

The Use of Data for Planning and Services Improvement in Tanzanian Primary Healthcare Facilities: Experience from Star Rating Assessment

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Abstract

Background: The use of data for planning and improving healthcare delivery is sub-optimal among developing countries. In 2015, Tanzania started to implement the Star Rating Assessment (SRA) process for Primary Health Care (PHC) facilities to improve various dimensions of quality of services, including the use of data. We aimed at assessing the extent and predictors of data use in Tanzanian PHC facilities. **Methods:** We used the most current national SRA data available in DHIS2 that was collected in 2017/2018 from all 7289 PHC facilities. A facility was considered using data if gained 80% of the allocated scores. Other dependent variables were the three components that together contribute to the use of data (If PHC facility has Health Management Information Systems (HMIS) functional, disseminates information, and has proper medical records). We determined the association between data use and facility ownership status (public or private), location of the facility (rural or urban), gender of the facility in charge, and facility service level (dispensary, health centre, or hospital). Results are presented as proportions of facilities that



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qualified for data use and the three components. The associations are reported in Adjusted Odds Ratio (AOR) with a 95% Confidence Interval (CI). **Results:** A total of 6663 (91.4%) PHC facilities met our inclusion criteria for analysis. Among the facilities: 1198 (18.0%) had used data for planning and services improvement, 3792 (56.9%) had functional HMIS, 1752 (26.3%) had disseminated data, and 631 (9.5%) had proper medical records. Facilities that are publicly owned (AOR 1.23; 95% CI: 1.02 - 1.47) and those in-charges were females (AOR 1.19; 95% CI: 1.04 - 1.36) were likely to use data. Data use was likely to increase as the level of facility increases. **Conclusions:** The use of facility data for planning and services improvement in Tanzanian PHC facilities is low, and much effort needs to be targeted at privately-owned and low-level PHC facilities.

Keywords

Data Use, Health Management Information Systems, Medical Records, Tanzania, Primary Health Care

1. Introduction

Quality data availability is essential for making decisions in health systems in a way that can help to address public health issues, as well as, in planning and delivery of health services through World Health Organization (WHO) health systems building blocks—service delivery, health workforce, access to essential medicines and technologies, financing, governance and leadership, and information systems (AbouZahr & Boerma, 2005; Nutley & Li, 2018). Data use has been defined to include the following issues “data sharing, visualization, dissemination, and review” (Nutley & Li, 2018); and measures of data used to include the following dimensions: “*transparency, timeliness, visibility, accessibility, dissemination of information, calculation of key indicators, preparation of information products (reports), and presentation of the achievement of targets*” (Abajebel *et al.*, 2011; Mwencha *et al.*, 2017; Nutley & Li, 2018). Having a culture of data use at all levels of health services delivery is an essential element for health system strengthening (Nutley & Reynolds, 2013). The recent report of The Lancet Global Health Commission on high-quality health systems in the sustainable development goals era has noted that “*health systems need to develop the capacity to measure and use data to learn*” (Kruk *et al.*, 2018).

However, data use in the health sector in Low- and Middle-Income Countries (LMICs) is sub-optimal. Issues affecting data use have been grouped into three areas—organizational, behavioural, and technical issues (Hoxha *et al.*, 2022; MEASURE Evaluation, 2018). In a study that documented a seven-year experience of interventions in Mozambique, Rwanda, and Zambia, it was recommended that to improve data use for quality improvement; it is important to conduct data quality assessments and to improve the skills of service providers in data analysis and visualization (Wagenaar *et al.*, 2017). Also, the implementation of a combination of

interventions that target behavioural and technical factors has been shown to improve data quality and use (Lemma *et al.*, 2020). Involving local stakeholders in designing data collection, has been reported to be successful as measured by the completion and accuracy of data collection tools (Mayston *et al.*, 2020).

In a systematic review that looked at challenges in the use of routine health information data in LMICs, Hoxha and colleagues identified organizational or environmental challenges as the most commonly reported barriers to data use (Hoxha *et al.*, 2022). Some interventions have been shown to have the potential for helping to establish a culture of data use including decision-makers/supervisors being examples to others (role models) through advocating for data use at the council level; using incentives such as the implementation of performance-based financing; and use of accountability system through the use of open performance review and appraisal system (Lippeveld, 2017). In Uganda, challenges found in health centres in implementing data quality assurance of routine information systems included: “*laborious and tedious manual system; the difficulty to archive and retrieve records; insufficient health management information system forms; and difficulty in delivering hard copies of reports to relevant stakeholders*” (Kagoya & Kibuule, 2018).

In 2015, Tanzania started to implement the Star Rating Assessment (SRA) process for Primary Health Care (PHC) facilities to improve the quality of services provided (Yahya & Mohamed, 2018). The assessment used a set of tools separate for dispensaries, health centres, and level one hospitals (hospitals at the council), with a total of 12 services areas in which service area three is on “*use of facility data for planning and services improvement*” (Yahya & Mohamed, 2018; Kinyenje *et al.*, 2020). This study aimed to assess the extent of data use in PHC facilities in terms of: functionality of the Health Management Information System (HMIS); information use and dissemination; and medical records status (recording and retrieval, as well as the confidentiality of patient’s records).

This paper adds novelty to the body of knowledge on the performance of PHC system in Tanzania by providing a countrywide baseline picture of data use in PHC facilities. The vision for PHC in the 21st century, emphasized on the need for a research-oriented PHC that can help to inform policies, strategies, and operational plans (WHO & UNICEF, 2018). The operational framework for PHC further emphasized on the need for health facilities to use data for improving performance and also improving data quality (WHO & UNICEF, 2020); and the measurement framework and indicators have provided a link between measurement and improvement in PHC performance (WHO & UNICEF, 2022). Therefore, the results of this paper will help to inform the national and subnational level stakeholders on the situation of data use in PHC facilities, so that they can design strategies to improve data use.

2. Methods

2.1. Conceptual Framework

The design of the SRA Tool (SRT) in a section related to the use of facility data

for planning and services improvement (Area 3) adapted the “*Performance of Routine Information System Management (PRISM)*” framework developed by Aqil and colleagues (Aqil et al., 2009). The elements assessed matched with the components of the PRISM framework are shown in **Table 1**. The outcome measure which is improvement in data use for planning and services improvement is related to the outcome component of the PRISM framework which is “*improved Routine Health Information System (RHIS)*”. Therefore, based on the core components of the PRISM framework (technical, organizational and behavioural factors) matched with the assessed components of the tool (**Table 1**), we conceptualized that improved data use for planning and improvement of services in PHC facilities is a function of the functionality of HMIS, information use and dissemination, and medical records in a particular facility, and demographics of health facilities. The extent of the components of the PRISM framework covered in the tool has the potential to provide comprehensive information that will inform the improvement of data used for planning and improvement of service delivery in PHC facilities in Tanzania (Nutley & Reynolds, 2013).

2.2. Study Objectives

The objectives of our study were to determine the proportion of PHC facilities: that use data for planning and services improvement; that use HMIS tools correctly; that disseminate information; with proper medical records; and determine predictors associated with data use in PHC facilities.

2.3. Study Design

This was a retrospective cross-sectional study that used secondary data related to the use of facility data for planning and services improvement that are found in a national data warehouse known as District Health Information System 2 (DHIS2). This data was collected during the Star Rating assessment that was conducted in between July 2017 and December 2018.

Table 1. Data use areas assessed matched with the PRISM framework.

3.0. Use of facility data for planning and services improvement		PRISM framework components
Service area 3 components	Star rating indicators	
3.1. Functionality of HMIS	<ul style="list-style-type: none"> • Staff training on HMIS • HMIS tools in use and filled correctly 	<ul style="list-style-type: none"> • Organizational factors • Technical factors • Organizational factors • Behavioral factors
3.2. Information dissemination	<ul style="list-style-type: none"> • Data interpreted and used at the facility • Facility profile report shared with village and wards 	<ul style="list-style-type: none"> • Organizational factors • Organizational factors
3.3. Medical record	<ul style="list-style-type: none"> • Recording and retrieval of medical records • Confidentiality assured for patient records 	<ul style="list-style-type: none"> • Technical factors • Organizational factors

2.4. Target Population

All operating PHC Facilities in Tanzania (Dispensaries, Health Centers and Hospitals at Council level) regardless of their ownership, i.e. public (Local Government Authority (LGA), Military, Police, Prisons, Parastatals and other Ministries, Departments and Agencies (MDAs)) or private (Faith-Based Organization (FBO), Non-Governmental Organization (NGO), Private for Profit).

2.5. Study Population

A nation-wide assessment was conducted to all 7289 PHC facilities in 2017/18. This study targets all of these facilities which constitute the majority of health-care facilities (more than 97%) in Tanzania.

2.6. Inclusion Criteria

All facilities whose performance and characteristics were able to be identified from the DHIS2 after data cleaning were included in this study.

2.7. Exclusion Criteria

Facilities with incomplete data related to relevant questions under study were excluded during the analysis.

2.8. Data Sources and Collection

2.8.1. Data Collection

This section explains how data that make up the SRA dataset in the DHIS2 were collected. Data collection from each facility was done by at least four trained healthcare personnel representing all four tiers of Tanzanian healthcare administrative levels, i.e. national, regional, council and facility-level to ensure transparency and fairness. Before enrollment for data collections, the team received a five-days training mainly focusing in the use of the assessment tool, data cleaning, compilation and reporting. Data collectors captured the score per question at the facility level using the SRT and subsequently entered the values in Microsoft Excel Sheets to produce the score.

The data collection tool tracks three components (variables for this study) that measure the use of Facility's data for planning (additional file **Appendix 1**). The components, i.e. functionality of the HMIS, information use and dissemination and medical records are further divided into indicators, questions, assessment criteria and pre written responses. For each question, one response was chosen among the following possible scoring options; "Yes" (score = 1), Partial (score = 0.5) or "No" (score = 0).

Data from the sheets were cleaned and compiled at Council level immediately to ensure correctness, completeness, accuracy and timeliness of the data. The SRA at national level was coordinated by Health Services Inspectorate and Quality Assurance Section of the then Health Quality Assurance Division, which is currently Health Quality Assurance Unit (HQUA) of the Ministry of Health

(President's Office—Public Service Management and Good Governance, 2018).

2.8.2. Data Sources

The targeted data were extracted from the DHIS2 database in form of Microsoft Excel Sheets. The sheets were checked for data quality and cleaned before use.

2.9. Study Variables and Measurements

The main dependent variable of interest for this study was “use of facility data for planning and services improvement” that was used to determine its association with facility-related independent variables, i.e. facility ownership status (public or private owned), location of the facility (rural or urban-based), gender of the facility in-charge (male or female) and health facility service level (dispensary, health centre or hospital level one).

The facility was considered using data for planning and services improvement if scored at least 80% of the assessment criteria. This cut-off point is provided in the National Guidelines for Recognition of Implementation Status of Quality Improvement Initiatives in Health Facilities (Ministry of Health and Social Welfare, 2014). Therefore, since there were 12 questions weighing a total of 12 points; a facility needed 9.6 points from 12 available points to meet the cut point and be qualified as using data for planning and services improvement.

Other dependent variables were the three components that contribute to data use that are stated in **Table 1**, i.e. functionality of HMIS, data dissemination and medical records. Likewise, a facility needed 4.6 points out of 6 points to have a functional HMIS. Also, since both variables: data dissemination and medical records were made of three questions each; a facility needed 2.4 points to qualify in each of the category.

2.10. Data Management and Analysis

The facilities were characterized based on ownership status, location, gender of the facility in-charge and health service level. Data cleaning and analysis was done using STATA 15. The data was cleaned and checked for completeness and outliers before analysis. We determined an association between the binary variable and independent variables to determine the predictors of data use for planning and services improvement at the PHC facilities. Multivariate logistic regression analysis was conducted to measure the association that was presented in odds ratio with a 95% confidence interval. A *p*-value of <0.05 was considered as statistically significant.

3. Results

A total of 6663 PHC facilities; which is equivalent to 91.4% of all 7289 PHC facilities that were included in the SRA assessment of 2017/18 (Yahya & Mohamed, 2018; Kinyenje *et al.*, 2020) met inclusion criteria and were included in the final analysis under this study. A separate analysis found no significant difference between facilities that met inclusion criteria and those that did not (**Table 2**).

Table 2. A separate analysis output for 626 (8.6%) PHC facilities that were excluded from final analysis.

Variable	% facilities involved in data collection (n = 7289)	% facilities included in the analysis (n = 6663)	<i>p</i> -value*
Facility type			
Health Centre	12.0	10.99	1.0
Hospital	3.0	3.15	
Dispensary	85.0	85.86	
Ownership			
Private	19.0	21.01	1.0
Public	81.0	78.99	
Location			
Urban	22.4	23.01	1.0
Rural	77.6	76.99	

**p*-value was calculated from paired t-test.

Among the facilities that met inclusion criteria; 1198 (18.0%) had used data for planning and services improvement. These are the facilities that gained at least 80% in all assessment questions. Regarding the three components of data use for planning and services improvement; 3792 (56.9%) of the facilities had functional HMIS; 1752 (26.3%) had disseminated data; and 631 (9.5%) had proper medical records.

As presented in **Table 3**, all facility-related variables that were included in our study were significantly associated to “data use for planning and services improvement at PHC facilities” during both bivariate and multivariate analysis except the location of the facility. The facilities whose in-charges were females were likely to use data compared to those whose in-charges were males (AOR 1.19; 95% CI: 1.04 - 1.36). Data use was likely to increase as the level of facility increases-with significant association at health centre level but not at hospital level. Public-owned PHC facilities had a 23% increased likelihood of using data for planning and services improvement compared to private-owned facilities (AOR 1.23; 95% CI: 1.02 - 1.47).

A deeper multivariate analysis focusing at association of the healthcare facility variables and the three components that form outcome variable “data use for planning and services improvement” was done and presented in **Table 4**.

The significance of the association for ownership variable remained very strong for data dissemination and functional HMIS but very weak for medical records. The variables “facility type” and “gender of the facility in-charge” did not change significance of the associations except for component “medical records”. The location of the facility remained not significantly associated to the three components of data use.

Table 3. Predictors associated with data use in primary healthcare facilities.

Variable	Data use in the facility				Bivariate			Multivariate		
	Yes	%	No	%	COR	95% CI	p-value	AOR	95% CI	p-value
Facility type										
Health Centre	160	21.9	572	78.1	1.34	1.11 - 1.62	0.002	1.45	1.19 - 1.77	0.001*
Hospital	52	24.8	158	74.2	1.58	1.15 - 2.18	0.005	1.61	0.53 - 4.94	0.404
Dispensary	986	17.2	4735	82.8	Ref			Ref		
Ownership										
Public	972	18.5	4291	81.5	1.18	1.00 - 1.38	0.044	1.23	1.02 - 1.47	0.030*
Private	226	16.1	1174	83.9	Ref			Ref		
Location										
Rural	933	18.2	4197	81.8	1.06	0.92 - 1.24	0.420	1.05	0.89 - 1.25	0.551
Urban	265	17.3	11,268	82.7	Ref			Ref		
Gender										
Female	455	19.4	1893	80.6	1.18	1.04 - 1.35	0.013	1.19	1.04 - 1.36	0.012*
Male	635	16.9	3126	83.1	Ref					

p-values are calculated using chi-square test. *Predictors whose association were found significant in the final logistic regression model. COR = Crude/unadjusted Odds Ratio, AOR = Adjusted Odds Ratio.

Table 4. A deeper analysis showing an association of healthcare facility's characteristics with individual components that contributes to data use.

Independent variable	Performance in three components of data use at healthcare facilities					
	Functional HMIS		Information dissemination		Medical records	
Facility type	Yes, n (%)	No, n (%)	Yes, n (%)	No, n (%)	Yes, n (%)	No, n (%)
Health centre	449 (61.3)	283 (38.7)	224 (30.6)	508 (69.4)	60 (8.2)	672 (91.8)
Hospital	130 (61.9)	80 (38.1)	84 (40.0)	126 (60.0)	6 (2.9)	204 (97.1)
Dispensary (reference)	3263 (57.0)	2458 (43.0)	1444 (25.2)	4277 (74.8)	565 (9.9)	5156 (90.1)
AOR 95% CI, p-value	Health centre*	1.45 (1.22 - 1.72) < 0.001*	1.43 (1.19 - 1.72) < 0.001*	0.91 (0.69 - 1.22)	0.541	
	Hospital	3.23 (1.13 - 9.19) 0.028*	2.96 (1.13 - 7.78) 0.028*	1.34 (0.31 - 5.92)	0.693	
Ownership						
Public	3194 (60.7)	2069 (39.3)	1483 (28.2)	3780 (71.8)	530 (10.1)	4733 (89.9)
Private (reference)	598 (42.7)	802 (57.3)	269 (19.2)	1131 (80.8)	101 (7.2)	1299 (92.8)
AOR 95% CI, p-value	Public	2.03 (1.77 - 2.33) < 0.001*	2.04 (1.71 - 2.43) < 0.001*	1.29 (1.01 - 1.65)	0.041*	
Location*						
Rural	3033 (59.1)	2097 (40.9)	1378 (26.9)	3752 (73.1)	511 (10.0)	4619 (90.0)
Urban (reference)	759 (49.5)	774 (50.5)	374 (24.4)	1159 (75.6)	120 (7.8)	1413 (92.2)
AOR 95% CI, p-value	Rural	1.14 (1.00 - 1.30) 0.048	0.97 (0.83 - 1.13) 0.681	1.14 (0.91 - 1.43),	0.269	

Continued**Facility in charge's gender***

Female	1445 (61.5)	903 (38.5)	656 (27.9)	1692 (72.1)	224 (9.5)	2124 (90.5)
Male (reference)	2092 (55.6)	1669 (44.4)	925 (24.6)	2836 (75.4)	372 (9.9)	3389 (90.1)
<i>AOR 95% CI, p-value</i>	Female	1.21 (1.09 - 1.35) < 0.001*	1.15 (1.02 - 1.30) 0.020*	0.92 (0.78 - 1.11) 0.400		

p-values are calculated using chi-square test. *Variable whose significance of association with data uses (the main outcome of the study) would differ based on the components. *AOR* = Adjusted Odds Ratio

4. Discussion

The findings have shown health facility data were used for planning and services improvement in only one-fifth of the PHC facilities in Tanzania. Among three components that determine the use of data in the PHC facilities; most of facilities failed in having proper medical records whereby only one-tenth of the facilities had capability to record, retrieve and ensure patient records are handled in a way that assures confidentiality. More than half of the facilities had HMIS system functional and therefore this was relatively the most performed component among the components that determine data use in the health facilities. The national target is at least 80% and therefore effort is still needed to improve the performance. The facility was considered having HMIS functional if at least one staff is trained in HMIS and HMIS tools are used and filled correctly. Moreover, about a quarter of the facilities had analysed data and displayed it for public view.

A study in five countries (Cambodia, Ghana, Mozambique, Nigeria and Tanzania) has documented the burden of recording and reporting of health data in PHC facilities. The findings show that the functionality of HMIS and medical records in PHC facilities in Tanzania may be affected by the burden of recording and reporting due to the volume of registers in which for completing monthly reporting forms it takes up to 65-hours, with 29 reporting forms (Siyam *et al.*, 2021). Besides the above challenges, data usage in Tanzania has been further emphasized in publicly-owned PHC facilities through Direct Health Facility Financing (DHFF) initiatives that were targeting public facilities since 2017 (Kapologwe *et al.*, 2019). Among others, DHFF requires public facilities to collect quality data that will be used for planning interventions targeting specific local needs. This may be the reason why public facilities have performed better in this study compared to private ones.

In a study which was conducted in 12 health facilities in three Tanzanian regions (Arusha, Lindi, and Geita) to assess the capacity of health workers to analyze and use data for family planning services, they found that: health workers have inadequate skills for data analysis and computer use; the facilities have a weak culture of data analysis and use; lower-level health facilities, lacked internet access, hence affecting their access to DHIS2; and lack of data ownership among health workers thinking in which they believed that data generated at health facilities belong to the Council Health Management Team (CHMT) and not the

facilities; and lack of training on collecting, analyzing, presenting, and using data (Anasel *et al.*, 2019). Also, the findings from 115 healthcare facilities from 11 Councils in Tanzania found that poor data use was common, due to inadequate data management skills, lack of training, inadequate supportive supervision visits and feedback from CHMT (Mboera *et al.*, 2021). Training and education have been positively linked to data use (especially electronic data) (Nwankwo & Sambo, 2018; Asemahagn, 2017); nevertheless, organizational culture and technical and managerial support are very key to sustainability of the processes (Pesec *et al.*, 2021).

A study in Nigeria found that training of health workers in PHC facilities improved their data management skills including filling registers and forms, data analysis and use (Nwankwo & Sambo, 2018). Findings from a study in Ethiopia have shown slightly more than half of 250 staff who participated in the study reported to use facility data routinely to develop plan; while identified factors that hindered data use included residence, data management knowledge, work load, computer skill, computer access, supportive supervision, HMIS training, and availability of HMIS guideline and formats (Asemahagn, 2017). Also, research evidence in Tanzania shows that the level of education is positively associated with the use of HMIS especially if the systems are electronic (Sukums *et al.*, 2014) and therefore, we presume the use of data in high-level facilities was due to the presence of relatively more educated staff in these facilities. In Costa Rica, a strong culture of valuing data as a tool to drive improvements coupled with technical and managerial support has contributed to the use of data for improving care to patients and improving population health (Pesec *et al.*, 2021). Rendell and colleagues have identified several factors that can influence data use in PHC services which they organized them into three groups: *governance (leadership, participatory monitoring, regular review of data)*; *production of information (presentation of findings, data quality, qualitative data)*; and *health information system resources (electronic health management information systems, organizational structure, training)* (Rendell *et al.*, 2020).

The ultimate goal of SRA processes is to improve performance management of the PHC facilities that includes management of health information systems and use of data (Yahya & Mohamed, 2018). Therefore, the government of Tanzania must strongly uphold and implement the digital health strategy namely “*The National Digital Health Strategy 2019-2024*”—which is also in line with both the Tanzania Development Vision 2025 and the Health Sector Strategic Plan 2021-2026 (Ministry of Health, Community Development, Gender, Elderly and Children, 2019, 2021). The strategy aims at improving the management of health information systems in the PHC facilities particularly through the use of sustainable and interoperable electronic systems. Improving the use of data is essential in strengthening PHC in a way that will ensure its orientation towards person centred care in PHC (Alpert *et al.*, 2020). Therefore, it is recommended for Tanzania to make use of the data use partnership project to strengthen culture

of data use in PHC facilities by focusing on having better data (i.e. strengthening quality of data production) and implementing interventions that will help to nudge health workers towards a behaviour of regular data use (Arenth *et al.*, 2017). By strengthening the use of data in PHC facilities, it will be an important step in building a learning health system in Tanzania (English *et al.*, 2016; Sarakbi *et al.*, 2021). Also, in-charges of PHC facilities can make use of facility management meetings and quality improvement teams meetings to build capacity of staff on data use through joint data analysis and sharing to inform decision making and quality improvement interventions (African Health Initiative Partnership Collaborative for Data Use for Decision Making, 2022).

The findings of this paper may have two limitations as follows: first, the SRA data used are five years old now (collected in the fiscal year 2017/2018), and some corrective actions may have taken place in this period to improve the situation of data use. However, the results help to provide a baseline of countrywide situation with regard to data use in PHC facilities; and that future analyses which will use more current data will use our findings as a baseline to monitor on improvement trends. Second, the paper analyzed the predictors of data use based on quantitative data on facility type, ownership, location, and gender of facility in-charge but did not explore some qualitative information on what support facility in-charges and other health workers need in order to improve on data use. Further research is needed to explore (both qualitatively and quantitatively) what factors are influencing data use in PHC facilities in Tanzania. This will help to increase availability of evidence on this area given the findings by Rendell and colleagues—who found that “*scant evidence exists regarding factors that influence the use of health service delivery indicators to improve delivery of primary health care services in low- and middle-income countries*” (Rendell *et al.*, 2020).

5. Conclusion

The use of facility data for planning and services improvement in PHC facilities is low in Tanzania, and as a result, the quality of care could be hampered. Many efforts need to be targeted at privately-owned and low-level PHC facilities (i.e. dispensaries). The facilities performed more or less equally despite locality and therefore more research is needed to explore other factors that could influence the use of data in PHC facilities in Tanzania. The very low level of PHC facilities that have proper medical records require special attention in order to ensure that there is proper recording, retrieval, and privacy of patients’ records.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Additional File Appendix 1: Specific Questions Asked for Each Indicator and the Assessment Criteria

USE OF FACILITY DATA FOR PLANNING AND SERVICES IMPROVEMENT

NO.	INDICATOR	QUESTION/VERIFICATION METHOD	RESPONSES (Y = yes; P = partial; N = no)
1	Functionality of the Health Management Information System (HMIS)		
1.1	Staff trained on HMIS	<p>1. Were any of the facility staff trained on the current HMIS? <i>Ask facility manager if there are staff who were trained and check if documented.</i></p> <p>2. Is the HMIS manual (Book 1) available for reference? <i>Verify available for reference by all facility staff who use HMIS tools.</i></p>	<p>Y. Records show at least one staff member trained on the HMIS manual N. No staff trained on HMIS manual</p> <p>Y. HMIS manual (Book 1) available and seen N. No HMIS manual available for reference</p>
1.2	HMIS tools in use and filled correctly	<p>1. Is the HMIS Summary Forms in use and is correctly filled for the previous month as per service provided? <i>Verify that the HMIS Summary Book is accessible and updated with the last month's submission to Council.</i></p>	<p>Y. HMIS Summary Forms filled correctly for previous month P. In use but not filled correctly, or not updated for the previous month N. Not in use or not accessible</p>

Checklist of HMIS registers and related tools for 10 specified services:

N.B: NA= Not Applicable

<i>HMIS Book/Register for specified service</i>	<i>Register or book</i>	<i>Tally sheet</i>	<i>Summary form</i>
<i>1—Book 3. Community register</i>		<i>NA</i>	<i>NA</i>
<i>2—Book 4. Ledger book (pharmacy)</i>		<i>NA</i>	<i>NA</i>
<i>3—Book 5. Outpatient register</i>			
<i>4—Book 6. Antenatal care register</i>			
<i>5—Book 7. Child register</i>			
<i>6—Book 8. Family planning register</i>			
<i>7—Book 9. Diarrhoea treatment corner</i>			
<i>8—Book 10 Monthly report book</i>		<i>NA</i>	<i>NA</i>
<i>9—Book 12. Labour and delivery register</i>			
<i>10—Book 13 Postnatal register</i>			
<i>11—Tracer Medicine Form</i>		<i>NA</i>	<i>NA</i>
<i>12—Death Form</i>		<i>NA</i>	<i>NA</i>

- | | |
|--|--|
| <p>2. Are the HMIS registers and related tools available and in use on the day?
<i>Refer checklist of HMIS tools for 12 specified services. Tick box for registers, tally sheet and summary forms, as verified available and in use.</i></p> | <p>Y. HMIS registers and related tools available and in use for all 12 specified services
P. Available and in use for at least 9 out of 12 specified services
N. Available and in use for less than 9 specified services</p> |
| <p>3. Are the HMIS registers and related tools correctly filled?
<i>Check for completeness of recording and correct filling of the tools</i></p> | <p>Y. Information in specified registers is complete
N. Information in specified registers incomplete</p> |

Continued

	4. Are the submitted HMIS data valid and reliable? <i>Cross-check for data consistency and correct compilation by comparing source data from OPD register and summary form for previous month.</i>	Y. Data in OPD register corresponds to summary form N. Data in OPD register does not correspond to summary form
2	Information use and dissemination	
2.1	Data interpreted and used at the facility	
	1. Does the facility analyse data on selected indicators? <i>Check if there is displayed information (charts or tables) on any CCHP/HMIS indicators from the previous four quarters to show performance or trend.</i>	Y. Facility has a display based on analysed data P. The facility has interpreted but not displayed information N. No evidence of data interpretation and use
	2. Is there a Facility Profile Report for the last year based on HMIS data? <i>Check if there is a facility profile report. Use HMIS Book 10</i>	Y. The facility uses HMIS data to prepare facility report P. Report is present but lacks the necessary information N. The facility does not use the HMIS data to prepare a facility profile report
2.2	Facility profile report shared with village and wards	
	Is the Facility Profile Report shared with the local administration? <i>Visit Village Executive Officer and Village Chairman to check for the presence of the Facility Profile Report or any similar report (s)</i>	Y. Facility Profile Report shared with V/WEO or Village Chairman N. Report not shared with V/WEO or Village Chairman, or no report
3	Medical records	
3.1	Recording and retrieval of medical records	
	1. Are medical records properly completed for all patients seen at the facility? <i>Check three outpatient records for history, physical examination, diagnosis, treatment and follow up if applicable; select from outpatients seen in the previous week.</i>	Y. All records examined were properly completed P. Only two outpatient records were properly completed N. Not all records are properly completed, or no records retained at facility
	2. Is there a system for managing patient records? <i>Check if there is stationery and a standard format for records, and a filing system for easy retrieval, and storage located near reception area.</i>	Y. Patient has at least a card for file number, and records and files are well arranged and easy to retrieve N. No system for easy retrieval of files, or patient records not retained at health facility
3.2	Confidentiality assured for patient records	
	Are patient records handled in a way that assures confidentiality? <i>Check patient records to see if names and private or confidential details are only visible to healthcare workers, and there is a secure room or lockable storage area for patient records</i>	Y. Records are handled confidentially and stored in a secure and lockable cabinet or shelf unit P. Confidential details are not easily accessed, but patient records are not well secured after use (e.g. stored in a box that is not lockable, or unsecured shelf unit) N. Confidentiality is not assured, or patient records not retained at the facility