Learning question: How have systems thinking approaches and tools been incorporated in activities to improve health equity? Were these approaches useful in achieving health equity goals? If so, what are the pathways by which these approaches helped to address the root causes of inequity?

Change Pathways in Revolutionizing the Health Information System in Ethiopia

Author: Zewdie Mulisa, Selamawit Meressa, Loko Abraham, Herman Willems, Alexandra Angel, Tariku Nigatu, Tadesse Alemu
John Snow, Inc. (JSI)/USAID Digital Health Activity (DHA)

HEALTH SYSTEMS STRENGTHENING ACCELERATOR

Context

- In Ethiopia, many health providers and program managers don't have the skill and capacity needed to analyze and use data for decision making, impacting the quality and equity of health interventions.
- Data quality and utilization are influenced by a variety of factors, including:
  - Availability and accessibility to quality data
  - Lack of training, supervision, mentorship and the resulting gap in knowledge and skill to process and analyze data;
  - Absence of an information-use culture;
  - Lack of a perceived benefit of data use;
  - Limited availability of resources and weak healthcare system infrastructure;
  - Inadequate leadership and coordination.
- In 2016, Ethiopia detailed, and invested in, an information revolution (IR) as a major component of its Health Sector Transportation Plan (HSTPI), a five-year strategic plan. A roadmap for implementation of the IR highlights the need to transform Ethiopia's health sector toward data driven decision making processes and practices.
- Through the IR, Ethiopia's Ministry of Health (MOH), partners, and others aimed to improve health services by enhancing availability, accessibility, quality, and use of health data.
- The IR is designed to ensure data use at point of generation at all layers.
- The IR addresses the behavioral component of data use to drive quality health program implementation.

Activity Description

- USAID's Digital Health Activity (DHA), implemented by JSI, collaborated with MOH in the design and implementation of the IR.
- The roadmap identified digitization, data use, and governance as critical to realize the IR by 2025.
- Success, according to the roadmap, is measured by progress of health institutions in their composite score against 100, measured in three domains: data quality, data use and infrastructure. Each are measured out of 30, 40 and 30, respectively.
- Health institutions progress through five distinct pathways with increasing IR scores called IR pathways: emerging (score <65), low candidate (score 65-80), high candidate (score 81-90) and model (score >=90).
- The intended end-state is a strong culture of evidence-based decision-making to improve health care coverage, quality and equity. Shifts from low score to high score demonstrate progress along the IR.
- DHA in collaboration with the MOH identified and supported 100 woredas (districts), which included 500 health centers and 2,500 health posts. Additionally, DHA identified and supported 31 hospitals and 6 universities. Each university supported two woredas on their IR journey.
- A baseline assessment was conducted before implementing the IR intervention. The assessment used the standard national IR assessment and scoring checklist. Follow-up assessments are conducted every three months at each institution to monitor their progress.
- Based on the result of the assessment, DHA would provide tailored technical support to health institutions to help them positively shift their status along the IR pathway.
- DHA provided technical, material, infrastructural, and financial support.

Technical Support

- Offered training, supportive supervision, mentorship informed by assessments, across 100 woredas and 3,000 health facilities.
- Provided data quality assessments using five indicators: malaria positivity rate, percent of people living with HIV who know their status, Penta 3 coverage, skilled birth attendance, and TB case detection.
- Implemented behavioral interventions to enhance data use.
- Ensured digital health system functionality and provided utilization support.
- Developed and ensured knowledge, and availability, of national governance documents (e.g HMIS indicator revisions, IR implementation strategy, guidelines, etc.).
- Conducting regular IR assessments to determine status of health institutions along the IR pathways.
- Coupled high-performing woreda, with low-performing woredas for technical exchange and mentorship.

Material and Infrastructure Support

- Gap-filling distribution of HMIS tools (shelves, registers, tally sheets, reporting forms) including tools needed for community health information systems in their recording and reporting.
- Building out IT infrastructure: distributing tablets, computers, power banks, sim cards, and printers
- Development, deployment, installation and maintenance of digital tools (e.g. point-of-care applications, electronic logistic management information systems, DHIS2, etc.)

Financial Support:

- Provided grants to six universities to implement the IR
- Financially supported woreda-based planning
- Funded performance review meetings
- Funded data quality assessments

Activity Impact

- The skill and behavior of health institution staff to produce and analyze quality data improved, enabling individuals, communities, and organizations to develop, implement, and maintain quality (safe, effective, and efficient) health services as demonstrated by improved key programmatic indicators.
- Health professionals adoption and use of critical digital health tools increased over time.
- The number of woreda health offices conducting routine data quality assessments increased over time, and resulted in periodic course corrections, which ultimately improved data quality.
- Woreda health offices and health institution planning became better aligned to what their data indicated.
- Existing performance management team were revitalized and strengthened at woreda and facility levels with the added incentive of using quality data.
- Improved data management practice (recording and reporting) and data analysis and visualization practices were observed.
- Health providers and managers increasingly used data for planning, monitoring, administrative support, and resource mobilization decision-making.
- The data use initiatives strengthened the performance monitoring team ability to identify low performing indicators, predominantly centered around maternal and child health outcomes, and develop action plans for implementation/improvement.
- The availability of data within the supply chain systems improved product availability and reduced wastage rate and expiring drugs

Evidence

- DHA, in collaboration with the MOH, conducted baseline and follow-up assessments to determine the status of health institution along the IR pathways
- DHA provided technical, material and financial support, to date, to 83 woreda health offices, 393 health center, 43 hospitals and 1,398 health posts.
- At baseline, there were 233 emerging, 59 low-candidate and 6 high-candidate institutions. There were no model or digital model health institutions.
- A significant number of health facilities included in the IR assessment improved their IR score (Figure 2), from baseline (October, 2021), to follow-up assessment (March, 2023).
- During follow-up assessments the number of emerging facilities decreased from 233 to 47, the number of low candidate, high candidate and model health institutions increased from 59 to 81, 6 to 92, and 0 to 78 in three years, respectively (Figure 3).
- The average verification factor for all health institutions increased from 56% to 86.7% percent in two years demonstrating marked improvements.
- The percent of health institutions producing quality data increased over time (Figure 4).

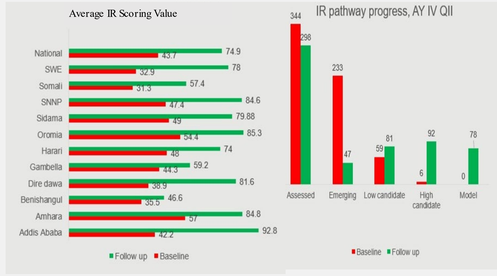

Figure 2. IR Scores at Baseline and Follow-up

Figure 3. IR Pathway Progress, at Baseline and Follow-up

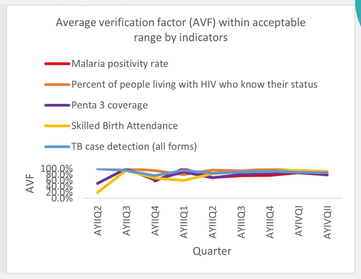

Figure 4. Average verification factor is within the acceptable range for the five key indicators, measured quarterly across October 2021- March 2023

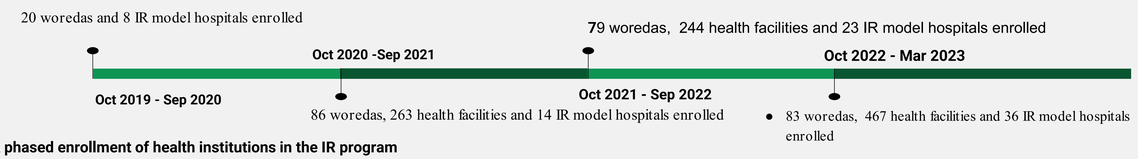

Figure 1: A phased enrollment of health institutions in the IR program

Facilitators

- The Ethiopian government's commitment to implementation of the IR ensured commitment of health facilities and program managers, too.
- Several donors and other stakeholder were also committed to supporting the IR and enabled its growth over the last several years.
- Availability of guiding documents such as the IR roadmap, IR strategy and other governance documents were essential in scale-up.
- Opportunities provided by the technology helped increase the availability, accessibility, and utilization of data
- Use of standard data quality assessment tools and measurement were critical in guiding health facilities toward better data use practices.

Challenges

- COVID-19 and civil conflict in various parts of the country affected the implementation of the IR and, in some cases, reversed the progress of health institutions along the IR pathways.
- Reliability of infrastructure (computers, networks, etc.) was unequal and hampered progress.
- Behavioral factors that affected production and use of quality data for decision-making proved difficult and required advanced mentorship and practice,
- High turnover of trained staff created loss of knowledge and uneven progress across the IR pathway.

Lessons Learned

- Quality data drives use of a health system: Data driven decisions ensure the health system is well tied to the needs and demands of its clientele and results in well-used, person-centered care and optimal health outcomes.
- A standardized assessment of health institutions helps provide tailored and long-term support.
- It is possible to stimulate and nurture a culture of data use and maintain the results in government-led innovative implementation approaches.
- Collaboration with government, universities and partners produce results that help create widespread ownership and accountability, which drives results.
- Agility and adaptability in IR support during crises, such as COVID-19 and civil unrest, can help achieve targets.
- Coupling high-performing woredas with low-performing woredas help cross-breed best practices

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