

# Ethiopia's experience of Health Information System (HIS)

Abebaw Gebeyehu, PhD<sup>1</sup>

Health information system (HIS) is one of the most important components and an integral part of a functioning health system (1-3). It is essential to generate information for planning, monitoring, and evaluation of public health initiatives and programs (4). Weak health HIS, on the other hand, are a major roadblock to reaching the health-related sustainable development Goals (SDGs) because performance of health systems cannot be properly reviewed or monitored if HIS data is missing, incorrect, or delayed (5,6).

In this special edition, we share scientific findings on Ethiopia's experience with HIS with the support of data usage partnerships (DUP) to regions and public universities across the country. We have included fourteen articles and a position piece in this, and subsequent edition with an emphasis on the use, quality, and challenges of HIS and medical record keeping in the country at various levels of the Ethiopian health system.

Examining the specifics of articles with an emphasis on quality, a study from northwest Ethiopia explicates the contributing factors of quality health data production and use in the Benishangul Gumuz Region using a social-ecological perspective. The study used a mixed methods approach (quantitative and qualitative methods combined with phenomenology) to investigate contributing factors for data quality in health and its use in the Assosa District by better understanding the barriers and facilitators, as well as the interplay between data quality and use with HIS leadership and governance. It showed that the overall level of data quality and its utilization was very low in the area. Ineffective leadership and governance were cited as the fundamental causes of low HIS usage in the area, which could affect the other barriers and facilitators. Recognizing this, another paper from the same area, which used a similar methodological approach but looked into the impact of parallel reporting systems on data quality and information, discovered that, contrary to the national HIS guiding principle and vision, parallel reporting is widely used at the lower health system level of various programs.

Another study from Ethiopia's Oromia and Gambela regions, which used a pre-post quasi-experimental approach to assess the state of health data quality in public health facilities, found that supporting supervision, mentorship, and review meetings are not carried out as planned. Many health care facilities in the region were also found to be lacking in key recording and reporting capabilities. Similarly, a study on quality of medical records in public health facilities from Jimma Zone, Oromia Regional State, in

southwest Ethiopia. A study from Somali Region from Eastern Ethiopia assessing routine HIS data quality in the state's public health sector found that the overall data accuracy and content completeness were below the national target of 90%. A study from the same area has also showed that health workers with good perceived competency had lower actual competency level on HIS.

The remaining studies focus on utilization and challenges of HIS from various parts of the country. A study from Addis Ababa assessing routine health information utilization and associated factors among public health centers showed that only two-thirds (66%) of health center managers utilized routine HIS. Utilization of routine HIS was predicted by the use of computer software for data analysis, access to training on data analysis and interpretation, feedback on supervisory visits, and a culture of information utilization. Similarly, the use of electronic medical records (EMR) utilization among health care providers at selected health facilities in Addis Ababa, Ethiopia was almost the same, as only 68.5% were using them, according to another assessment in the city. Access to EMR training and having a favourable attitude were significantly associated with the use of EMR, while power fluctuations, shortage of EMR administrators, and the phase-out of vendors were the main barriers to the utilisation of EMR in the city. The other study on the knowledge, perception, and self-efficacy of health workers regarding the use of information systems in rural districts was reported from the Oromia and Gambella regions of Ethiopia. As a result, behavioural and organizational determinants of routine HIS performance include a lack of understanding of the rationale for health data, dimensions of data quality as well as mechanisms to ensure it, a negative perception of managers and supervisors, and the promotion of an information-use culture. It was also discovered that self-efficacy and training in the previous year had a beneficial relationship.

Another study on utilization was reported from the Sidama Region of Ethiopia. Accordingly, a facility based cross-sectional study on the utilization of health information systems data and associated factors in public health facilities in Sidama, South Ethiopia showed that the overall HMIS data utilization was 57.8%, but utilization rates were higher in the departments of hospitals than health centres. Staff receiving health management information system training, data completeness, the presence of eHMIS, and having regular performance review on data use were significantly associated with the utilization of health information system data. The other study on facilitators and barriers affecting the implementation of

---

<sup>1</sup> JSI- Data Use Partnership, Addis Ababa, Ethiopia

capacity building and mentorship program (CBMP) in improving evidence-based decision-making in Amhara Region, northwest Ethiopia: an exploratory qualitative study indicated that human, technical, organizational, and contextual attributes played massive roles in facilitating the implementation of capacity building and mentorship activities. Another qualitative study on enhancing the functionality of performance monitoring teams (PMTs) for improving data utilization showed PMT input/structure and process-related factors. PMT input/structure related facilitator factors are direct PMT structure/organization, budgeting and other resources, capacity building related factors, and availability of PMT guidelines. PMT process related factors are experience of PMT in data quality follow-up for better information use. In this regard, a research study protocol planned to study “health facilities performance monitoring team focused motivation interventions to improve the use of health information for better decision making: an implementation” is included.

In general, the papers included to the present special edition has elucidated the status and experience of Ethiopia on quality and utilisation of HIS at the regional and district levels. The study also highlighted some of the challenges of Ethiopia’s health system on use of HIS at various levels of the Ethiopian health system.

### References

1. Braa J, Hanseth O, Heywood A, Mohammed W, Shaw V. *Developing health information systems in developing countries: the flexible standards strategy*. *Mis Quarterly*. 2007 Jun 1:381-402.
2. Stucki G, Bickenbach J, Melvin J. *Strengthening rehabilitation in health systems worldwide by integrating information on functioning in national health information systems*. *American journal of physical medicine & rehabilitation*. 2017 Sep 1;96(9):677-81.
3. Hotchkiss DR, Diana ML, Foreit KG. *How can routine health information systems improve health systems functioning in low-and middle-income countries? Assessing the evidence base*. MEASURE evaluation 2012.
4. Reynolds HW, Sutherland EG. *A systematic approach to the planning, implementation, monitoring, and evaluation of integrated health services*. *BMC health services research*. 2013 Dec;13(1):1-1.
5. Nabyonga-Orem J. *Monitoring Sustainable Development Goal 3: how ready are the health information systems in low-income and middle-income countries?*. *BMJ global health*. 2017 Oct 1;2(4):e000433.
6. Rashidian A. *Effective health information systems for delivering the Sustainable Development Goals and the universal health coverage agenda*. *Eastern Mediterranean Health Journal*. 2019;25(12):849-51.