

OPTIMIZING eCHIS IMPLEMENTATION IN ETHIOPIA: MAJOR DETERMINANTS AND RECOMMENDED STRATEGIES

Implementing an electronic community health information system (eCHIS) is a high-priority initiative of the Ethiopian Ministry of Health (MoH) that demonstrates its commitment to use technology and data to improve community-level provision of health promotion and preventive, basic, and curative health services.

What's at Stake?

Despite the priority given to eCHIS, after two years of implementation, health extension workers (HEWs) have yet to benefit from the system, household profiling is incomplete, and service provision through eCHIS is limited. Moreover, there is a lack of consistency in implementation approaches across the regions.

The success of evidence-based interventions, including eCHIS, are determined by a wide range of pragmatic factors that require thorough assessment and tailored strategic interventions. However, to date, there is sparse evidence on the determinants that influence eCHIS implementation and their implications for policy and practice in the country.

This brief presents findings and policy insights from an embedded implementation research conducted by a team of experts from MoH and the Ethiopia Data Use Partnership (DUP) in 2021. The brief aims to inform MoH decision makers in their policymaking.

ABOUT THE RESEARCH

The findings presented in this brief were gathered from a total of 32 key informant interviews with stakeholders involved in either eCHIS software development or implementation. Respondents were from a variety of organizations, including MoH; implementing regional, zonal, and district health bureaus; health centers; health posts; universities; and partner non-governmental organizations. Researchers in the study used the consolidated framework for implementation research to guide the systematic assessment of determinants related to eCHIS implementation.



KEY FINDINGS AND IMPLICATIONS

- Organizational structures such as technical working groups (TWGs) at all levels and an eCHIS Center of Excellence have the potential to improve and institutionalize eCHIS implementation in the country.
- Strengthening the support forum and regularity and functionality of TWG meetings at all levels is essential.
- Lack of clear eCHIS specific governing documents, such as comprehensive implementation guidelines and a roadmap, training facilitators guide, end user guide, tablet management guidelines, and incentive strategies, negatively impacted implementation.
- As a result of poor documentation and monitoring mechanisms, lack of regular meetings and formal activity reporting mechanisms, insufficient supervision, marginal mentorship, and absence of a functional feedback loop, eCHIS goals were not usually acted upon, activities were not sufficiently followed up, and progress were not checked against feedback.
- Insufficient resources and infrastructure to fully support eCHIS are major challenges that require further resource mobilization in the future.
- Strengthened and collaborative effort with all key stakeholders and active engagement of leaders are critical to improve eCHIS implementation.
- Based on the findings of this study, our team of experts outlined policy insights to guide optimization of eCHIS in Ethiopia.

MAJOR DETERMINANTS

Leadership Structure, Overall Guidance, and Implementation Readiness

Stakeholders were in a consensus regarding leadership's (i.e. MoH) commitment to eCHIS, and commitment was demonstrated through the availability of a steering committee, led by the Minister of MoH; an assigned budget that was larger than other health expenditures; and advocacy by leaders through social media.

Stakeholders cited the presence of a TWG, dedicated to eCHIS development and implementation, as a facilitating factor for eCHIS implementation in the country. However, some stakeholders raised concern over the decision-making autonomy of the Plan Policy Monitoring and Evaluation (PPMED) department, as the department is more data driven than other programs, and suggested a transfer of leadership to Program Departments i.e. Maternal and Child Health (MCH) or Health Extension program (HEP). Moreover, the lack of such structures at the regional and lower levels of the health system were cited as a bottleneck for implementation.

Stakeholders mentioned the presence of an eCHIS Center of Excellence as a potential way to sustain and institutionalize eCHIS implementation within government structures in the future; however, respondents cautioned that lacking a terms of reference (ToR) with clear actions and deliverables prior to establishing the center would pose a threat against achieving the intended outcomes.

Stakeholders also stated that the lack of eCHIS specific governing documents and a cost benefit assessment limited the country's implementation readiness. Regardless of the plan alignment exercise at the MoH level, stakeholders stated a lack of need-based planning that engaged relevant stakeholders during the initial draft at all levels.

Below are some of the major leadership and other related factors that respondents attributed as negatively influencing eCHIS implementation in Ethiopia.

- Limited engagement/active interest of leaders, particularly political leaders
- Lack of discussion forums involving political and structural leaders
- Limited advocacy at regional and lower levels
- Lack of eCHIS specific governing documents such as:

- o Detailed eCHIS roadmap
- o Clear eCHIS implementation guidelines
- o Stakeholder engagement framework
- o Clear ToR for eCHIS Center of Excellence
- o End user manual for eCHIS
- o eCHIS training manual and training facilitators guide
- o Tablet management guidelines i.e. specifications, etc.

eCHIS Application Software and Training

Stakeholders indicated the relative advantage of using an eCHIS over paper-based CHIS due to its ease of use and ability to reduce workloads, facilitate standardized service, promote data quality, and bring efficiency in service delivery and referral linkages.

The respondents cited a drawback of the eCHIS application, CommCare, by lack of its flexibility to customize and support certain features, such as displaying organizational hierarchy on the tablets of HEWs. This limitation resulted in a mix up of data between health posts with similar names, compromising data quality. Further, the application does not have a feature to document services provided for individuals outside of the health post catchment area. These services are documented in a paper-based "field book" and are reported in the DHIS2 system. This process results in a discrepancy between DHIS2 and eCHIS reports, affecting data quality as well as posing a challenge for interoperability between the two systems.

Another respondent criticism of eCHIS was that because it is a centralized system, it prevents timely responses from the regional and lower levels. Lack of access to modify/configure the software options and generate custom reports regional and lower levels, combined with the absence of disaggregated data at the woreda level and household/population targets, negatively impacted monitoring and quality assurance activities.

Respondents cited the availability of sufficient expertise to provide eCHIS training in a variety of adaptive approaches as an important factor to implementation. However, they also indicated that the duration of the training for HEWs was insufficient to provide adequate knowledge and skills, and there is a need for a refreshment training.

Implementation, Monitoring, and Communication

Engagement and coordination of stakeholders on eCHIS related activities were described as major facilitators for eCHIS implementation. The TWG at MoH meets regularly to discuss challenges, provide feedback, and present new ideas for implementation. However, its functionality was affected by members' irregular attendance at TWG meetings, limited coordination, and conflicts of interest.

As a result of the following factors, steps to achieve eCHIS goals were not regularly taken, activities did not sufficiently receive follow up, and progress was not checked against feedback:

- Poor documentation and monitoring mechanisms
- Lack of regular meetings/communications across all stakeholders
- Lack of formal activity reporting mechanisms (other than the eCHIS dashboard)
- Insufficient supervision and marginal mentorship
- Lack of a functional feedback loop

The presence of informal communication platforms i.e. telegram channels were mentioned as prominent means of communication across all implementing organizations followed by the recently deployed support forum.

Resource and infrastructure

Respondents indicated an insufficient amount of available resources to support eCHIS implementation as a major challenge. The lack of specific budget code for eCHIS was also touted as a hindrance to the program.

The current distributed tablets to support eCHIS service provision are low quality, which may correlate to low performance. In addition, a lack of tablets at health center and woreda levels negatively influenced the support provided to HEWs. Moreover, respondents indicated that the inadequate quality and quantity of servers supporting eCHIS and the unreliable backup generator that only functions on weekdays frustrated HEWs and resulted in an imminent risk of data loss. The presence of bureaucratic procurement procedures (for tablets and SIM cards) at MoH and Ethio-telecom levels were also mentioned as barriers for timely implementation.

The limited budget for supportive supervision and lack of budget for mentorship negatively influenced the support provided for HEWs. High staff turnover, inadequate number of professionals at all levels, and lack of human resource assigned solely for the purpose of eCHIS implementation were raised as major barriers related to human resources.

Moreover, respondents raised the concern that eCHIS is not institutionalized into the government structures since most of the budget for eCHIS activities, including availing human resources, providing mentorship, and procurements, are mainly supported by partner organizations.

POLICY INSIGHTS

Evidence gathered through this research indicated the critical importance of eCHIS for the country, as well as the many challenges that come with it. Our team of experts suggested the following recommendations and policy insights to optimize and further scale-up eCHIS in Ethiopia.

Leadership Structure and Overall Guidance

- Incorporate eCHIS as the main pillar of the digitalization strategy of the health sector
- Include eCHIS as the main agenda during the health system performance review or meeting
- Advocate for eCHIS at all levels through political, structural, and community leaders
- Strengthen regularity of the steering committee meeting to promote leadership engagement
- Develop a comprehensive legal framework that outlines the governance, implementation, and sustainability of the system
- Develop a roadmap that indicates how to implement eCHIS i.e. the change management from CHIS to eCHIS, implementation timeline, etc. and revise the eCHIS implementation guidelines
- Advocate for eCHIS and distribute available documents at all levels through meetings, emails, telegram channels, etc.

- Establish TWGs at regional and lower levels and revisit the ToR for the TWG
- Strengthen and capacitate the eCHIS Center of Excellence
- Engage RHBs and lower levels in drafting initial plans and promote need-based planning by collecting information from regional and lower levels

eCHIS Application Software

- Strengthen the analytic feature of the eCHIS software and promote decentralization of the system by providing regional experts access to selected features of the software
- Re-evaluate eCHIS software requirements against the anticipated future needs i.e. the scalability of the modules and quality of service

Implementation, Monitoring, and Communication

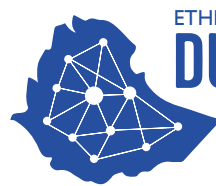
- Strengthen the support forum, regularity and functionality of TWG meetings at all levels, and partnership with stakeholders (partners, eCHIS Center of Excellence, Ethio-telecom)

Resource and infrastructure

- Establish minimum requirements for tablets and servers before procurement to ensure adequate performance and disaster recovery
- Revise job descriptions, creating job positions wherever necessary and mobilizing resources to fill the gaps in human resource and infrastructure



ጤና ሚኒስቴር - ኢትዮጵያ
MINISTRY OF HEALTH-ETHIOPIA



ETHIOPIA
DUP

DATA USE
PARTNERSHIP