Routine Data Quality Assessment: Improving the HMIS in learning lab sites

The Routine Data Quality Assessment (RDQA) is a web-based application developed for health facilities, programs and governance units to self-assess the quality of Health Management Information System (HMIS) data and strengthen the data management system. It provides an opportunity to improve the quality of data and generate systems before wider dissemination and use. The tool consists of two domains: data verification and system assessment. Under data verification, the RDQA tool authenticates information obtained from the HMIS and calculates quality metrics, while the five functional areas of the monitoring and evaluation (M&E) system are evaluated under the system assessment domain.

Data Verification

The data verification domain of the RDQA tool helps assess whether service delivery sites (health facilities) at different levels and the national M&E system are collecting, consolidating, and reporting data to measure the selected indicator(s) accurately and on time. It also crosschecks the reported results with other data sources. For crosschecking, the data reported for selected indicators are verified against the recording registers/forms, as well as register vs tally sheets, register vs monthly monitoring sheets, tally vs monthly monitoring sheets, and register vs client tracking (optional).
At service delivery sites, the data verification section of the RDQA tool supports documentation review, recounting of reported results, and crosschecking of reported results with other data sources. The selected data in the client registers, tally sheets, monthly monitoring sheets and monthly reports is manually recounted, checked, verified and put into the RDQA tool. The purpose of the crosscheck is to validate the data sources for the same reporting period to check for consistency.

System Assessment

The system assessment domain of the RDQA tool identifies strengths and potential threats to data quality posed by the design and implementation of the data management and reporting system at different levels of the M&E and service delivery sites. Data verification informs users about problems with data quality, but it does not provide much insight into the causes of the problems. The system assessment component, on the other hand, is designed to address those exact issues so that users can take corrective actions. System assessment has five functional areas: M&E structure, functions and capabilities; indicator definitions and reporting guidelines; data collection and reporting forms and tools; data management processes; and use of data for decision making.

The RDQA tool was originally developed by the United States Agency for International Development's MEASURE Evaluation in the Microsoft Excel© format as part of global efforts to combat AIDS, malaria and tuberculosis[1]. The Ministry of Health and Population (MoHP) customized the tool to suit the local context. In 2018, the MoHP, with support from the Department for International Development/Nepal Health Sector Support Programme (DFID-NHSSP) and GIZ, developed the current web-based RDQA tool and made it applicable for use in local, provincial

[1] MEASURE Evaluation, October 2015, User Manual - Routine Data Quality Assessment Tool, MEASURE Evaluation

and federal governance structures. Its implementation guidelines, manual and tutorials are published on the MoHP website[2].

The MoHP, with support from DFID-NHSSP, is implementing the Learning Labs approach in seven selected local level municipalities – one in each province. The objective is to make local health systems more resilient in order to deliver quality services that leave no one behind. The approach also intends to learn from local health systems and disseminate the learning to wider stakeholders, as well as support the scaling up of best practices in other local government units. The seven Learning lab sites are Itahari sub-metropolitan city (Province 1), Dhangadimai rural municipality (Province 2), Madhyapur Thimi municipality (Bagmati Province), Pokhara metropolitan city (Gandaki Province), Yasodhara rural municipality (Province 5), Ajaymeru rural municipality (Karnali Province) and Kharpunath rural municipality (Sudurpaschim Province).

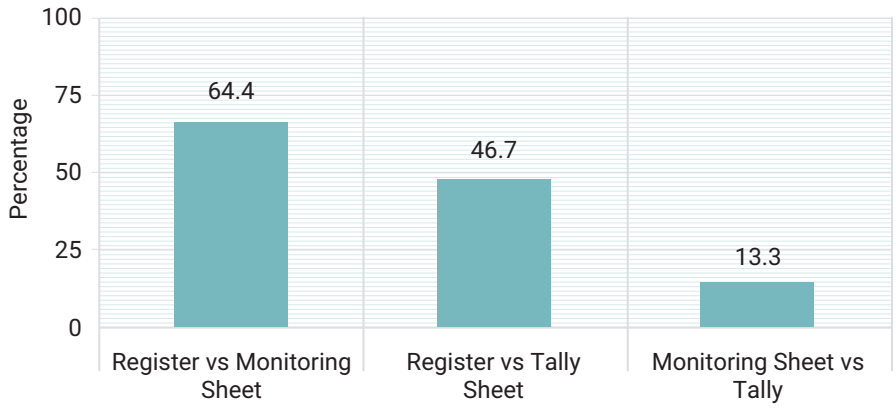
As part of the Learning Labs approach, the NHSSP provided technical support to local level municipalities to implement the RDQA tool in government health facilities. Following the RDQA, the health facilities drafted their action plan for improvement. The NHSSP will support the local governments and respective health facilities to deliver this action plan, which documents current findings, issues/challenges and lessons learned. It will help guide the scaling up of RDQA on other sites.

Key Findings

Data Verification

In the data verification domain, a 90-110% score on all indicators selected for verification was considered the benchmark for accuracy. Findings generated from RDQA in the data verification domain shows that more than half of the health facilities were able to meet the benchmark in sub domain register vs monitoring sheets, while 46.7% and 13.3% of the health facilities met the point of reference in register vs tally and monitoring sheets vs tally respectively.

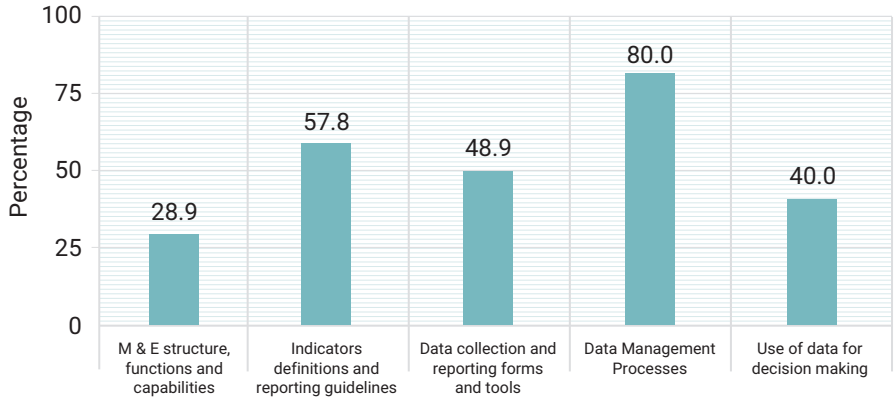
Percentage of HF meeting the benchmark in the data verification domain (n=45)



System Assessment

On an average, a 2.5 to 3 score on system assessment was considered a benchmark in RDQA. Results from the system assessment domain revealed that 80% of the health facilities were able to meet the criteria in data management processes, with more than half meeting the benchmark in availability of indicators definition and reporting guidelines. However, for most of the facilities, the use of data for decision making, monitoring and evaluation functions and capabilities are still in need of improvement.

Percentage of HF meeting benchmark in the system asessment domain (n=45)



[2] www.mohp.gov.np or www.rdqa.org

Issues/Challenges

1. The staff designated to handle the HMIS in the absence of health facility in-charges were not formally trained. Therefore, the reliability of data recorded and reported during the absence of the in-charges were questionable.
2. Since the health facility in-charges usually took part in most trainings, other staff members did not get learning opportunities. As a result, the transfer of staff trained in HMIS/e-reporting created manpower vacuums that could not be filled by existing personnel.
3. Registers were not uniformly maintained between the health facilities, which made it difficult to rely on the data even though they were accurate.

CASE 1

The definition of a "defaulter" of family planning methods was not consistently practiced. Some health facilities categorized clients as defaulters if they did not visit the facility on the given (follow up) date, while others waited for four weeks before doing so.

CASE 2

The definition of "new case" for growth monitoring was not consistently practiced. In some instances, the health facilities categorized clients as "new" if they were visiting for the first time, regardless of whether or not growth monitoring had been carried at other establishments. In other cases, clients were considered "new" only if growth monitoring was done for the first time.

4. There were limited facilitative and supportive supervision visits by higher level authorities to the health facilities.
5. Although health facility staff had received e-reporting training, they were unable to put this learning into practice due to the lack of Internet connections at the facility level.
6. Another challenge in operating the web-based RDQA application was the low computer literacy among health workers.

Lessons learned and ways forward

1. Local governments should ensure that all health workers receive HMIS training. Additionally, while assigning responsibility for HMIS recording and reporting, health facility in-charges should ensure that staff members with relevant training are given the task.
2. Local governments should provide power backup for computer/Internet-equipped health facilities so that e-reporting and RDQA can be carried out at all times.
3. Health workers should be given basic computer literacy training for the proper implementation of e-reporting and RDQA.
4. In facilities that lack or have inconsistent Internet connections, an MS-Excel©-based RDQA tool might be more useful since it does not require an Internet connection.
5. The use of RDQA should be officially mandated in all health facilities. Local level health units can take this responsibility and circulate official letters to all health facilities under their purview. This should be supplemented with an implementation protocol stating the periodicity and follow-up schedule by higher levels.
6. Frequent facilitative and supportive supervision visits from higher level authorities are needed for routine use and follow-up of RDQA processes in health facilities. This can be continued until RDQA is regularized. The facilities should also be provided with standby IT support.
7. Use of data for decision making, transformative errors during recording and reporting, availability of guidelines and tools, and core functionality of the monitoring and evaluation structure need to be prioritized for interventions by all sphere of governments to improve the quality of data.
8. Training and capacity building on HMIS and RDQA should be provided to medical officers (doctors) who have completed their academic degrees with government-funded scholarships and are deputed to serve obligatory terms working in government health facilities. Capacity building is important in their cases since they manage the facilities in the absence of officials deployed by the government.
9. The readjustment of health workers is expected to have an impact on the results of the RDQA roll-out in Learning Lab sites. The possibility that some of the health workers oriented on RDQA might be reshuffled to other facilities within or outside the sites will need to be taken into account. This might influence the continuity of the RDQA operation.

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