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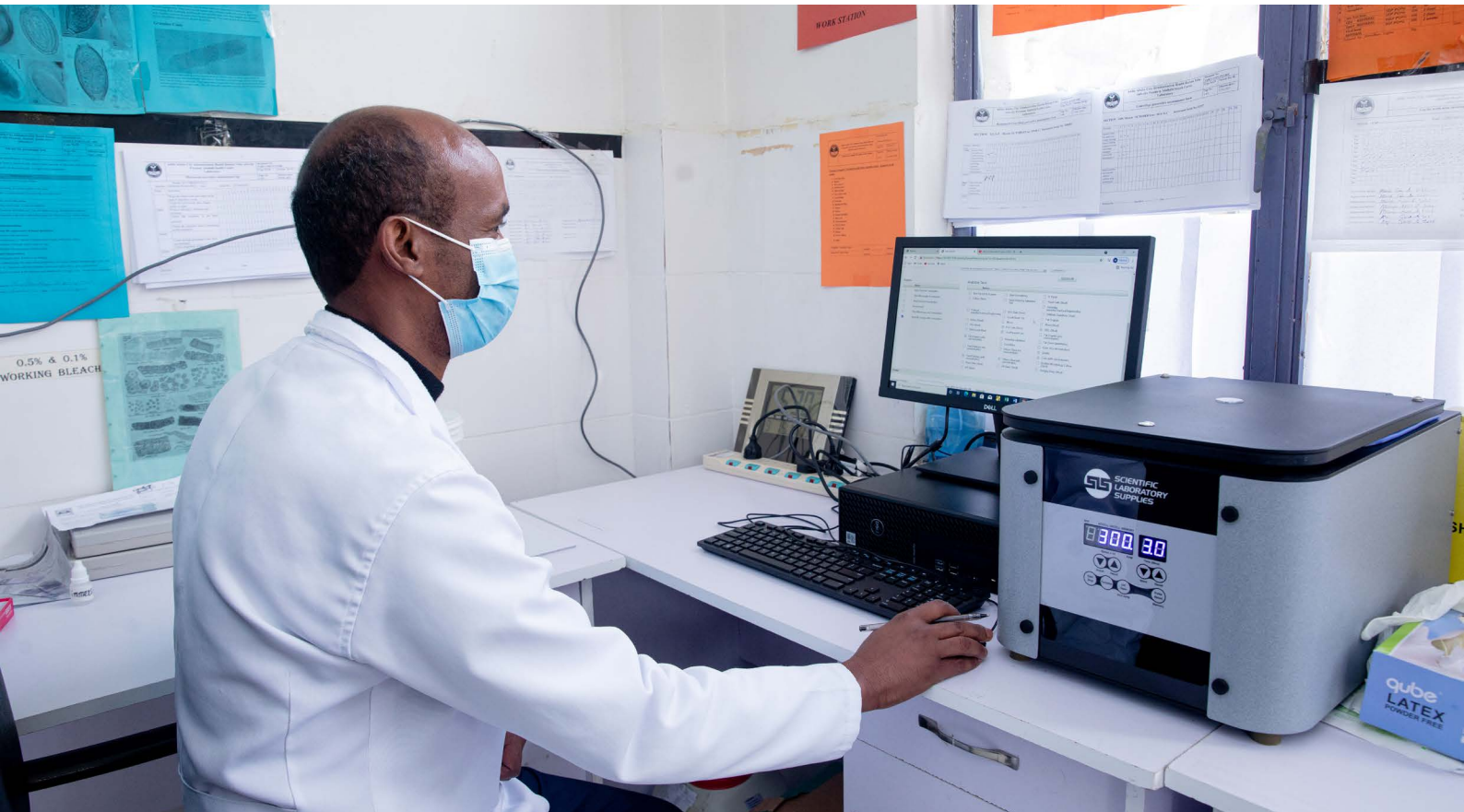


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DIGITAL HEALTH IN FOCUS

EDITORIAL

Data quality and data use in health sector: Benefits and challenges

By Dr. Loko Abraham

Health care is awash in valuable data. Every patient's test, scan, diagnosis, medical trial, prescription, and ultimate health outcome produce data points that help improve how care is given.

In healthcare, data are generated by various sources and analyzed to guide decision-making, improve patient outcomes, and decrease healthcare costs, among other things. Health care data tends to reside in multiple places, sources, and organizations. Health care is different from other industries where business rules and definitions are fixed for long periods of time. The volatility of health care data means a rule set today may not be a best practice tomorrow.

Data use in the health sector refers to the collection, analysis, and use of data to improve health outcomes. The health information system (HIS) is the bloodline of the health system that informs the formulation of policies, design, and implementation of strategies and interventions. There are many ways that data can be used in the health sector. For example, it can be used to:

- Identify patients who are at risk for certain diseases
- Track the effectiveness of treatments
- Improve the quality of care
- Make better decisions on resource allocation and,
- Plan for future health needs

The design and implementation of an appropriate information system that generate quality data and foster evidence-based decision-making have been a challenge to resource-limited countries. The situation is not different in Ethiopia, where only a tiny portion of the data collected at the facility level has been interpreted and used for decision-making. In addition, the emphasis has been on a one-way transmission of information from facilities to higher levels of the health system, as opposed to using the information for decision-making at the point of care. Ethiopia's HIS strategic plan was developed with the vision of realizing healthy, productive, and prosperous Ethiopians through evidence-based decision-making. According to the HIS strategic plan, the health sector intends to realize a strong culture of evidence-based decision-making to eventually improve health service coverage, quality, and equity.

Despite its evolution and complexity, data use in the health sector is becoming increasingly important. As the amount of data available grows (projected to be 25 zetabytes by 2030), so too does the potential for using it to improve health outcomes. Data are being used to improve patient care and decision-making as well as increase efficiency (streamline administrative processes, reduce costs) and transparency. By addressing the challenges to data use and investing in data infrastructure and capacity, the health sector can make better use of data to improve the health of populations.

There are many ways to improve data use in the health sector, which include:

- **Developing clear policies and procedures for data use** to ensure that data is used in a responsible and ethical way.
- **Standardizing data collecting and reporting methods** for easier data sharing and analyzing.
- **Investing in data analytics** to make sense of the data and identify trends.
- **Building capacity for data use** which includes training health professionals on how to use data and making data accessible to them.
- **Using anonymized data** to protect patients privacy while still allowing the data to be accessed for research and other purposes.
- **Addressing the challenges of data** silos and inaccurate data that can be done by investing in data integration and quality improvement initiatives.
- **Using technology to facilitate data sharing:** There are a number of technologies that can be used to facilitate the sharing of health data, such as electronic health records (EHRs) and cloud computing.

MAJOR ACTIVITIES FROM THE QUARTER

Integrated Human Resources Information System (iHRIS) launching event

On June 22, 2023, the Ministry of Health (MOH) officially launched the Integrated Human Resources Information System (iHRIS) during the National Human Resources for Health Annual Forum. The system was inaugurated and launched by H.E. Dr. Lia Tadesse, Minister of Health. The event saw participation from deputy regional heads, HR managers from Regional Health Bureaus, Partners (JSI/DHA, USAID, WHO, Jhpiego), Universities, Agencies and Professional Associations. iHRIS is an open-source tool that helps to manage human resource Administration, Capacity Development and Licensing. During the event, participants were able to learn about the functionality and benefits of the system. The launch of iHRIS at the Forum was a significant milestone for implementation and utilization of the system to improve health service delivery in the country.

DHA has been actively involved in supporting the Human Resource Licensing team in utilizing iHRIS for license applications. The Ministry has started accepting online applications for new licenses, license renewals, and good-standing letter requests for foreigners and Ethiopians living abroad. Health professionals who traditionally visited the Ministry for their licenses are being encouraged to begin applying online at https://hrl.moh.gov.et/.

Digital health corner at the national health exhibition

On June 20, 2023, the national health exhibition was launched at the Science Museum in the presence of the Prime Minister of Ethiopia Dr. Abiy Ahmed; Minister of Health, Dr. Lia Tadesse; and other invited guests.

The exhibition with the theme 'Next Generation Health: Harnessing the power of technology and digital solutions for a prosperous and healthier future' was opened to the public from June 20 to July 27, 2023.

In the digital health corner, DHA showcased several products, including:

- Supply chain products such as Vitas, Dagu, Fanos, mBrana and the national supply chain dashboard;
- A health information system and communications tool often used by community healthy workforce-the Electronic Community Health Information System (eCHIS);
- Electronic Medical Record (EMR);
- Service products such as iHRIS and Medical Equipment Management information system, (MEMiS); and
- The eLearning platform and the wellness pass solution

The exhibition was visited by more than 200,000 visitors including delegates from all line ministries, health care facilities, private sector representatives, civil service organizations, agencies, and the public.

DHA supported youth enterprise activities

DHA had a one-day consultative meeting with all DHA supported youth enterprise leaders to discuss last year's enterprise performance and challenges and recommended next steps to ensure the sustainability of the enterprises. Topics covered included regular support, organizational capacity building, market linkages, and income-generating activities. Communications with regional, zonal, and woreda health offices, success stories, and facilities' progress were also addressed. As an outcome of the meeting, the group came up with recommended solutions on how to improve service quality, income-generating activities, and enhance the internal capacity of the enterprises to make them fit and competitive in the market.

Moreover, 32 youth enterprise members attended the National Youth Festival, which was organized at Millennium Hall from April 29 to 30, 2023. The youth enterprise members engaged in business-to-business discussions with model IT companies and shared experiences. They also had the chance to promote services to invited guests and organizations and develop business relationships.

USAID representative's visit to DHA intervention areas

August 2023, Scott Hocklander, Mission Director of USAID Ethiopia, visited Karamera Hospital in Somali Region to observe U.S. investment in the health system and the outcomes of programs. DHA-supported electronic systems such as Dagu, ePMIS and EMR implementation were showcased during the visit.

Similarly, on August 9, 2023, representatives from USAID-Ethiopia paid a visit to St. Peter and Alert Hospitals to observe the implementation and utilization of the multidrug-resistant tuberculosis (MDR-TB) tracker. DHA customized a DHIS2 to track MDR-TB patients which supports better treatment and decision-making based on quality data.

Health Posts at Anchar Woreda went Paperless

Anchar Woreda is a DHA-supported woreda implementing eCHIS in the Oromia Region. In Anchar, there are 16 health posts that implement all module eCHIS. The Oromia Regional Health Bureau, based on the assessment it conducted, declares that Anchar woreda has gone paperless by implementing eCHIS.

Mulu Tefera, a health extension worker at Daro health post, one of the health posts in Anchar Woreda, states the implementation of the eCHIS system in their health post helped them to improve their work efficiency and data quality.

> **"I had to carry folders, cards, and tally sheets during home visits and outreach services, which was a lot of work and time-consuming."**

Mulu continues

> **"eCHIS solved my burden and it makes my life easier. It is easy to access data for reporting and emergency situations."**

Moving Beyond the Classroom: eLearning Platform to Build the Capacity of Ethiopian Health Workers

By Woinshet Nigatu

A strong health information system (HIS) is an essential building block for a resilient health system. Along with other barriers, human resources have been one of the major challenges to building resilient health information services and bringing the aspired cultural transformation in health information use. Capacity strengthening has been considered one of the key focus areas to narrow this challenge.

High demand for capacity strengthening activities exists, and providing training in conventional classroom-based training does not always meet this demand. DHA has been working closely with the MOH, the Federal Technical and Vocational Education and Training, and Health Science Colleges to develop and implement sustainable skills building mechanisms using an online learning platform and training academia.

The eLearning platform offers online courses on different electronic HIS and tools that have been developed to facilitate remote, user-driven training for healthcare workers. The platform offers comprehensive content, which can be viewed on either a personal computer or a smartphone, in any order the learner prefers.

Nebyu Mengestie, Lecturer in the Department of Health Informatics at the University of Gondar, started taking online courses after the launch of the platform. When he described the opportunity, he said “The courses are tailored and contextualized, with real-world examples, and current knowledge of the health information system”.

Nebyu, as a lecturer, has encouraged his students to take the courses available on the platform. He said, “Our students have a practical attachment course at hospitals. Before their visit, I supported them to take the online training which they found helpful to get a foundational understanding of the real-world setting.” More than 100 of his students have been trained and certified using the eLearning platform.

DHA has deployed six eLearning courses for key programmatic and HISs subsystems. To ensure increased access to these eLearning modules, a single portal landing page with the links to the eCourses and training opportunities is designed, the Learning Management System is customized, courses have been housed, and the eLearning page is available at https://learning.moh.gov.et/. So far, over 4200 health workers are enrolled in these courses.

The platform was officially launched at the end of 2022, in the presence of the Minister of Health Dr. Lia Tadesse, and USAID Ethiopia’s Health Office Director, Jonathan Ross. At the opening remark during the launching ceremony, Dr. Lia Tadesse said,

> **“The eLearning program has been funded to introduce innovative and continuous capacity development opportunities with the ultimate aim of ensuring the sustainability of digital health systems.”**

SUCCESS STORY

EMR Scale-Up Efforts: Government Ownership is Crucial for a Sustainable EMR Implementation

By Blen Seyum

Hawela Tula General Hospital, situated in the Sidama Region, serves as a vital healthcare facility for a catchment area encompassing six woredas. This area has a population exceeding 750,000 individuals, resulting in an average of 80 daily patient visits. In April 2023, the hospital successfully implemented the Electronic Medical Records (EMR) system across various service units such as Medical Recording Unit, the outpatient unit, triage, laboratory, and radiology. The EMR digitizes patient medical records, bringing faster and real-time access of health history to health workers, enabling faster and seamless access to care.

To facilitate this transition towards digital healthcare management, the MOH has actively advocated for the utilization of Bahami Source Code - an intuitive and user-friendly EMR and across hospital systems around the country. By equipping Hawela Tula General Hospitals, and others, with essential resources including servers, server racks, server UPS, tablets, and switches, the MOH has played a pivotal role in initiating the EMR implementation process.

Through these concerted efforts and collaborations between Hawela Tula General Hospital and the MOH, patients can now benefit from enhanced medical record management and streamlined healthcare services. The utilization of EMR technology promises to revolutionize healthcare delivery by improving efficiency and accuracy in patient care while also facilitating data-driven decision-making processes at both individual and systemic levels.

According to Dr. Abay Betru, Clinical Governance and Quality Improvement Director of Hewela Tula General Hospital, the adoption of EMR has solved for challenges encountered in managing patient records within the hospital. “We managed to minimize the waiting time at the patient record room area, which also increases the satisfaction of our clients and patients. Due to the system, we managed the tasks with minimum staff,” Dr. Abay continues, “We would like to thank the MOH for supporting us in the EMR implementation. The hospital is willing to implement other digital solutions, such as HRIS and eAPTS, to run the other hospital's day-to-day operations” he added.

In addition, the University of Gondar Hospital EMR team provided assistance to Han Health Center in initiating its transition to a paperless system. The government's dedication and support in expanding the use of EMR is encouraging. The widespread implementation of EMR systems at a national level will have positive effect, including decreased patient waiting times, minimized loss of medical records, and improved handling of the care continuum.


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