

Comprehensive Approaches to Enhance Health Information System Performance and Health Outcomes: Evidence from Ethiopia

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This issue includes a series of papers that show advancement toward the goals of the information revolution (IR) agenda of Ethiopia to transform and enhance the culture of data use to positively impact population health and health-system performance through evidence-based decision-making at all levels of the health system. The publication of these articles provides insights to the wider scientific community about the progress of priority health information system (HIS) initiatives in Ethiopia. The contents of the issue are summarized as follows.

Ethiopia's journey toward a unified Health Information System (HIS) has encountered both promising advancements and challenges. The implementation of District Health Information System 2 (DHIS2) and various health information initiatives aims to enhance data integration, improve decision-making, and ensure that health policies are grounded in evidence.

In 2017, the Ministry of Health transitioned from multiple versions of the Health Management Information System (HMIS) to a unified DHIS2 system. This shift was driven by the need for improved data integration and analysis across regions and programs. The successful implementation of the unified system relies on critical factors such as strong stakeholder engagement, effective tool customization, and the establishment of robust governance frameworks. However, challenges remain, including inadequate infrastructure, low data quality, and a shortage of trained personnel, which hinder the full realization of the benefits of a unified system.

Research in the Afar region has highlighted ongoing issues with health data quality, primarily due to ineffective data management practices and a lack of professional motivation among health workers. The findings emphasize the importance of peer learning initiatives and regular performance reviews, which are essential for enhancing data utilization and decision-making capabilities.

The electronic Community Health Information System (eCHIS) can improve service delivery and data quality, but its implementation faces significant barriers, such as incomplete household registrations

and insufficient resource allocation. To strengthen eCHIS, organizational structures should be enhanced and active engagement from stakeholders, and facilitating should encourage effective implementation strategies.

The introduction of the Urban Community Health Information System (UCHIS) aims to refine data collection and use strategies at the community level, and address the unique challenges of urban health settings. This initiative is designed to improve health outcomes through improved data handling and analysis.

Efforts to build healthcare workers' skills within the HIS framework have shown success in improving knowledge and competencies related to data management. Such capacity-building initiatives are crucial for promoting an environment conducive to evidence-based decision-making across the healthcare system.

To address gaps in skilled human resources for digital health implementation, an alternative approach – an IT internship program was introduced. This initiative has effectively enhanced capacity and improved data use across the healthcare system. It provides valuable employment opportunities for recent graduates.

A combination of multiple approaches and tailored interventions was implemented to create model HIS sites based on the information revolution (IR) objective. The role of better HIS performance in service quality and utilization is observed in HIS intervention sites. The analysis revealed an association between IR model sites and good quality of health care and outcomes.

Overall, Ethiopia's comprehensive approach to strengthening its health information systems through a unified HMIS, capacity building, and stakeholder collaboration reflects a strong commitment to improving health outcomes. Continuous efforts are necessary to address existing challenges and ensure the sustainability of improvements in health information management, enabling the effective use of health data for informed decision-making and enhanced health service delivery.

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