



Characterisation of the Health Information System in Mozambique

REPORT OF FINDINGS

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Executive summary

Population health is directly affected by decisions taken by policy makers, managers, health care providers and by the population itself. Therefore, actions for improving the soundness of decisions need to embrace all decision making processes, starting at health facility level. The PHISICC project (Paper-Based Health Information System in Child Care) focuses on the paper components of the information system in three African countries (Côte d'Ivoire, Mozambique and Nigeria). Our research question is: what are the effects of paper-based information systems interventions on the quality and use of data and on health related outcomes in Primary Health Care (PHC) of Low- and Middle-Income Countries (LMIC)? To this end, the PHISICC project first assessed the status of the Health Management Information System (HMIS) in order to understand how data are produced, stored and transmitted and what is the human experience around data and decision making. Then, in creative partnership with country partners, we will engage in co-creative, collaborative and intentional design activities to innovate on the tools and processes to improve paper-based systems. We will then test these innovations using randomised controlled trials. This report refers to the first part of the project: the assessment of the HMIS in Mozambique.

We used a mixed methods approach from several perspectives: public health, health systems and Human Centred Design. Methods included: the review of the multi-year health sector strategic plan, data forms and supporting tools, and ten days of field work in Maputo and in Nampula province to carry out interviews and workshops with key stakeholders, stakeholders analyses, interviews with health workers, health

facility data verification exercises and health workers 'shadowing'. We did not aim to obtain generalizable findings, but rather to acquire an in-depth knowledge of the status of the HMIS, synthesising several types of evidence from several sources. Although we cannot rule out some degree of bias in our findings, we took all care to adhere to the widely accepted research standards. This research was cleared by the competent ethical review boards in country.

There are four levels of health care delivery in Mozambique: (i) the national level with teaching hospitals and specialist hospitals providing complex health care; (ii) the provincial level, with provincial hospitals; (iii) districts with rural hospitals; and (iv) health centres where Primary Health Care (PHC) takes place. Accordingly, the Health Management Information System (HMIS-SIS) is organised following the same hierarchy of levels, from the health centres up to the national level.

The HMIS is a priority issue for the MOH in Mozambique, particularly the paper-based components.

The tools of the HMIS are well structured around several health care areas (e.g. children at risk, antenatal care), with recording forms at health facility level and reporting forms up to the provincial level. However, we could observe in the field many more forms being used, either because health facilities run out of register books or because there were recording needs which could not be achieved using the standard forms.

Commonly reported challenges of the HMIS in Mozambique included: (i) limited funding and inadequate human resources; (ii) irregular supply of data tools; (iii) co-lateral data collection by partners; (iv) lack of data analysis at the level of the data collection; and (v) lack of data use in decision making.

The integration with the DHIS2 takes place at district level, although we could witness that DHIS2 can be used as a parallel system to the still existing manual processing of data. We realised that not all DHIS2 modules are actually being used.

There are a few stakeholders in the country involved in the HMIS, which puts a heavy burden into coordination and actual work in relation to the HMIS. Commitment to data quality is very high among partners and a well known problem. In fact, the ad hoc data quality verification exercises carried out showed, as expected, examples of moderate to serious data discrepancies between sources. The awareness, understanding and vision of the Nampula DPS staff was remarkable and an invaluable resource not only to understand the issues of the HMIS but also to conceive innovative solutions. Actually, the PHISICC project will also learn from previous experience in improving the vaccination sub-component of the HMIS in Nampula, carried out by the DPS. Stakeholders also provided essential insights in order to complement and complete the HIS framework that was started in Côte d'Ivoire and further developed in Nigeria. For example, the 'communication' component of decision making was incorporated in the final HIS framework.

The general perception among health workers was that the data they were collecting was hardly used at the peripheral level and that it takes too much time to collect. Other concerns included the difficulties in handling data support tools, the amount of data to records, and that incentives seem to promote quality of data instead of quality of care.

There seems to be agreement in considering that past adaptations of the HMIS do not necessarily follow a systematic and evidence-

informed approach, but rather that changes are influenced by those partners who may be able to exert more influence at specific times. PHISICC is seen as an opportunity to try and rigorously test new approaches aiming at improving data quality and use.