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How to Improve Local-Level Data Use Culture at Each Level of the Health System? An Implementation Science Study

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Abstract

Health programs are reliant on complex decision-making to efficiently utilize limited resources, but local-level data use is still challenging. This study aimed to assess barriers to fostering local-level data use culture at each level of a health system. Results show that awareness gaps, lack of motivation, inconsistent supervision, poor community engagement, and lack of accountability are major bottlenecks. Establishing an accountability system and capacity building on health data use could improve its implementation.

Keywords:
Health information systems, Ethiopia

Introduction

Health programs are reliant on a complex decision-making process to efficiently utilize limited resources at the local level. Health systems require quality data from health information systems to plan and ensure that the workforce is fully funded and equipped with the necessary commodities, infrastructure, resources, and policies to deliver services [1]. Health data enables health planners and managers to make decisions regarding the effective functioning of health facilities. At higher levels, health information is needed for strategic policy-making and resource allocation [2]. The relationship between data quality, demand for data, and data use creates a cycle that leads to improved health programs and policies [3]. Evidence shows that organizational and technical factors can affect data use culture [4].

A study in Uganda showed that health care data use was 24% [5]. A study in Ethiopia indicated that data use for decision-making was not adequate at lower levels and feedback mechanisms were weak [6; 7]. A data quality and information use assessment in Ethiopia showed a limited culture of data use for decision-making. Only 37% of the facilities based discussions and decisions on findings from routinely collected health information [8]. The use of health data for decisions and actions to improve the quality of health services and achieve performance goals is also vital to improve shared accountability within organisations [9].

Existing evidence indicates that data quality and the culture of data use in Ethiopia is poor, however little is known about the major barriers that affect data use at local levels of the health system. This study aimed to identify barriers to establishing local-level data use practices that could help to inform the creation of interventions to address bottlenecks.

Methods

This study was conducted in North Gondar Zone, Amhara region, Northern Ethiopia. The zone has 22 Districts and 557 Kebeles (lowest unit of administration). A qualitative study was conducted from January to September, 2017. Data was gathered through key-informant interviews using a semi-structured question guide. Data producers, data users, community members, and decision makers were engaged for key informant interviews. Community leaders, Health Develoment Armies (HDAs), and health extension workers (HEWs) from the community were involved. Facility managers, health information technicians (HIT) and case team leader were selected from health facilities. Managers, plan and program experts, and one selected expert were purposively selected from District Health Offices, Zonal Health Departments, and Regional Health Bureaus. Questionnaires were adapted from the Performance of Routine Information System Management (PRISM) conceptual farmework [4]. Document review of monthly, quarterly, and annual reports and supervision feedback were also assesed using checklists. A thematic content analysis was undertaken.

Results

Characteristics of study participants

This study engaged 21 key informants: 7 from the community, 6 from Health Centers, 6 from Woredas (districts), 1 from a Zonal Health Department, and 1 from a Regional Health Bureau. The majority of the participants were males 13 (62%). Eleven (52%) of them were aged below 34 years.

Data use culture

Community level

All community-level decision makers believed that information use has a positive role in supporting data quality, though the practice was not routine. A 27-year-old HEW mentioned that:

> *"The culture of information use is very poor at all levels. The more we use data, the better we know its function. Then we take care of quality. The more we ignore data use, we can't understand its benefit then we don't care about its quality."*

Community leaders reported that community engagement in local decision-making was limited only to planning and performance reviewing.

Health facility level

This study found that Performance Monitoring Teams (PMT) were in place at all health facilities, but only 25% of them were functional. Among all of the respondents at different levels, 11 (52.4%) strongly agreed and 7 (33.3%) somewhat agreed that decisions were made based on evidence. In health facilities where PMTs were functional, participants reported unfocused meetings. One Health Management Information System (HMIS) focal person mentioned that:

> *"….Yes, we want to have the meetings regularly, but we don't have clear guideline and expected results. People talk many unrelated and non-useful things in the meetings …"*

District and higher levels

At the decision-maker's level, all respondents reported that data use can ensure shared accountability. A 29 female respondent noted that:

> *"…Yes, data use improves accountability, it's only the presence of data that somebody to be accounted for both failure/success."*

Overall, respondents agreed that increased data use can lead to better data quality and better health service delivery at the lower levels and better health coverage at the decision-maker level. One District manager said:

> *"If we are just pipeline for the data to pass through us without use, we will not improve data quality and our decisions will not be based on evidence."*

Barriers to effective data use culture

Table 1 shows identified barriers to local-level data use culture.

Table 1 - Major Barriers to local-level healthcare data use

No.	Barriers	Health system level
1	Awarness gaps	All levels
2	High staff turn-over	Health facilities
3	Lack of motivation	Health facilities
3	Poor community engagement	Community
5	Inconsistent supervisions	All levels
6	Poor accountability system	All levels

Discussion

The value of health data is determined by its utilization in decision-making. Quality data provide accurate and timely information to manage services and aid in prioritizing and ensuring the best use of resources. This study shows that using data for decision-making can improve data quality. Evidence indicates that increased use of data will help to improve its quality, which will in turn lead to more data use [1; 4].

The national strategy established PMTs to conduct monthly meetings for performance review, problem analysis, and solution planning [3; 6; 10]. While PMTs were established at all health facilities in this study, only 25% of them ran PMT functions. Similar studies also report weak data use [3; 6; 10].

Fabricated reports and reporting data to the next level with minimal or no usage were the most common challenges [8, 10, 11]. All respondents agreed that the awareness gap experienced by health professionals was a significant obstacle to using data for decision-making. One female nurse respondent said:

> *"We have awareness gaps and there is no motivations… Health workers are overloaded and negligent to data use."*

High turnover of staff is the largest challenge that regional health bureaus face in terms of data management and information use for decision-making. One mentoring and evaluation team leader mentioned that:

> *"…For example, last year we trained all focal persons [HMIS focal] and when we did quick assessment at the end of the year, around 62% have left from their work. When untrained health workers were hired, they face difficulties to manage the data properly."*

Shared accountability leads to better use of health data for decision-maiking and actions to improve the coverage and quality of health services [9]. All respondents reported that there is no accountability system or written documents for data quality and data use.

Conclusions

In this study, the culture of local data use for decision-making at the local level was low. Awareness gaps, lack of motivation, inconsistent supervision, poor community engagement, and the lack of accountability were major bottlenecks. Establishing accountability systems and capacity building on health data use could improve its implementation.

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