



A Strategic Approach to Strengthening Data Quality and Use: Lessons from Malawi

HP+ POLICY Brief

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Jacob Kawonga and Vikas Dwivedi

Background

The availability of routine health information is essential to measure achievement and trends, assess performance against targets, and improve program monitoring at all levels of the health system. The government of Malawi has made great strides in establishing and rolling out a national health management information system (HMIS) platform, the District Health Information Software 2 (DHIS2). However, a 2016 assessment of the HMIS indicated a lack of regular and sustained use of data for decision making and planning (Republic of Malawi, Ministry of Health and Population, 2018).

To ensure data are sufficiently incorporated into policy, program planning, and management, it is essential that data are available and easily accessible to decisionmakers. The 2018 HMIS assessment indicated fewer than 35 percent of health staff at program, district, and lower levels had adequate data analysis and interpretation skills. The assessment also showed a lack of production and dissemination of regular information products to engage stakeholders with health data relevant for decision making. Dissemination and data review forums were sporadic. The DHIS2 was not widely available at central (tertiary) hospitals and lower-level facilities, resulting in incomplete data at the national level. Data quality was poor, stemming from gaps in DHIS2 implementation and insufficient data management staff at service delivery points.

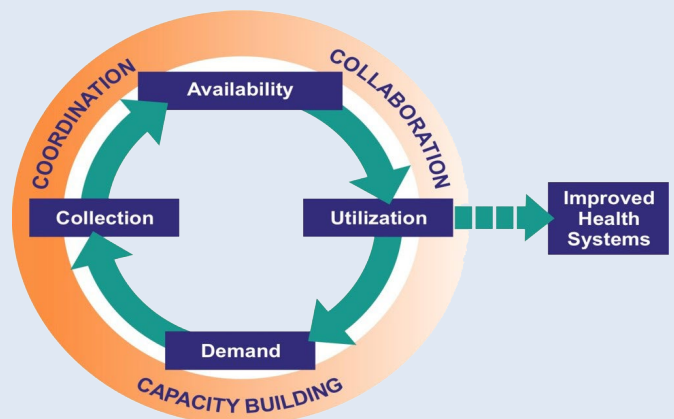
Approach

The Health Policy Plus (HP+) project, funded by the U.S. Agency for International Development and in conjunction with Malawi’s President’s Malaria Initiative (PMI), has been working with the government of Malawi to provide high-level support to strengthen its capacity to manage health

information and use data for decision making. To accomplish this, HP+ applied the *Data Demand and Use Framework*, which describes a cycle in which improved data collection, availability, analysis, and use continuously generate more demand for and sustained use of data to improve health programs (see Figure 1; Measure Evaluation, n.d.).

The following sections summarize HP+’s support to prioritize data quality and use at the national level and among partners, implement the DHIS2 at the facility level, and ensure quality data are used and disseminated for decision making.

Figure 1. Data Demand and Use Framework



Source: Measure Evaluation, n.d., Session 1

National Prioritization of Data Quality and Use

HP+, in collaboration with management consultants Cooper/Smith and Vital Strategies, the World Health Organization (WHO), development agency GIZ, and the Bill & Melinda Gates Foundation, supported the Central Monitoring and Evaluation Division (CMED) in Malawi’s Ministry of Health (MOH) to develop a comprehensive *Monitoring, Evaluation, and Health Information Systems (MEHIS) Strategy*

for 2017–2022. The strategy prioritizes and provides the costs of strengthening data quality and use activities, including expanding and enhancing the DHIS2, the main routine aggregate data platform for Malawi’s health sector. HP+ also supported CMED in working with key partners such as the Global Fund and Gavi, the Vaccine Alliance to ensure that their priorities are aligned with MOH strategic priorities. To ensure operationalization of the strategy, HP+ helped CMED hold quarterly Monitoring, Evaluation, and Health Information Systems Technical Working Group meetings involving all key stakeholders to discuss progress and coordination of activities.

Implementation of the DHIS2

Central Hospitals

Malawi’s four central hospitals provide both outpatient and inpatient tertiary care and some secondary care. Despite their critical role, the central hospitals have not had a data system that would enable the availability and use of data to support facility- and national-level service delivery. HP+ assisted CMED in planning and implementing the DHIS2 platform in the central hospitals, which required inclusion of the activity into the MEHIS 2017–2022 strategy, advocacy with the Global Fund to have the activity added to the 2018 and 2020 country funding requests, and development of an implementation roadmap for key activities and procurement of computers.

HP+ further facilitated consultation meetings with central hospital directors, heads of departments, and relevant specialists to identify their data needs. The project drafted reporting templates and worked with programmers from the University of Oslo

My involvement and that of my colleagues in coming up with data elements and reporting tools has helped us to appreciate the importance of using data, and it will contribute to the success of DHIS2 in our central hospital.

–Dr. Patrick Kamalu, Neurosurgeon,
Queen Elizabeth Central Hospital

to integrate requested data elements and reporting templates into the DHIS2. Further, HP+ supported CMED in training more than 300 DHIS2 users from the central hospitals.

Health Facilities

Rolling out the DHIS2 to 31 facilities in 15 districts, HP+ supported CMED by providing computers and staff training. Next, HP+ supported CMED in successfully advocating with Gavi to purchase and distribute tablets in support of further decentralization. HP+ then worked with CMED to conduct a training of trainers on using the DHIS2 via mobile tablets. As a result, facility-level staff in 15 additional districts were trained.

We now have time to review the quality of data since facilities are now entering the data themselves.

–Kasungu District Health Office Statistical Clerk

Advocacy for Adequate Data Management Staff

Since 2016, the MOH had not been able to recruit significant numbers of facility data management staff due to inadequate resources. This resulted in high vacancy rates, which affected quality, as most facilities were using untrained staff to manage data. HP+ provided ongoing support to CMED in advocating with the Global Fund and government ministries for recruitment of data staff to fill the gap. This effort included working with CMED and the MOH’s human resources department for a government commitment to absorb any data staff hired through the Global Fund after the grant expires.

Improving the Quality of Data

To enable regular use of the DHIS2 WHO data quality application tool, HP+ helped develop standard operating procedures on data quality and provided financial support to train 64 HMIS officers and malaria coordinators in the use of the application. HP+ also supported CMED in coordinating the implementation of the 2017 and 2020 health facility data quality assessments. These assessments are based on WHO methodology for assessing the quality

of data and development of data improvement plans, a key MEHIS strategy activity. The 2020 data quality assessment will feed into the development of additional data quality improvement interventions for the remaining period of the strategy (2021–2022).

This [training] has led to great improvements in the quality of malaria data, giving the program continued confidence for measuring performance of the malaria program.

–Monitoring and Evaluation Manager,
National Malaria Control Program

Data Analysis, Use, and Dissemination

Understanding how to use quality data is an important step in strengthening the health system. To train HMIS officers (data management focal persons) and district environment and health officers in charge of district planning (data users), HP+ adapted a Measure Evaluation curriculum that addressed data use principles and approaches, determinants and barriers to data use, the context of decision making, linking data with action, and data analysis and visualization. After participating in an initial HP+ training in Blantyre in May 2018, CMED trainers co-facilitated these trainings for 58 individuals across all 29 districts.

Data Bulletins

On a biannual basis, HMIS officers are tasked with developing a data bulletin and disseminating it to district program coordinators and other stakeholders. The purpose of the district bulletin is to communicate critical public health information in an easily interpretable way, allowing districts to track progress against targets, understand variation in performance across facilities, and advocate for data-informed recommendations. HP+ worked with CMED and other partners to develop a standardized template for the bulletins, selecting priority *Health Sector Strategic Plan II (HSSP II)* indicators that all districts are required to regularly track. After introducing district staff to the data bulletin template, HP+ mentored and coached district HMIS officers on how to extract data from the DHIS2 and

provided recommendations for visualizing and presenting health data effectively. More than half of district-level HMIS officers are now generating and sharing bulletins on key health indicators with their district health management teams. Meanwhile, mentoring is continuing to increase the number of reporting districts as well as improve the quality of the bulletins.

Data Review Meetings

A culture of data use requires the regular dissemination of data for review, discussion, and action. HP+ and the Global Fund supported CMED in organizing and creating presentation templates for zonal data reviews, with the goal of visualizing progress on programs. Review meeting objectives include discussing progress on implementation of key *HSSP II* and program indicators using routine data. The reviews are also meant to facilitate the development of district-level action plans to address program issues and service delivery bottlenecks. Zonal data review workshops have been instrumental in identifying gaps in reporting and data use.

The DHO [district health office] was able to use data from the bulletin to mobilize resources for in-service training sessions. Since then, there has been a decrease in the MMR [maternal mortality ratio] in the district. Moving forward, we need to disseminate the bulletin to partners so they can plan their activities alongside the DHO to address the priority health issues in the district.

–Michael Phiri, Mzimba South
Health Management System Officer

Lessons Learned

Inadequate data quality and use are a multifaceted challenge. Addressing such a challenge requires both strategic and technical solutions. Such approaches are costly and can rarely be addressed by one partner. Collaboration and coordination ensure that a range of activities are devised and adequately funded by all key partners.

Strategic and technical MOH leadership that advocates for HMIS harmonization is essential

Deliverables and Results Achieved by the MOH, CMED, HP+, and Partners

National Prioritization

- Developed and disseminated a costed Monitoring, Evaluation, and Health Information Systems (MEHIS) strategy prioritizing data quality and use activities among key partners.
- Aligned key partners and attracted more financial and technical resources to the MOH to support MEHIS strategy implementation.
- Increased and sustained focus on the implementation of data quality and use activities by key partners.

DHIS2 Implementation

- Developed central hospital DHIS2 data elements and reporting tools and configured the DHIS2 for central hospital data management.
- Trained more than 300 primary users and 876 facility staff on the DHIS2 and 35 trainers on the DHIS2 mobile app.
- Procured and distributed 875 tablets to 476 facilities in 15 districts to manage their data (56 percent of the targeted health facilities) with approved plans for procurement of 1,000 more tablets to cover the remaining districts.
- Improved reporting timeliness for the targeted facilities from 50 percent before use of tablets to 86 percent after using the DHIS2 mobile app on the tablets.

Data Management Staffing

- Decentralized data entry from the district HMIS office to the facility, enabling district-level data management staff to focus on data quality.
- Recruited 327 data management staff placed in facilities, all of whom have been absorbed by the government and trained in HMIS.

Data Quality, Use, and Dissemination

- Developed and implemented standard operating procedures for data quality.
- Trained 64 staff in the use of the WHO data quality application and increased the number of districts using the app to regularly check DHIS2 data.
- Trained 58 staff in data analysis and use.
- Developed biannual bulletins for all of Malawi's 29 districts, while working to improve dissemination.

in enforcing partner adherence to the MEHIS strategy. While complete alignment is yet to be fully achieved, large national-level programs such as those for malaria, tuberculosis, immunization, and HIV have moved from project-specific monitoring and evaluation systems to a national-level DHIS2 platform.

A comprehensive, costed strategy is critical for effective implementation of HMIS data use improvement activities as it fosters harmonization of partner approaches. This harmonization ensures availability of more resources for adequate support of interventions, leading to institutionalization and sustainability of interventions.

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CONTACT US

Health Policy Plus
1331 Pennsylvania Ave NW, Suite 600
Washington, DC 20004
www.healthpolicyplus.com
policyinfo@thepalladiumgroup.com

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