and health outcomes.

Issue Statements

1. **The systems and infrastructure required to support a comprehensive digital health strategy and architecture in African countries need significant investment in order to promote interoperability between data systems and avoid ICT and data silos.**
2. **Investment is needed in human capacity systems and programs to develop a workforce, including frontline health workers, that is able to develop, support, and use digital health tools and make effective decisions using health data.**
3. **Country investment strategies for digital health systems and health data use require greater coordination between governments and funders across sectors to avoid duplication and ensure maximum ownership and sustainability.**

Identified Next Steps: Malawi

Next Steps	Timing and Resources	Responsibility
Malawi MOH, ICT and relevant Task Force(s) to ▸ Review eHealth strategy ▸ Implementation plan ▸ Prioritize actions ▸ Sequence plans with other sectors ▸ Identify financing needs and sources	▸ Starting in May/June 2016 ▸ Technical support for review and input ▸ Country workshop ▸ Short-term funding needed	▸ Primary responsibility is **Malawi** ▸ Support from others, including Gates, USAID, and World Bank
Communicate workshop outcomes to appropriate stakeholders	▸ June 2016 ▸ Formal documentation from meeting circulated ▸ Debrief for all relevant stakeholders including USAID Mission and World Bank (all appropriate levels)	▸ **Vital Wave** with input from mPowering responsible for meeting documentation ▸ **USAID** with support from mPowering report back to Mission ▸ **World Bank** with support from mPowering to debrief colleagues in DC and country
Mapping of health facilities and connectivity	▸ Timing to be confirmed; funding approx. $300K	▸ **World Bank** working with Government of Malawi

Other Notable Steps

- Identify positive patient feedback (Malawi team)
- Unique IDs (Malawi team: tackling ghost worker burden)
- Streamlining indicators (Malawi team: ongoing)
- Utilize existing efforts: e.g., Health Data Collaborative (WHO and ITU follow up)
- Educate donors to understand whole landscape of activity and ecosystem challenges in Malawi (Malawi team with support from NGOs)

- Continue dialogue with all and understand the different roles that each donor plays; could be part of the mapping (All)
- Develop mechanism for countries to talk and keep up to date on each other's progress (ITU, WHO, and mPowering to draft a paper proposing next steps)
- Prepare white paper on workforce (PATH and mPowering to share draft with government colleagues)
- Keep momentum (All)

Identified Next Steps: Senegal

Next Steps	Timing and Resources	Responsibility
Support for implementation plan ▸ Priority = how to build the infrastructure ▸ Identify financing required for implementation plan, phases, and kickoff	▸ Starting in June 2016 ▸ Technical support ▸ Country workshop to propose way forward ▸ Short-term funding needed to: – Develop overall plan – Develop detailed kickoff plan to identify specific requirements	▸ Primary responsibility is **Senegal** ▸ **World Bank** ongoing technical support; ▸ Funding support (?)
Communicate workshop outcomes to appropriate stakeholders	▸ May-June 2016 ▸ Formal documentation from meeting circulated ▸ Debrief for all relevant stakeholders including USAID Mission and World Bank (all appropriate levels)	▸ **Vital Wave (**with input from mPowering) responsible for meeting documentation ▸ **USAID** with support from mPowering report back to Mission ▸ **World Bank** with support from mPowering to debrief colleagues in DC and country

Other Notable Steps

- Utilize existing efforts: e.g., Health Data Collaborative (WHO and ITU follow up)
- Educate donors to understand whole landscape of activity and ecosystem challenges in Senegal (Senegal team with support from NGOs)
- Continue dialogue with all and understand the different roles that each donor plays (All)

- Develop mechanism for countries to talk and keep up to date on each other's progress (ITU, WHO, and mPowering to draft a paper proposing next steps)
- Prepare white paper on workforce (PATH and mPowering to circulate draft paper to workshop colleagues)
- Keep momentum (All)

Country Orientation in the Digital Health Context

Demographic and Health Snapshot

Kenya, Malawi, and Senegal

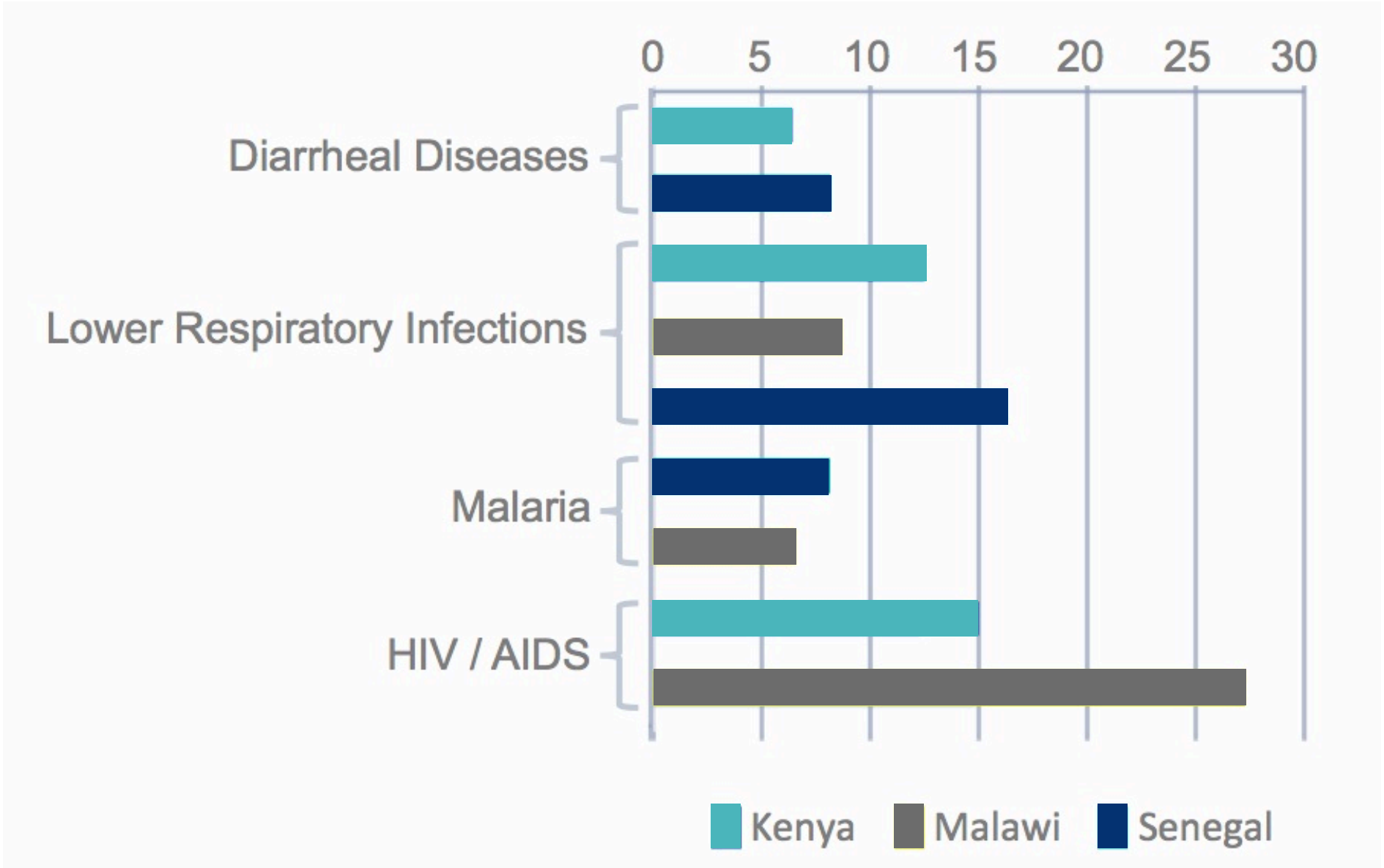
- Background information was provided to all workshop participants to provide an orientation within the digital health context.

Demographic and Socioeconomic Indicators				
	Kenya	Malawi	Senegal	OECD
Population (in millions, 2014)	45	16	15	N/A
Urban Population (% of total, 2014)	25	16	43	80
Life Expectancy at Birth (in years, 2014)	61	61	66	80
Birth Rate, Crude (per 1,000 people, 2013)	35	39	39	11.9
Adult Literacy Rate (2015)	78	66	58	?
GDP Purchasing Power Parity (in billions, USD, 2015)	143	21	36	N/A

Morbidity and Mortality Indicators				
	Kenya	Malawi	Senegal	OECD
Life Expectancy at Birth (in years, 2014)	61	61	66	80
Infant Mortality Rate (per 1,000 live births, 2015)	36	43	42	5.9
Mortality Rate <5 (per 1,000 live births, 2015)	49	64	47	6.9
Maternal Mortality Ratio (per 100,000 live births, 2015)	510	574	315	14

Key Causes of Death

Percentage (%) of total, 2012



ICT Access and Infrastructure

Kenya, Malawi, and Senegal

ICT Access and Infrastructure	Kenya	Malawi	Senegal	OECD
Urban Population (% of total, 2015)	25	16	43	80
Mobile Cellular Subscriptions (per 100 people, 2014)	74	34	99	118
Internet Users (per 100 people, 2014)	43	7	18	78
Mobile Network Coverage (% by population, 2012)	92	93	88	> 95%*

Source: World Bank Data, GSM Universal Access. * estimate based on data for a majority of OECD countries

Community Health Workforce Programs

Examples of Large-Scale Projects

Kenya: Community-based Health Workers (CHW) Program

***Description*:** Established in 2006, the CHW Program is organized under the Ministry of Health, Division of Community Health Services. There were 135,000 workers in the program in 2013 performing health promotion, preventive health, and curative health services. Funded by USAID and MoH. (No mobile component.)

***Next Steps*:** The program plans to scale to size by 2017 and will achieve nationwide reach. The core of the program is community units (CUs). Kenya currently has about 2,500 CUs. By 2017, 8,000 CUs will be established.

Senegal: The Community Health Project

Description: Traditionally, health services in Senegal have been implemented through health huts. The Community Health Project supports the expansion of health huts through a network of NGOs. CHWs usually provide services from health huts rather than door-to-door. Services include maternal health, family planning, management of certain illnesses, and awareness and health promotion. Funded primarily by USAID. (No mobile component.)

Next Steps: Currently, health huts operate in mostly rural areas in 71 out of 75 districts. There are plans to scale up to all districts through iNGOs.

Source: https://www.advancingpartners.org/resources/chsc

Malawi: Primary Level Care

Description: Malawi does not have a stand-alone community health program. Rather, community health services are considered the primary level of care within the national health system. The delivery of primary health services across all program areas is coordinated at the village level by Health Surveillance Assistants (HSAs). The Ministry of Health is scaling up the types of services offered and the number of CHWs providing services. HSA recruitment is a priority of the MOH. Additionally, youth health, integrated management of childhood illnesses (IMCI), HIV, sanitation, and maternal and child health (MCH) services are being scaled up across the country, as presently many of these services are only active in NGO-supported regions in 42 of 75 districts. Funded by MoH with supplement from USAID and NGO funds. (No mobile component.)

Next Steps: The MOH plans to train more than 2,000 HSAs by 2015 and revitalize and train VHCs in areas where they are not currently functioning. The FP activities implemented by CBDAs are also being scaled up from the current 8 districts to all 28.

Snapshot of eHealth Strategy and Status

Kenya: Kenya National eHealth Strategy 2011-2017

Vision: Develop efficient, accessible, equitable, secure, and consumer-friendly healthcare services enabled by ICT.

Objectives include: Policy reforms, improved clinical practices, and increased health sector efficiency.

Access link:
https://www.isfteh.org/files/media/kenya_national_ehealth_strategy_2011-2017.pdf

Senegal National eHealth Strategy

Current Status: K4Health, IntraHealth, FHI 360, and USAID/Senegal assisted the Government of Senegal's Ministry of Health and Social Action, eHealth Sub-Committee in developing the National eHealth Strategy in 2015.

Next Steps: The Strategy was submitted to the Minister in April 2016 and is awaiting approval.

Malawi National eHealth Strategy 2011-2016

Vision: To have integrated, proactive eHealth solutions that promote high quality and productive lives in the health service delivery.

Objectives include: Implementing a set of high priority eHealth foundations and principles that provide strong coordination, visibility, and oversight of national eHealth activities.

Access link: http://www.who.int/goe/policies/malawi_ehealth_strategy2011_2016.pdf

Snapshot of Funding Flows In-Country

Kenya, Malawi, and Senegal

Senegal - Major Health Donors and ICT Funding (Millions, USD)		
Funding Institution	**Overall Health Funding**	**ICT Funding**
Gov of USA, USAID	23	2
GAVI	18	2
Gov of France, AFD	11	1
Gov of Japan, JICA	8	1
IDA, World Bank	4	0.5
UN Agencies*	2	0.2
TOTAL:	*66*	*6.7*
**Includes WHO, UNAIDS, UNDP, UNFPA, UNICEF*		

Malawi - Major Health Donors and ICT Funding (Millions, USD)		
Funding Institution	**Overall Health Funding**	**ICT Funding**
Gov of Germany, GIZ	7	1
Gov of USA, USAID	3	0.2
Gov of Iceland, ICEIDA	2	0.2
Global Fund	5	1
TOTAL:	*17*	*2.4*

Kenya - Major Health Donors and ICT Funding (Millions, USD)		
Funding Institution	**Overall Health Funding**	**ICT Funding**
Global Fund	74	8
Gov of USA, USAID	11	1
Gov of Germany, GIZ	8	1
Gov of Japan, JIC	3	0.3
TOTAL:	*96*	*10.3*

Source: OECD, CRS.

Categories of ICT Investment

Kenya, Malawi, and Senegal

Categories of ICT Investment					
	Data Collection	Network & Infrastructure	Service Delivery	Knowledge Building & Awareness	Capacity Building &Training
Kenya	✓		✓	✓	✓
Malawi	✓	✓	✓	✓	✓
Senegal	✓		✓	✓	✓

Source: Global Fund, World Bank, USAID.

Workshop Outputs and Next Steps

Country Visions for Digital Health

Malawi and Senegal in the Next Five Years

- Each country present (Malawi and Senegal) provided information on their vision, progress, and barriers to achieving digital health. Elements of their visions are summarized below.

Country	Vision
Malawi	▸ Improved service delivery through digital health because workers are able to provide services easier and quicker ▸ In five years, Malawi will have information available in real time at all levels, including the highest, to be used for decision making. This will provide a comprehensive view through digital processes of health services nationally. ▸ Digital data capture at lowest levels to create efficiency ▸ Systems that are interoperable within the next few years
Senegal	▸ A country where ICT is used at scale to improve health and welfare for all ▸ Interoperability between services and connectivity exists at all levels (e.g., bring core system to end user for quicker service) ▸ Overcome the listed barriers by 2020 (e.g., interoperability, human resources, cost) ▸ Ensure connection to all people that need to use the system

Workshop Definitions

- The group defined the three focus areas to create a common understanding.

Infrastructure

- Entire technological ecosystem to enable digital health (digital health platform)
- Telecommunications, including basic equipment
- Data infrastructure and platform
- National grid and power
- Extendable and extensible infrastructure
- Infrastructure that can be run locally
- Physical infrastructure for health (e.g., connectivity to homes)

Workforce

- WHO definition: Anyone supporting health and health system in their daily lives
- Must be inclusive and include cross-sectoral expertise
- Focus on professional providers of health and ICT services including informal workers (e.g., traditional and unpaid providers)

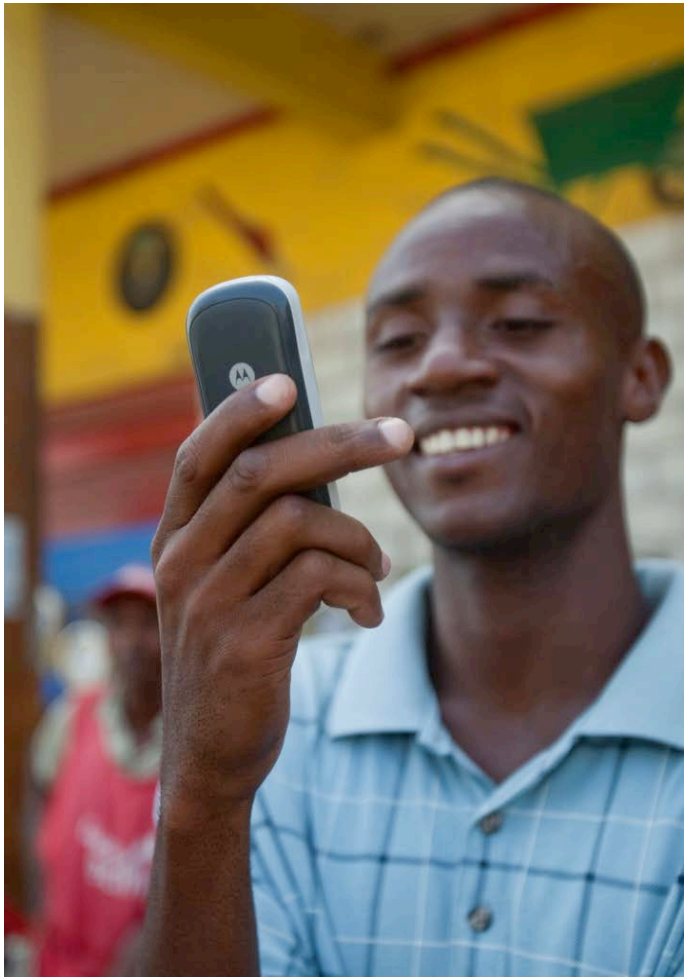
Finance

- Financial resources
- Funding mechanisms
- Funding type (in-kind, recurrent versus project, private, donor, domestic)
- ICT and health angle of financing identified to avoid funding silos
- Adequacy of funding
- Measuring impact compared to financing across sectors
- Sustainability of the investment
- Total cost of ownership
- Benefits versus costs (value and criteria for both)

Critical Success Factors

What is meant by critical success factors?

- What conditions need to exist?
- What resources need to be available?
- Skill sets, finance, stakeholder support?
- What processes or approaches are critical for success?



Critical Success Factors Discussion – Infrastructure

1. Political will: vision and clarity for extending infrastructure
2. Clear governance and plan for sustainability
3. Different funding mechanisms
4. Improved synergy between eHealth and ICT strategies, developed in coordination; understanding how each one will support the other
5. Improved cost effectiveness needs to bring the cost down through different approaches
6. Demand aggregation to enable negotiation with large operators
7. Platforms: partially the eHealth platform and digital-health platform; needs to be clear architecture and blueprint
8. Clear strategy for leveraging cloud services
9. Need to build human capacity and resources for ICT solutions; don't have enough people with the right skill level
10. Ability to balance funding and sustainability between the public and the private sectors
11. Educating leaders about infrastructure: needs to be driven by value and health rather than technology

Critical Success Factors Discussion – Workforce

1. Strong governance and leadership
2. Healthcare workers are motivated, and supported to be skilled practitioners
3. Well-defined roles exist: job descriptions, competencies, performance indicators
4. Strong training institutions exist, providing pre- and in-service training and job support
5. Information systems exist and are used, e.g., documenting number of health workers, where they are deployed, what they do, what training they have received
6. Strong regulatory environment exists, e.g., health professional councils, CME, and accountability
7. Human capacity, IT support, and data continuity are part of the overall system
8. Healthcare workers are supported with digital literacy training
9. Communication systems exists between Ministry and healthcare workers (e.g., mHERO)
10. Resources are ring-forced for resilience against competing budget demands
11. Data continuum exists: collect, record, analyze, plan, and manage
12. Healthcare workforce capacity is built: health workers know how to process and use data
13. Advocacy training exists
14. Data indicators and collection are streamlined to reduce burden and enable more time for health service delivery

Critical Success Factors Discussion – Finance

1. Adequacy, sustainability
2. Government leadership around a single strategy (country commitments) and clarity about how to enforce or encourage that plan
3. Evidence base and shared value proposition
4. Donor coordination/funding coordination; within government, between donors
5. Routinizing digital health activities: more a part of service delivery; digital health is ingrained and embedded (leads to sustainability); digital health part of routine financing of the budget as a specific line item
6. Maturity model: an understanding at which points in the model to strategically invest to make the most impact
7. Monitoring value of actions in a systematic way, e.g., execution of that plan with real time costs; agreed indicators to determine whether actions are a success

Identified Gaps: Infrastructure

Malawi Infrastructure Gaps

1. Unique identifier not fully developed 1) for national ID and 2) for workers in terms of staffing
2. Last mile of connectivity; alignment needed with mobile network operators (MNOs) for coverage in certain places
3. Data center needs upgrading
4. Parallel systems exist; interoperability issues overall
5. Lack of maturation pathway
6. Mapping across sectors needed for better understanding of the health facilities and connectivity
7. Strategy with MNOs to address pricing issues; systematic assessment for mobile applications to help determine what government supports to scale
8. Physical structures: extension of electronic systems, power, computers, buildings
9. Lack of harmonizing investments

Senegal Infrastructure Gaps

1. Connectivity; difficult to connect in rural areas
2. Common reference model; difficult to integrate software or applications to use in the health field
3. Cost of using ICT; need support to reduce cost
4. Lack of awareness among patients and health care providers that mobiles can be used for health
5. Underutilization of infrastructure; not about adding but rather how to use better; awareness of the capabilities that exist
6. Understanding what other countries are doing effectively and learning from this
7. Lack of software to review health research protocols (related to #2)
8. Lack of electronic archiving system

KEY ACTIONS (Malawi)

- The unique identifier, last mile of connectivity, interoperability, and physical structures were highlighted as the top priority items
- Gaps 2, 3, and 7 were all noted to be interrelated
- Understanding the pathway from pilot to scale, mapping, and upgrading the data center were highlighted to be quicker wins than others

KEY ACTIONS (Senegal)

- Connectivity, cost of using ICT, and lack of electronic archiving system (in terms of budget) were highlighted as the top priority items. These would help increase inclusion and access for community health, as well as help to expand services
- However, these were all classified as large investments. The other gaps were noted to be smaller investments

*See appendix for raw data

Identified Gaps: Workforce

Malawi Workforce Gaps

1. Systems do not connect, leading to ghost workers
2. Workforce assessment to provide input into training needs
3. Definition of roles and responsibilities, needed to provide clarity
4. Technical assistance to support and mentor local technical experts, working side by side in government, particularly with interoperability
5. Facility level needs more training and more staff
6. Ongoing proliferation of indicators; being addressed but more needs to be done

Senegal Workforce Gaps

1. Difficulty in retaining workforce; how can they be retained in the health centers, particularly rural?
2. How can the eHealth strategic plan and ICT strategy be managed and coordinated?
3. Identified the needs in ICT health but do not have local capacity to propose solutions; creates dependencies on external sources
4. Lack of human resources to implement
5. Training program about ICT in health is needed for health care workers, policy makers, and technicians
6. Tools and applications needed for health care workers to analyze data and share information

KEY ACTIONS (Malawi)

- Gaps 1, 4, 5, and 6 were noted to have the highest priority
- Gaps 1 (ghost workers) and 4 (technical assistance) were noted as low investment and potential “low hanging fruit”
- The last gap (question of indicators) links with data governance in infrastructure

KEY ACTIONS (Senegal)

- All gaps except 3 and 4 were noted as a high priority
- All were classified as requiring medium to large investment except for gap 2

*See appendix for raw data

Goals and Next Steps

Goals

- Create smaller, short-term funding flows
- Develop and pursue larger, long-term funding flows

Issue Statements

1) Articulate and communicate the National eHealth Strategy and Plan
2) Map funding cycles and pathways from likely donors (large and small)
3) Establish communication and working relationships with donors and partners

Strategies and Next Steps

- Elements needed for the recommended steps were identified.

1) Articulate and communicate the National eHealth Strategy and Plan	▸ Ensure gaps represented in the plans ▸ Add elements of prioritization and time ▸ Develop a “maturation pathway” ▸ Add required steps, time, capabilities, and investment framework ▸ Ensure links to broader ecosystem (e.g., infrastructure efforts) ▸ Create “center of gravity” to drive plan forward (e.g., Malawi task force, governance structure) ▸ Request help from donors to refine plan ▸ Plan what funds are needed, after initial assessment is done
2) Map funding cycles and pathways from likely donors (large and small)	▸ Have detailed costing for plan ▸ Donor mapping required; incomplete knowledge of donor angles ▸ Harmonization also needed, plans are different for each donor ▸ Short-term effort of tools to meet some of the needs identified ▸ Identify short-term funding for immediate next steps (including to help build the case for longer term and significant investment) ▸ Create a working group to support the Ministries ▸ Determine other sources of funding that can be tapped for the short-term
3) Establish communication and working relationships with donors and partners	▸ Undertake donor mapping to better understand their roles and funding cycles ▸ Ensure donors understand entire ecosystem of activity and challenges in each country ▸ Coordinate in-country (and, where appropriate, global) workshops which are funded, supported, and attended by donors, Ministry officials, and other key partners ▸ Continue communication and relationships to keep momentum and collaborate for building stronger digital health infrastructure and competent, supported health and IT workforces

Appendix

Report Out: Malawi & Infrastructure

- Country-specific group discussions were held to characterize and discuss status compared to critical success factors.

Critical Success Factor	Summary
Political Will	Malawi has a national ICT policy which was approved in 2014. Two bills are being reviewed now for approval. This is a good demonstration of political will.
Vision	Architecture is defined and understanding exists of the areas where support is needed.
Connectivity	What the government is doing with internet (e.g., fiber, more than one cable) has connected some districts, but last mile of connectivity is a big area of need. Need alignment between MNO services and caregivers. Have also been working on data center; need to upgrade and have good test case as to why. Have electronic systems in about 10% of facilities, expanding this to convert from paper is part of the vision. Systematic assessment for mobile applications for government support to scale is also needed. Power and grid issues exist; most facilities are outside the national grid.
National ID	Support continuing of care in terms of unique identification of patients is an area of investment that is needed. As a part of this, systems need to be integrated to share information.
Technical Assistance	Technical assistance (e.g., on the job training), particularly in regards to interoperability, is an area where capacity building is needed.
Physical Infrastructure	Standing structures and buildings are important to remember. For example, there is no security for equipment.

Report Out: Senegal & Infrastructure

- Country-specific group discussions were held to characterize and discuss status compared to critical success factors.

Critical Success Factor	Summary
Political Will	Political will exists to prioritize this. The President is a champion and this is shared with the departments.
Vision	There is a plan in place to be acknowledged by the Minister. There is interconnection with other departments. There is also a vision for eLearning (and access), the developing of mobile solutions and how to use them in eHealth development, and data use to improve health.
Cross-sector Collaboration	Collaboration exists but can be better. The Prime Minister has an initiative to privatize projects and continue to move forward in this area.
Connectivity	Connectivity is good but can be improved, especially in rural areas. It will be important to see how to move forward with a plan and with implementation. There is a need to review priorities, think about solutions, and discuss financing.
Infrastructure	Infrastructure is underutilized? Consider how to better use what exists and work together to implement the principles of interoperability. Start with existing capabilities, develop technical requirements, then work with private sector. In addition, work on cost and visibility to show the value of infrastructure. Sell infrastructure from a value perspective.
Human Resources	Senegal has the human resources to implement. Working on decentralizing.

Report Out: Malawi & Workforce

- Country-specific group discussions were held to characterize and discuss status compared to critical success factors.

Critical Success Factor	Summary
Leadership and Governance	The Ministry of Health has a director of human resources, and the structures are there. Need to look at staffing. Is what they know still relevant and what are the issues? Parameters and needs have changed, so an exercise was conducted but still awaiting results.
Coordination	Donors go straight into the facilities and train regardless of the needs, especially in training. Donors also want to be in certain districts more than others. Actual needs and government priorities have to be taken into account.
Capacity and Training	Assessment of medical personnel needs to occur. Are there enough for the country? Currently have nurses and doctors, but failing to recruit for future. Need to determine how many need to be trained, in which courses, and in what numbers? This assessment needs to be done to provide input into training needs.
Information Systems	Not up to date. The IRIS and HR information systems do not talk to each other, thus the wage bill is overblown. They are understaffed in reality but not on paper. However, it costs a lot to do a headcount, so links need to be created between payroll and payment systems.
Regulatory Authorities/ID	Have councils; people are registered with these authorities. When registered they are given a specific number. Link this number with the actual payroll. This will help identify who is in the health system.
Roles and Responsibilities	Need to define roles and responsibilities. There is currently insufficient clarity leading to health workers not carrying out tasks (as they see them being someone else's responsibility).

Report Out: Senegal & Workforce

- Country-specific group discussions were held to characterize and discuss status compared to critical success factors.

Critical Success Factor	Summary
Leadership and Governance	The Ministry has human resources that are motivated, but there is difficulty in retaining them. How can people be retained in the health centers, especially in rural areas? There is an eHealth strategic plan and an ICT strategy, but how can the two be managed and coordinated? In addition, there is a need to validate data before translating into policy and practice.
Integration and Interoperability	Need to identify common reference model to facilitate sharing information and health data between health workers and other actors. But there is difficulty in integrating the software or applications to use in the health field.
Connectivity	Mobile is in large use, but at community level. There is connectivity, although this can be very poor in rural areas.
Training and Capacity Building	ICT health needs are identified, but local capacity to propose solutions is lacking. Dependencies are created when solutions come from external sources. Training and capacity building is needed. Training programs about ICT in health are needed for healthcare workers and technicians. The strategic plan identifies this, but it is a significant challenge. Also, tools are needed in order to use the eHealth solutions for healthcare, as well as applications to share information.

Malawi Workforce and Infrastructure Gap Prioritization

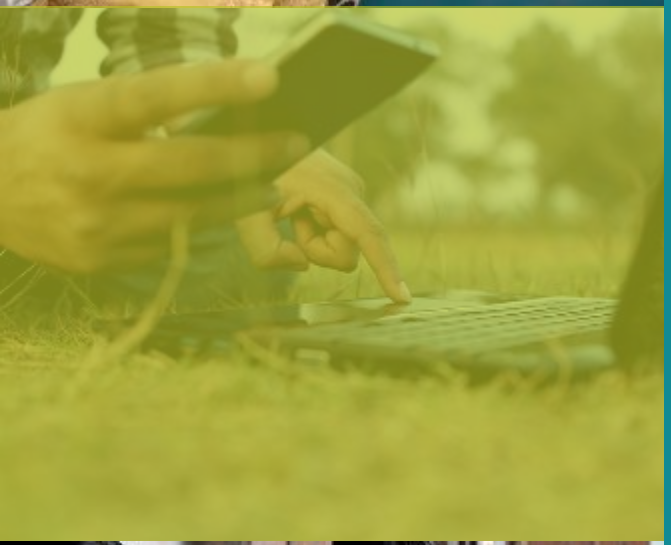
- Raw data from prioritization exercise of identified gaps.

Infrastructure			
Gap #	**Size of investment needed (S, M, L)**	**Critical Nature (1-3, 3=highest)**	**What does investment (by Government or donors) enable?**
1	M	3	▸ Continuity of care ▸ Interoperability ▸ Improved performance management ▸ Building block for other work
2	L (x)	3 (district level first)	▸ Better patient outcomes (CHW support, referral system strengthened, ability to move data for decision making, resource allocation, and management of disease)
3	S	2	▸ Access to systems
4	M (technically S/M; governance=M)	3	▸ Enable seeing data already being captured (improves decision making and provides a holistic view) ▸ Patient care improved (quality and quantity) ▸ Time of CHW lessened
5	S	2 (framework)	▸ Understand pathway from pilot to scale
6	S	2	▸ Done
7	M	2	
8 (linking 2, 3, 7)	XL overall (Power=XL, equipment/resources=L)	3	▸ Improved service delivery
9	S (mapping) (need to incorporate strategy to this) Actual harmonizing =M		▸ Increased efficiencies (systemic approach) ▸ Coordinator/enforcer role ▸ Increased transparency (donor provided)
Workforce			
1	S (tech)	3	▸ Saving money ▸ Improved service delivery and better coverage
2	L (M) (have to develop system)	2	
3	S	1	▸ For non-medical staff, clearer job description and roles
4	S (financial mechanisms)	3	▸ Aid in interoperability
5	L (based on complexity of scale) financial support needed for training (content and execution))	3	▸ Increased understanding of systems
6 Data governance and enforcement (links with data governance in infrastructure)	L	3	▸ Decreased burden on health workers ▸ Ask around harmonizing

Senegal Workforce and Infrastructure Gap Prioritization

- Raw data from prioritization exercise of identified gaps

Workforce			
Gap #	**Size of investment needed (S, M, L)**	**Critical Nature (1-3, 3=highest)**	**What does investment by Government or donors enable?**
1	L	3	Health service access
2	S	3	Continuity and efficiency of healthcare
3 and 4	L	2	Scale
5	M	3	Efficiency of management of quality of care
6	L	3	Efficiency of effectiveness of care
Infrastructure			
1	L	3	Inclusion and access for community health
2	?	2	Inclusion and access for community health
3	L	3	Expanded healthcare availability
4	S	1	Expanded access
5	M	2	Expanded service availability
6	S	1	Scale and speed
7	(see #2)		
8 (storage)	M	2	
9 (budget)	L	3	Scale



Thank You

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