

Participatory Development for a Sustainable Health Management Information System

BAMAKO, Mali—For the last decade, Mali has used a custom-built software for its health management information system (HMIS). Despite its usefulness for many years, the system is not adaptable for modern Internet technology, is dependent on its third-party developers for maintenance, and is limited in its utility for managing and analyzing large amounts of data.

Recently, Mali agreed—as part of the overall health information system (HIS) strengthening process—to transition from its existing system to the district health information platform DHIS 2, which is regarded as the most promising system for integrating, managing, analyzing, and presenting health data for decision making in the health sector. MEASURE Evaluation, a USAID-funded project to strengthen capacity to gather, interpret, and use data for better health, is providing technical support to the Malian Ministry of Health (MOH) throughout this transition process.

Challenges

Information systems often fail, both in developed and developing countries. But in developing countries, the situation is made worse because the resources necessary to implement systems, the capacity to develop and maintain systems, and buy-in from stakeholders are often lacking. In Mali, even though stakeholders were successfully aligned from the outset of the process of implementing DHIS 2 as an integrated HMIS, the following challenges still remained:

- Developing a system to meet user needs, support their work practices, and still fit the context.
- Avoiding a mismatch between work processes embedded in the system and real conditions on the ground.
- Building local ownership to sustain the integrated HMIS and avoid it being perceived as belonging to one partner.

MEASURE Evaluation's Work

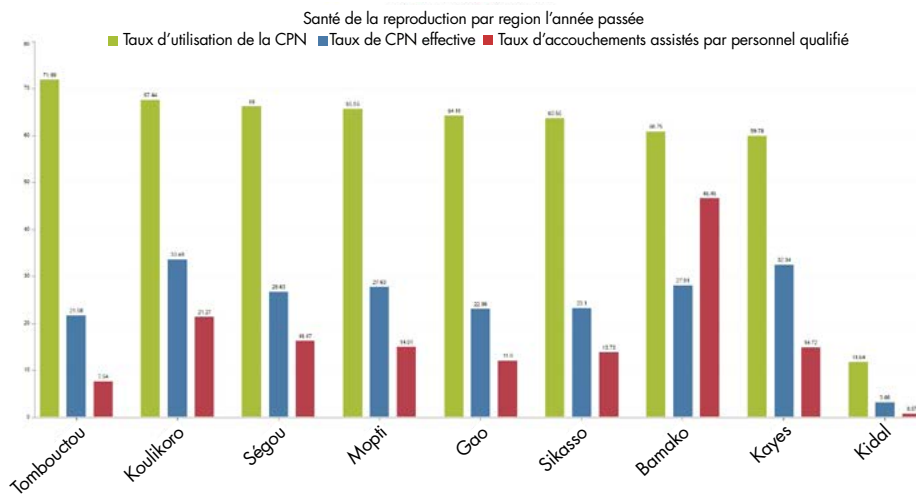
MEASURE Evaluation's active involvement began in 2015 when a revision of data reporting tools at the national level was nearing an end. The revision, unfortunately, had replicated past practice in which the MOH and various health programs created parallel systems with overlapping data collection tools—a situation that could lead to poor data quality and a significant workload for the health workers tasked with reporting. Many stakeholders, especially partners and data users, called for harmonization of these parallel systems, but their voices had not resulted in change.

MEASURE Evaluation felt confident that introducing and customizing DHIS 2 as an integrated data warehouse would be an unprecedented opportunity to gradually bring about desirable changes. The project was chiefly concerned that the new, integrated system would be sustainable and that the data quality would be good. To achieve these two objectives, MEASURE Evaluation proposed two main strategies: (1) synergy of expertise, and (2) capacity building and participatory design.

Synergy of expertise: A multidisciplinary technical team was formed to lead DHIS 2 implementation. Team members included those with expertise in information technology and in public health. The expertise provided by MEASURE Evaluation in system design and implementation was joined with the expertise of local HMIS staff and health workers who experience the various issues of the HMIS ecosystem on a day-to-day basis. This combination led to a better understanding of the HMIS needs and potential solutions as the team worked together.

Capacity development and participatory design: MEASURE Evaluation conducted an initial training for 43 participants in Mali on how to design a national HMIS using the DHIS 2 platform. This training was followed by a series of five workshops at which 23 members of the technical team and MEASURE Evaluation staff worked collaboratively to customize the integrated platform to meet the local needs and context. Additionally, this team facilitated the

Figure 1: Example from DHIS 2 of antenatal care coverage and assisted delivery rate in 2015.



training of trainers. All these events provided an opportunity for the Mali technical team to learn by doing.

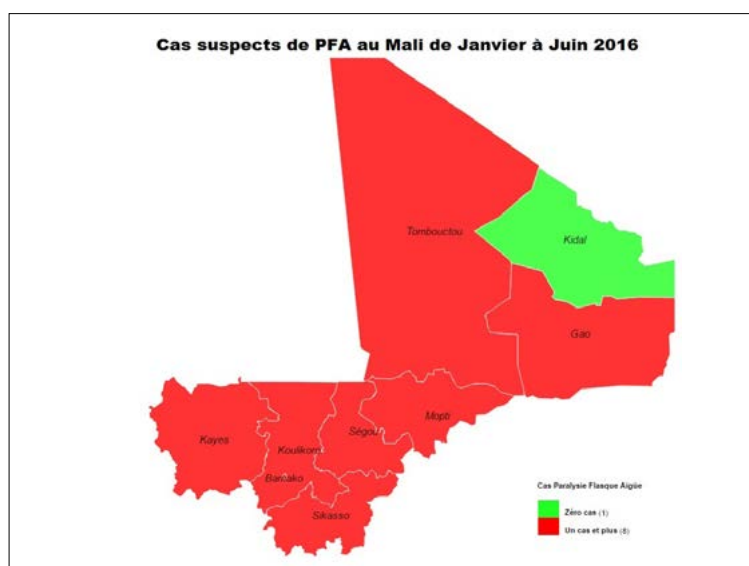
These strategies yielded the following three results:

Result 1: Harmonization of reporting forms. At the outset, it was difficult to convince stakeholders to harmonize their reporting tools, which would remove overlap and duplication for the sake of data quality and also relieve the burden on health workers. The challenge was that there was no previous experience of integration or collaborative management of health data to build on. However, as the stakeholders’ understanding of data integration improved, following their direct involvement in the customization of the DHIS 2 platform, they understood that keeping duplicate records and overlapping reporting tools was inefficient and could harm the entire system. Therefore, the harmonization of the tools became an easy “win.”

Result 2: Building ownership and working solutions. By bringing together various experts, especially those who encounter the challenges first-hand, and by fostering a mutual understanding over time, the project was able to help the core technical team to come up with technical solutions that fit their environment and meet their expectations.

Additionally, finding technical solutions for themselves fostered pride and a feeling of ownership. The team now enthusiastically talks about their system and is making progress aligning more stakeholders. During the training of trainers’ session, for example, one regional officer said the integrated system was “Fantastic! This system will definitely address the limitations of the old system and will solve our problem when it comes

Figure 2: Example from DHIS 2 of suspected acute flaccid paralysis (AFP) cases by region, January–June, 2016.



Technical experts at workshops organized by MEASURE Evaluation tested and discussed each step of the customization process.

to preparing data for CROCEP [le Comité régional d’orientation, de coordination et d’évaluation du Prodess].” His colleague, another HMIS officer added the clincher, namely, “Provided that we do our part of the job by entering data.”

Result 3: Local capacity to maintain and evolve the system. The technical team, through its involvement in the process, acquired a mastery of DHIS 2 platform design and maintenance and is now able to provide support to DHIS 2 users and help to maintain and improve the system. Because the only constant in health system is change, developing local capacity to get the HMIS to adapt to emerging changes is critical.

Engaging multiple stakeholders with a range of technical expertise in the participatory design and implementation of capacity building has made a difference in Mali. Harmonized reporting tools, local DHIS 2 experts now in place, and a strong feeling of system ownership are key qualities that bode well for the future of a sustainable national HMIS to support better health.

For more information

MEASURE Evaluation is funded by USAID to strengthen capacity in developing countries to gather, interpret, and use data to improve health. Read more at <http://www.measureevaluation.org/measure/our-work/health-information-systems>

To read about MEASURE Evaluation’s work in Mali, visit: <http://www.measureevaluation.org/measure/countries/mali>