USAID'S HEALTH EVALUATION AND APPLIED RESEARCH DEVELOPMENT (HEARD) PROJECT

THE STANDARDS-BASED MANAGEMENT AND RECOGNITION (SBM-R) APPROACH IN GUINEA: PROCESSES, OUTCOMES, AND POTENTIAL FOR REPLICATION

A Realist Case Study

PURPOSE

As part of the final performance evaluation of the USAID Guinea Health Service Delivery (HSD) Activity, a case study of the Standards-based Management and Recognition (SBM-R) quality improvement approach was requested to explore in detail the extent to which it is leading to improvements in health service quality. Specifically, this case study aims to shed light on the underlying drivers for quality service improvements and the potential for replication, scale up, and sustainability of this approach.

BACKGROUND

In the aftermath of the 2014-2016 Ebola epidemic, Guinea continued to be challenged with unacceptably high maternal and child morbidity and mortality.[1] The USAID Guinea HSD Activity implemented the SBM-R approach to advance health service quality improvements. By the end of 2019, HSD had rolled out SBM-R to 97 facilities in the regions of Boké, Conakry, Faranah, Kankan, Kindia, Labé, and Mamou. Developed and refined by Jhpiego, SBM-R is a proactive, practical management approach for improving the performance, availability, quality, and use of services in health care facilities that has been supported by successive USAID-funded and Jhpiego-led health programs in Guinea since 2009 with the start of Maternal and Child Health Integrated Program (MCHIP) . SBM-R is a checklist-based quality assessment benchmarking system whereby staff, managers, and community partners target improvements in health service quality and the enabling environment in three primary domains: emergency obstetric and neonatal care (EmONC); family planning (FP); and infection prevention and control (IPC). In this approach, targeted health facilities implement and monitor performance standards in the three domains to improve their adherence to national clinical and managerial protocols in an integrated manner. In 2018, HSD attempted to expand the criteria to include elements of clinical governance.

Facilities participating in the SBM-R process conduct self-assessments of their service availability and performance standards on a regular basis. Once internal assessment results meet minimum criteria, a national validation committee led by the Ministry of Health (MoH) externally verifies the results. Facilities successfully meeting a minimum average score of 80% of the standards are accredited with a gold star in a public ceremony

1 Maternal and Child Health Integrated Program (2009 to 2014). Maternal Child Survival Project / Health Systems Strengthening (2016-2018); Health Services Delivery Activity (2015 to 2020).

January 2021

USAID's Health Evaluation and Applied Research Development Project (HEARD) is funded by United States Agency for International Development (USAID) under cooperative agreement AID-OAA-A-17-00002. The project team includes prime recipient University Research Co., LLC (URC) and subrecipient organizations.

signifying that the facility is providing quality services. Facilities can earn a second star by meeting 86% of the standards. Where facilities do not maintain performance, losing a star for poor performance is possible; however, external assessments are not conducted systematically, they are done upon facility request. Typically, SBM-R is accompanied by other interventions to improve providers' performance and work environment, including infrastructure improvements, in-service training and supportive supervision. SBM-R and the HSD activity are complemented by a broader USAID Guinea governance activity (Citizens Involvement in Health Governance; FHI 360) that includes efforts to improve the availability, accessibility, quality and ultimately the use of health services and reduction of mortality.

CASE STUDY METHODOLOGY

The case study utilized both qualitative and quantitative data (primary and secondary) collected at the national, facility, and community levels for the HSD evaluation.

The main evaluation purposively sampled ten hospitals and 26 health centers, ensuring that MOH Hospitals selected included five high and five low-performing SBM-R hospitals[2], with three in highly populous districts, two in less populous districts[3], and variability in timing of entry into the SBM-R program. The health centers in the sample were selected for variation in region, activity performance (SBM-R)[4], length of time participating in SBM-R, location (urban and rural), and service volume. Also included were facilities that have benefited from infrastructure improvements and receipt of equipment, and that had active community components associated with the facility.

The SBM-R case study sample included six facilities: two hospitals, and four health centers (HCs) with variable characteristics (performance, volume, and timing of adoption) (see Table 1). We also sought to have some regional balance. To respond to USAID interest in a broader understanding of other factors around adoption/non-adoption of quality improvement approaches in this context, we included two health centers and one hospital that were not using SBM-R. Non-SBM-R health centers were both selected for high volume and performance variability, using HMIS indicators.

In all facilities included within the HSD evaluation, the evaluation team collected qualitative data through key informant interviews (KII) and focus group discussions

Table 1: Demand for Health Care Services, Guinea Demographic and Health Survey (2012-2018)

Facility	SBM-R Performance	Volume	Entry into SBM-R program
Health Centers			
Boffa HC	Lower	Lower	Early
Mandiana HC	Lower (variable)	Higher	Early
Wondy HC	Higher	Higher	Early
Tougue HC	Higher	Higher	Later
Lambanyi HC	-	Higher	Not using SBM-R
Kakossa HC	-	Higher	Not using SBM-R
Hospitals			
Labé Regional Hospital	Higher (variable)		Earlier
Mamou Regional Hospital	Medium		Later
Ignace Deen Hospital	-		Began SBM-R program early but dropped out

2 Cumulative scores from the hospitals' most recent SBM-R assessment were used to determine performance, with scores of .87 or lower classified as lower-performing and scores of .88 or higher as higher-performing.

3 Facilities serving populous catchment areas were determined based on service volume - number of maternity services provided per month.

4 Cumulative scores from the health centers' most recent SBM-R assessment were used to determine performance, with scores of .86 or lower classified as lower-performing and scores of .87 or higher as higher-performing.

(FGD), and quantitative data through observation checklist, provider survey, and evaluation of monitoring and service data. In the six SBM-R case study facilities, the team asked additional questions regarding the facility's experience with the SBM-R process. Following data analysis, the team conducted additional phone interviews with the SBM-R case study facilities for further clarification of findings.

The evaluation team reviewed relevant national and subnational documents. We included secondary data within our evaluation including quantitative program and facility-level data. HSD shared databases containing results of internal self-assessments and external validations for each SBM-R facility for the entire duration that the facility has been implementing SBM-R. The databases contained total scores for each of the three domains (EmONC, FP, IPC), and the composite score across the three domains. These data were analyzed across the 97 facilities and for the six case study facilities to demonstrate trends within each domain and overall across assessments.

Case study questions

The SBM-R case study investigated the following issues and questions:

- Understanding the SBM-R process: How has SBM-R been implemented and how has it evolved over time?
- Achievements and outcomes: What has SBM-R achieved and what were the outcomes (intended and unintended) of the SBM-R approach on service quality and use?
- Uncovering the internal and external performance drivers: What are the key factors affecting the implementation and achievement of performance improvements through the SBM-R process?
- Ownership, replicability, and sustainability: To what extent is the Guinean government demonstrating leadership and ownership in the SBM-R process? What other quality improvement approaches are being used by other development partners in Guinea? How can this process be standardized to be used by the government, USAID partners, and other development partners, especially where USAID partners operate in the same facilities? How can other USAID partners leverage these efforts?

Analysis

A realist evaluation approach informed the analysis of the case study to explore the SBM-R program.2 Specifically, we sought to answer what mechanisms within the approach generated program outcomes, and what features of the context affected the operation of those mechanisms. The context-mechanism-outcome configuration is the main structure for realist analysis in the discussion of the case study.

Limitations of the analysis

Facilities varied in the criteria that were included from internal/external assessment to assessment, meaning the scores used to compare facilities in this case study, were based on similar but not identical criteria. Facilities also varied in number of assessments conducted due to different timing of entry into the SBM-R program and differences in the frequency of assessment across facilities. As a result, some facilities have more data points for analysis, which gives a clearer understanding of performance and trajectory in those facilities compared to others with fewer data points available. In addition, the trend analysis depicts performance from first to most recent assessment, capturing assessments at different points in time (i.e., facilities' first assessment dates ranged from 2009 to 2017), some of which took place during HSD and others prior to HSD's start, making that part of the performance trend unrelated to the HSD intervention.

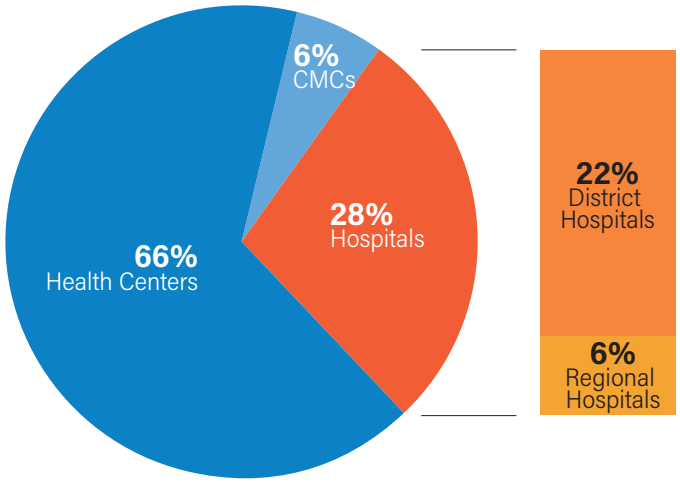
SBM-R PERFORMANCE ACROSS ALL PARTICIPATING FACILITIES

Engagement

Of 272 HSD-supported facilities, 97 (36%) implement the SBM-R program, including 64 (66%) HCs (including urban and rural HCs and 'improved' HCs); six (6%) communal medical centers (CMCs); and 27 (28%) hospitals (including six regional, 21 district hospitals) (Figure 1).

Of the 97 SBM-R facilities, 43 began implementing SBM-R prior to the start of HSD, under the predecessor projects, Maternal and Child Health Integrated Program (MCHIP) and Maternal and Child Survival Program (MCSP), with baseline assessments between 2009 and 2014. Under HSD, 54 additional facilities began implementing SBM-R,

Figure 1: HSD-supported facilities implementing SBM-R by type



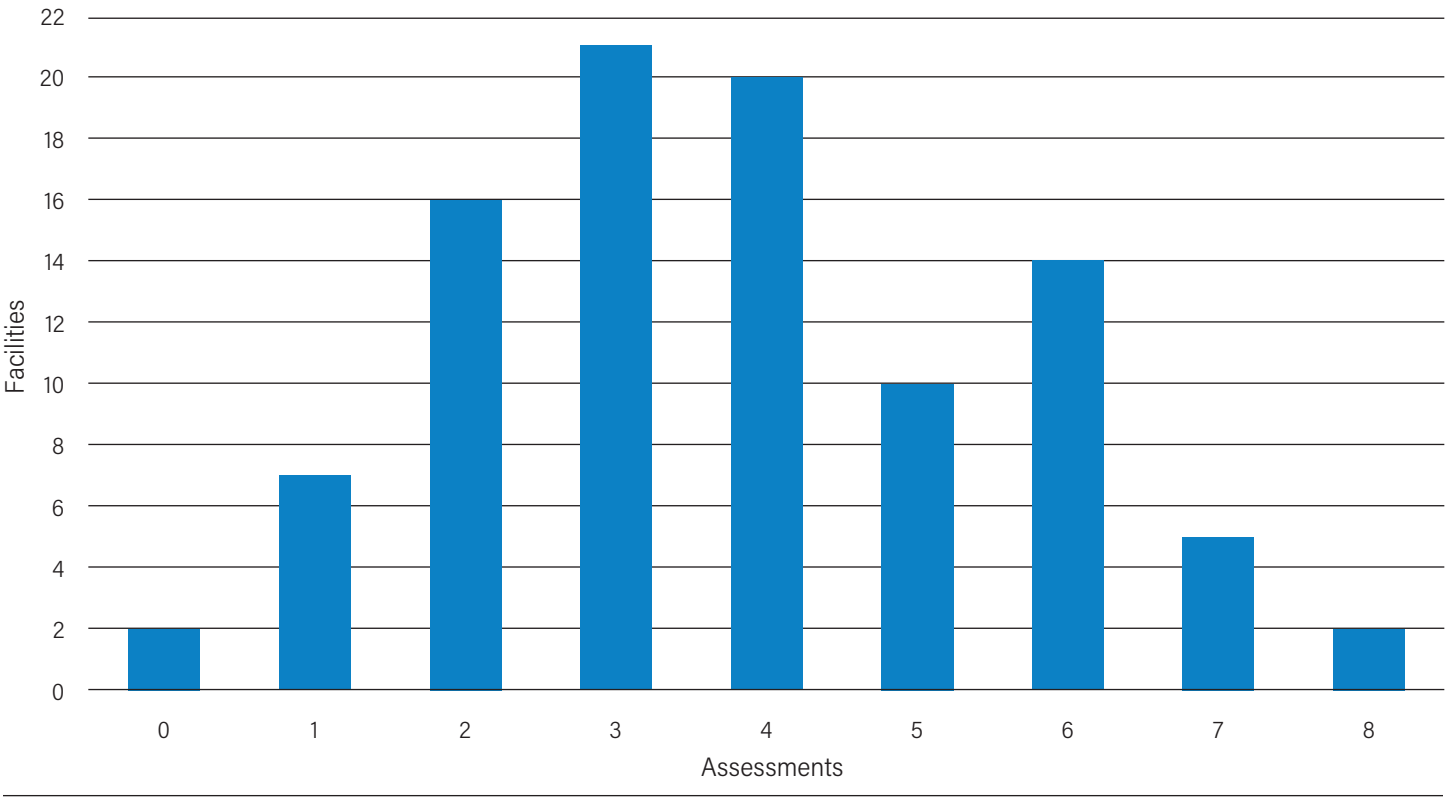
with baseline assessments between 2016 and 2018; nearly meeting their overall HSD target of 98 facilities.

We examined facilities' level of engagement during the most recent two years of available data (from October 2017 through September 2019) using the number of SBM-R assessments facilities had done as proxy for engagement in the SBM-R approach[5]. Facilities aimed for quarterly self-assessments, so perfect adherence over two years would mean eight assessment scores over this period. Facilities ranged from zero to eight assessments (see Figure 2), with most – nearly 70 percent – achieving four or fewer.

Nearly half of facilities (47%) had three or fewer assessments from 2017-2019 and were considered to have low engagement (46 total: 31 health centers and 15 hospitals), A higher proportion of facilities in Kankan, Boké, and Faranah had low engagement relative to the other regions (Table 2; range 53-76%). Low engagement was more common among facilities that initiated SBM-R between 2009-2014, with 70% of low-engagement facilities beginning SBM-R during that period. Several low engagement facilities (46%) had earned one or more stars, including:

- Fifteen that earned their first or second star recently (between October 2017 and September 2019), suggesting that despite infrequent assessment during this period, these facilities were sufficiently engaged in the process to earn stars (Table 2; Column D);
- Six that earned their first or second star between 2012 and 2015, suggesting that some facilities have earned stars but may not be continuing to engage sufficiently

Figure 2: Number of SBM-R assessements facilities completed (October 2017-September 2019)



5 Data on SBM-R assessment scores included self-assessment and external assessment scores.

Table 2: SBM-R and low-engagement facilities by region

Region	A. # SBM-R facilities	B. # low engagement facilities	C. % of facilities in region: low engagement	D. # low engagement facilities without recent star	E. % of facilities in region with low engagement, without recent star
Boké	14	9	64%	9	64%
Conakry	10	3	30%	2	20%
Faranah	15	8	53%	3	20%
Kankan	17	13	76%	11	65%
Kindia	15	4	27%	3	20%
Labé	16	5	31%	1	6%
Mamou	10	4	40%	2	20%
Total	**97**	**46**	**47%**	**35**	**36%**

in the SBM-R approach, bringing into question whether these facilities have maintained sufficient performance levels to merit maintaining the stars earned.

Stars

Of the 97 SBM-R facilities, 49 (51%) have earned one or more stars; 39 (40%) have earned one star and 10 (10%) have earned two stars. Across all SBM-R facilities, CMCs and hospitals have been more successful in earning one or more stars compared to health centers; 83% of participating CMCs and 67% of hospitals implementing SBM-R have earned one or more stars, compared to only 41% of health centers. Of the 54 SBM-R facilities that began in 2016 or later (i.e., within the HSD activity), 20 (37%) have earned one or more stars, with only one having earned two stars. Of the 43 facilities that began in 2014 or earlier, 29 (67%) have earned one or more stars (20 have earned one star; 9 have earned two stars), suggesting the duration of time exposed to the SBM-R intervention may play a role in success. Further, among the 10 facilities that have achieved two stars, three achieved their first star within the HSD activity (2016 or later), whereas seven received their first star prior to HSD, indicating HSD's capacity to support facilities in further advancing their quality improvement processes many years after they had initially became involved (See Annex 1).

Performance

On average, facilities reached the 80% performance threshold by the third (hospitals) or fourth assessment (health centers) (Figures 3 and 4), though the amount of time between assessments varied across facilities. For example, the number of years between the baseline assessment and the fourth assessment ranged from 0.67 to 6.83 years (median 1.45, interquartile range 1.00-2.50). After reaching the 80% performance threshold, on average, facilities' assessment scores tended to hover around 80% for several more assessment periods before eventually rising to a range of 85-95%.

To examine 'current' performance, we analyzed facilities' most recent assessment scores as of early December 2019, which took place between March 2017 and September 2019. Most facilities' latest assessments (69 facilities) were conducted in the last two quarters of fiscal year 2019 (between April and September 2019; see Table 2). The average overall score from the most recent assessments was 84% (range 40-98%). Mean IPC scores were slightly lower than the average overall score and mean FP scores slightly higher than the average overall score. The mean most recent performance scores did not vary substantially between hospitals and HCs/CMCs, though the range of scores was narrower among hospitals (60-95%–35 percentage points) compared to HCs/CMCs (40-98%–nearly 60 percentage points).

SBM-R Initiation by Region: Regional trends in SBM-R initiation suggest 3 categories:

- Predominantly recent (2016 or later) initiation (under HSD): Facilities in Boké, Labé, and Mamou began implementing SBM-R relatively recently. All 14 SBM-R facilities in Boké, 14/16 in Labé, and 8/10 in Mamou logged their first assessment between late 2016 and February 2018;

Figure 3: Mean SBM-R Performance Scores Among Hospitals* (n=27)

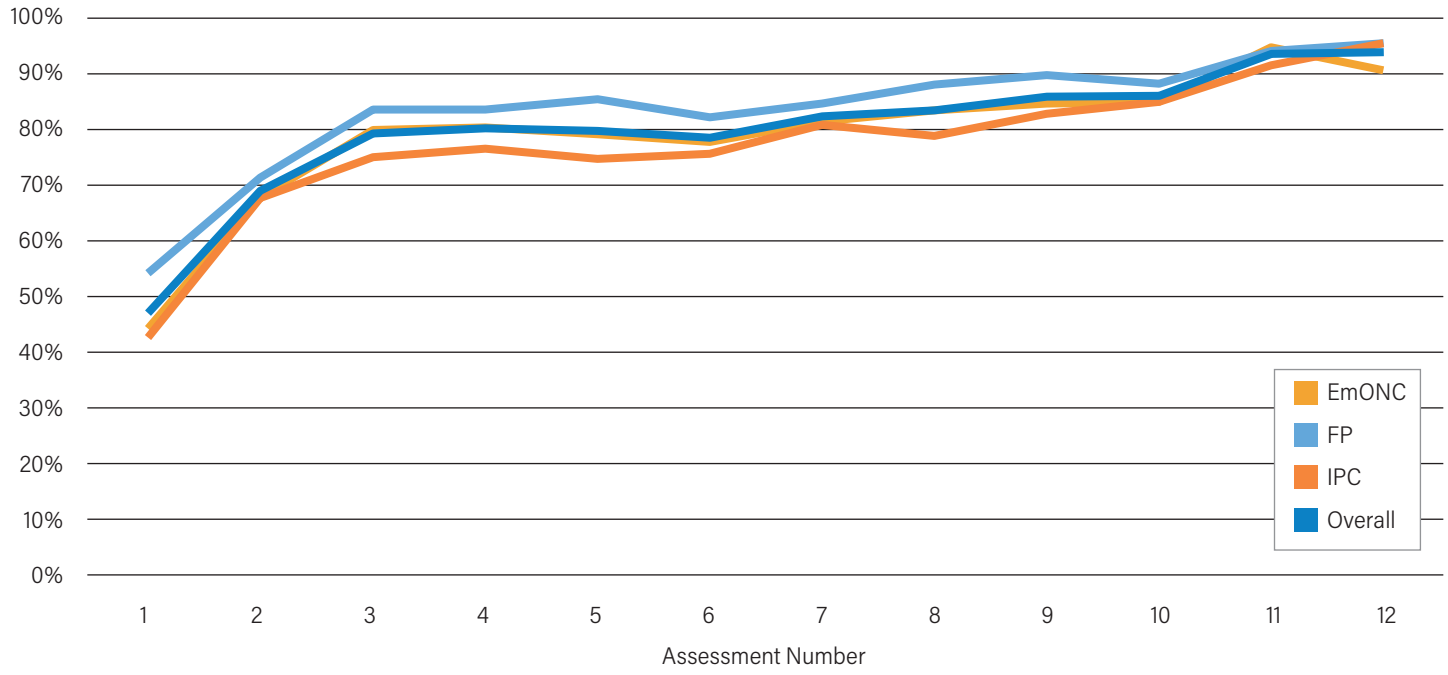


Figure 4: Mean SBM-R Performance Scores Among Health Centers* (n=70)

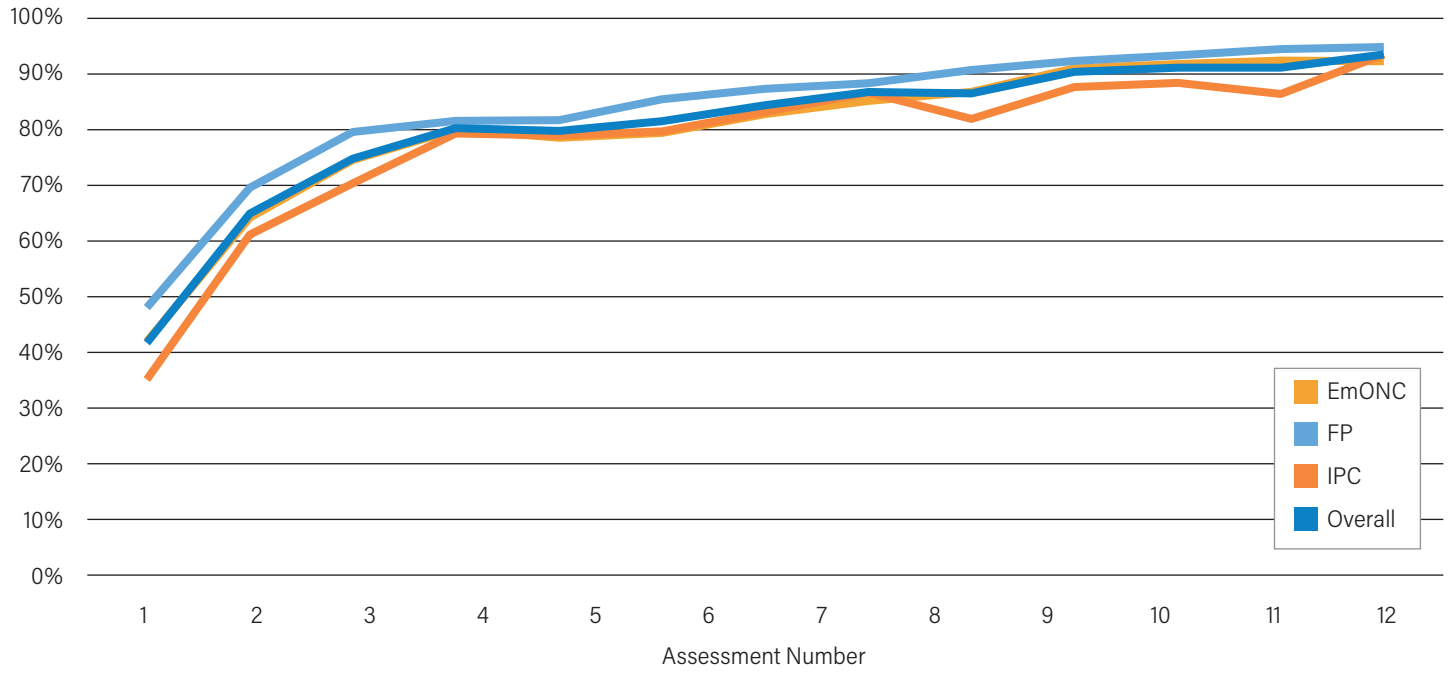


Table 3: Mean (and range) facility scores on most recent SBM-R assessment

	All facilities	Hospitals	Health Centers, CMCs
EmONC	84% (23%-99%)	86% (56%-98%)	83% (23%-99%)
FP	88% (37%-100%)	90% (65%-100%)	87% (37%-100%)
IPC	82% (27%-100%)	81% (50%-97%)	82% (27%-100%)
Overall	**84% (40%-98%)**	**86% (60-95%)**	**84% (40%-98%)**

- Predominantly early (2013 or prior) initiation (under MCHIP/MCSP): Facilities in Faranah and Kankan have largely been implementing SBM-R for longer. Most SBM-R facilities in these regions (13/15 in Faranah and 13/17 in Kankan) logged their first assessment in 2013 or prior; and
- Mixed initiation timing: Facilities in Conakry and Kindia are mixed in terms of start of SBM-R, with more than half (5/5 in Conakry and 7/15 in Kindia) initiating SBM-R in 2016 or later.

SBM-R Performance by region: Faranah, Mamou, and Kindia had the highest proportion of facilities having earned one or two stars, with 80%, 70%, and 60% of facilities in those regions having met that achievement (see Table 4). Based on performance at last assessment (Figure 5), average performance of facilities in Mamou, Kankan, and Boké lagged in comparison to other regions.

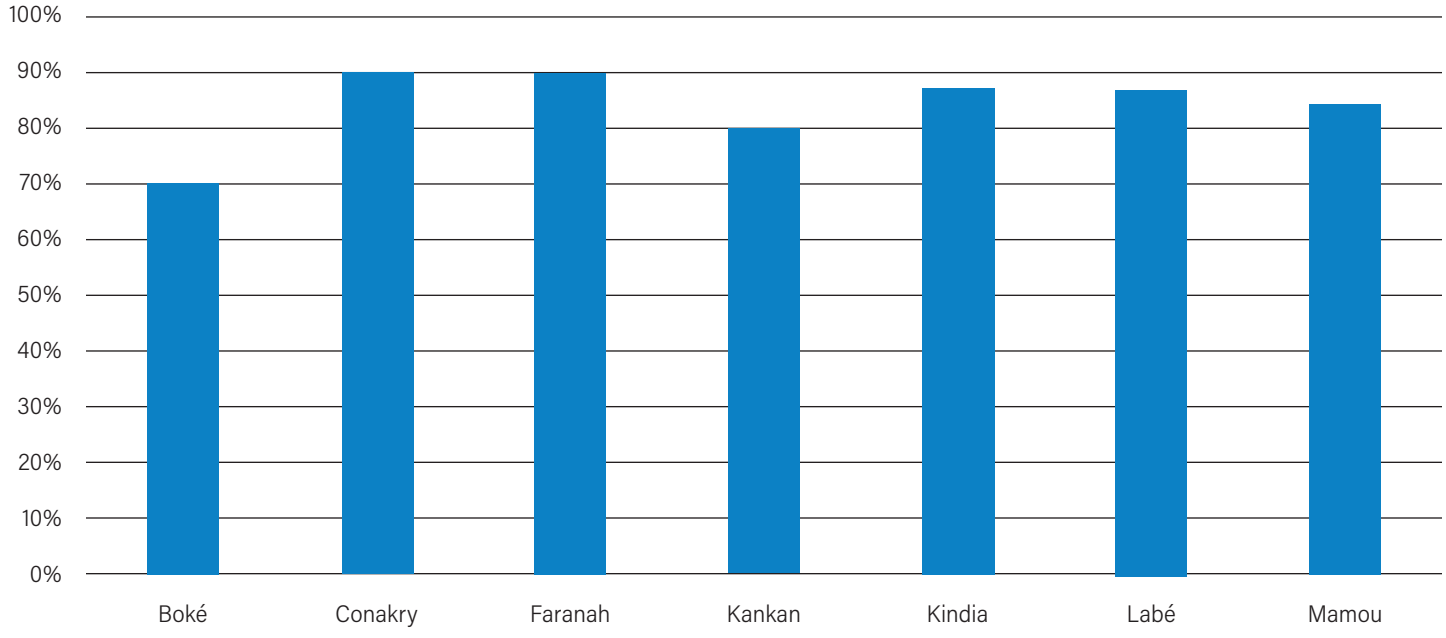
SBM-R PERFORMANCE ACROSS CASE STUDY FACILITIES

Health centers in the case study sample included three facilities which had not yet achieved any stars as of December 2019 (Mandiana HC in Kankan, Boffa HC in Boké and Tougue HC in Labé) and one facility that had earned one star (Wondy HC in Kindia). Hospitals in the case study sample (Labé Regional Hospital and Mamou Regional Hospital) had both earned one star.

Table 4: Star-earning facilities by region

	# SBM-R facilities	# with any stars (1 or 2)	% of facilities with any stars (1 or 2)	# with 2 stars	% of facilities with 2 stars
Boké	14	2	14%	0	0%
Conakry	10	5	50%	2	20%
Faranah	15	12	80%	3	20%
Kankan	17	6	35%	1	6%
Kindia	15	9	60%	1	7%
Labé	16	8	50%	2	13%
Mamou	10	7	70%	1	10%
Total	**97**	**49**	**51%**	**10**	**10%**

Figure 5: Performance Overall at Last Assessment



In these six facilities, we examined the key factors affecting success in achieving SBM-R performance criteria in the areas of engagement, context, performance, analysis and perspectives (of MoH managers, facility staff, COSAHs and or community members). The overall findings of this analysis are reported below. Detailed facility-by-facility findings are available upon request.

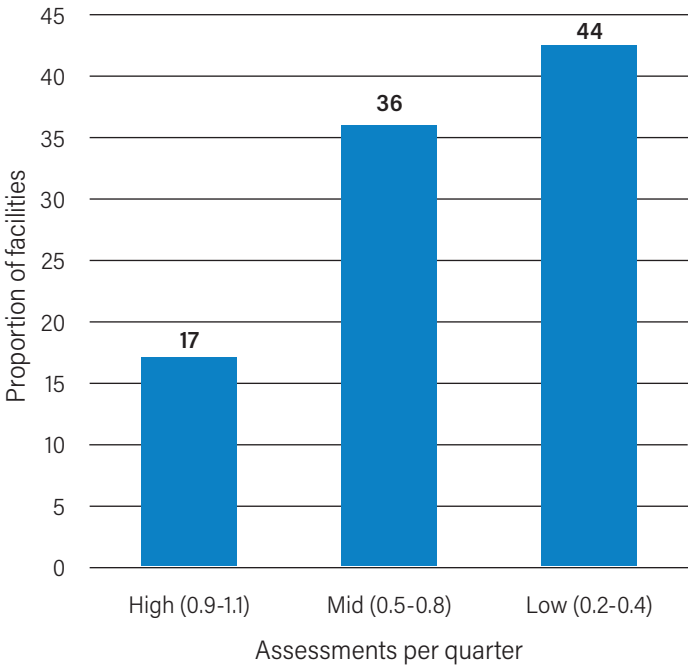
Engagement

The SBM-R process was designed to be a facility-led, quality improvement process. Jhpiego first implemented SBM-R in Guinea in 2009 under MCHIP and continued through the MCSP and HSD activities. Facilities that have participated (n=97) vary considerably in level of engagement, number of assessments, progress, and results. The 97 SBM-R facilities have been implementing the approach on average for four years (median 2.6 years, range six months to 9.8 years). Wide variation existed in the frequency of facility assessments, ranging from one assessment per quarter at the high end to 0.2 assessments per quarter, or less than one per year at the low end (Figure 6). A minority of facilities conducted the expected one assessment per quarter (17 of 97, 18%). Thirty-six of 97 facilities (37%) were in the mid-range and conducted 0.5-0.8 assessments per quarter, equivalent to two to three assessments per year. The highest proportion of facilities (45%) succeeded in conducting only 0.2-0.4 assessments per quarter – equivalent to between 1.5 and less than one assessment per year.

Context

The SBM-R approach under HSD has been implemented within the context of major structural challenges facing the health system, including chronic staff turnover, staff shortages, and inadequate infrastructure and equipment. The Ebola epidemic that was subsiding at the start of the HSD activity is also considered an external contextual factor influencing implementation of SBM-R during and immediately following the epidemic. Specifically, community mistrust in the health system that resulted from the epidemic complicated efforts to achieve community engagement generally, including in SBM-R efforts at facility level.

Figure 6: Number of assessments per quarter among SBM-R facilities



In each of the six facilities examined within the case study, equipment was donated (e.g., examination tables, delivery tables, instrument trays, delivery kits, vacuum extractors, Dopplers, etc.). Only one of the six case study facilities received rehabilitation with HSD support (Labé Regional Hospital), and support of space management was minor in comparison to many other HSD-supported facilities which received improvements to water and electricity supply and other repairs to the facility structure.

Process

Core steps of the SBM-R process at the facility level include regular self-assessment, often by providers, senior managers from the facility manager to district and regional focal points, and COSAH representatives. These assessments yield a score, which, together with facility performance data, indicates whether the facility is ready to be evaluated by the national committee. When ready, the facility requests the external evaluation and validation. This process is not always linear, and self-assessment scores do not always align with other facility performance data (i.e. self-assessment scores may be high while evidence from other facility data indicates lower performance). When self-assessment of progress did not align with health system data (which may show less progress in terms of health outcomes), commitment and motivation

of staff and managers could be affected. For example, health facilities such as Tougue HC in Labé, which has been actively engaged in the SBM-R process, registering self-assessed progress above 80% since mid-2018, has not yet had their self-assessment of high performance validated, likely due to their efforts not yet being validated by service delivery data (which usually take time to reflect improvement due to better clinical performance, for example).

There appear to be varying degrees to which the actors (providers, facility, district and regional managers, COSAH and community representatives) participate in self-assessments. COSAH members and community actor involvement tended to generate excitement from community members. As was the case in Wondy HC in Kindia and Boffa HC in Boké, community members became partners in the quality improvement process by helping with the maintenance and cleaning of facility grounds.

Observation: Engaging communities as partners in quality improvement activities increases commitment and motivation of health staff and managers to achieve progress at the facilities as they feel valued by their clients.

Observation: The national committee that validates facility performance and awards stars has not been sufficiently proactive and empowered to support the SBM-R process as facilities progress. Progress could be noted and made available as dashboards, with incremental steps to maintain engagement in the process. Sitting on the SBM-R Committee needs to be valued and validation visits need to take place at regular intervals. The current ad hoc convening for the committee does not valorize the process.

Cost: Review of the case study facility responses indicate that financial cost associated with the SBM-R is not a significant factor, unless equipment or infrastrure improvements or purchases are needed. The process is staff and management-led and implemented. Costs for cleaning supplies (to implement IPC protocols) and assessment forms were negligible; however, broader service-related costs (related to equipment maintenance, and other supplies needed to deliver service to standard) may impede progress.

Observation: Some facility managers noted that infrastructure and equipment costs cannot be underestimated if quality improvement is to be achieved. (Mandiana HC, Kankan) True quality improvement costs for training, equipment purchase or repair, and infrastructure investments (e.g. waste pits, latrines, renovation or expansion of the building, borehole for water etc.) are expensive and will likely continue to require private sector, government, and donor support.

Observation: Cost should not, however, be considered requisite for quality improvement processes to be implemented on existing services and structures with existing resources. When the facility severely lacks the basic equipment and infrastructure to achieve basic quality criteria, motivation and commitment of staff to continue to participate in the process is likely.

Performance criteria: The performance criteria assessed through SBM-R is extensive, possibly exaggeratedly so. Although they correspond to national and international guidelines, providers and facility managers suggested that performance criteria should be refined and reduced to focus on the most critical issues. Many criteria are interdependent, particularly those related to IPC, and as a result, if one factor is not achieved (e.g., lack of functioning autoclave), numerous other criteria cannot be met. As present, the list of criteria do not detail the minimum requirements needed in place at each facility. The emphasis on breadth and depth results in many questions. Positively, this provides multiple areas where small improvements can be made, which is motivating. Negatively, the sheer number of criteria can be overwhelming and demotivating. A balance needs to be struck. As it stands, the tool measures results, not progress. If a facility goes from 30% to 65% in one domain, they still fail to be sufficient (80% required) but they have made tremendous improvement. If the issues that impede further progress are out of their control (e.g., the incinerator is not working, infrastructure problems, etc.), motivation can wane.

Observation: Each domain would be helped by creating a list of essential equipment and infrastructure by level needed to achieve the performance standards. This could focus pressure on the districts and regional MoH to ensure minimum requirements are in place within each facility.

Observation: To facilitate regular internal SBM-R assessment, a tablet-based checklist could be established to allow assessment of performance and essential equipment, supplies, consumables, and other resources. This would allow for an efficient response through skip pattern implementation to avoid interdependent questions and could support improved use of data for decision making through improved availability at the facility and at higher levels.

Observation: Progress on indicators should also be valued by the process demonstrating effort and incremental achievement of criteria. Making progress visible might motivate staff and communities to engage more actively. This would require organization by subdomain such as equipment, infrastructure, client friendly, community engagement, clinical quality standards – some of which the staff can affect more readily than others. Such a process would also be supported by the switch to a tablet-based platform.

Performance (Achievements and Outcomes)

Of the 272 facilities supported by HSD, 97 (36%) implemented the SBM-R program (66% of health facilities; 6% of CMCs, and 28% of hospitals), nearly meeting their overall phase target of 98 facilities; of those, 43 began under the prior MCHIP/MCSP programs, and 54 began under HSD. As noted earlier, of the 97 participating SBM-R facilities about half (49, 51%) have earned 1 or more stars , nearly meeting their HSD target of 98 facilities, 10 of which (10% of all SBM-R facilities) have earned 2 stars CMCs and hospitals being more successful than health centers (based on proportion earning 2 stars). Two-star facilities are a mix of facility types and are located across various regions, but have in common that all but one began implementing SBM-R early – between 2009 and 2013. While time of exposure to the process does appear to pay a role in star achievement, review of the case study facilities also indicates that motivation may wane over time. Motivation seems to reflect facility managerial leadership (and their capacity to motivate facility staff), community and district engagement in the process, and importantly, the mentoring they receive from HSD staff to make progress. For example, of the 14 facilities that earned 1 star between 2012-2015, only half of those went on to earn a second star, 4 of which were in 2019 – possibly indicating a late push by HSD (See Annex 1).

Our review indicates that interest and commitment at initiation usually leads to short-term improvements and measurable progress at the first or second assessment, which may then be followed by a leveling or slight decline as the more challenging criteria are reckoned with. This was the case in Mandiana, Wondy and Boffa Health Centers, while Tougue HC rapidly improved over the first 2 years and then leveled off. Labé and Mamou Regional Hospitals also showed quick gains only to drastically decline after the first year (Labé) or level off (Mamou). In all cases, after the first couple of years, progress slowed and became incremental, with specific problems on individual criteria affecting overall ratings such as staff turnover or equipment malfunction.

Notable is the high number of targeted facilities that are not fully engaged despite HSD efforts. While the evaluation did not explore non-participation, efforts to include control facilities in the sample in Conakry were unsuccessful because of lack of interest, time and commitment from facility managers and staff to answer our questions. In Conakry, it was suggested by managers/decision makers that it is not possible for a referral hospital such as Ignace Deen to participate in SBM-R given its considerable resource and patient burden.

Observation: A constellation of factors contributes to quality improvement achievements more than simply the length of time the facility has been engaged in the process. Facilitation by HSD contributed to reinvigorating some facilities to engage in the SBM-R process that started during the previous programs.

Clinical performance

Clinical performance on IPC standards appear to be the most variable domain within SBM-R indicators as they are provider-centered and can thus be improved through training and supervision. These criteria effect the IPC standards within the EmONC and FP domains more than those related to sanitation and hygiene within the IPC domain. During the case study facility assessment period, marked improvements in self-assessment scores for their clinical practice were reported ranging from a 25 percentage point increase at Mamou Hospital to a 70 percentage point increase at Wondy HC. Boffa HC, Tougue HC, and Labé Hospital also saw rapid improvements, usually within 1 year of starting their SBM-R program.

Mamou Hospital had improvements in clinical practice but with inconsistencies in achievement of particular clinical standards across assessments (i.e. at one assessment, eclampsia treatment was inadequate; at another, it was postpartum hemorrhage treatment) in contrast to Labé Regional Hospital that showed steady but consistent improvement. Mandiana HC was the only facility where there was a rapid decline in performance standards from 80% to 51% between 2012 and 2016, prior to the start of HSD. Apparently, staff capacity to perform services to clinical standards was inconsistent as many had not been trained due to staff turnover.

Improvements in clinical practice largely were related to obstetric interventions. Essential newborn care, respectful care (including client provider communication and sharing of information about their care or for the care of their newborn) and use of the partograph are all areas where more attention is needed in both health centers and hospitals. These findings align with other reviews of EmONC implementation in Africa.3,4 In a number of health centers, the HSD activity brought considerable training and focus on performance standards. These early trainings likely improved the provision of clinical maternal health care to protocol. Studies have shown that more complex newborn health interventions that are more difficult to perform and less frequent – such as newborn resuscitation – and care criteria that requires a shift in provider behavior and values – such as components of respectful care (e.g., provider-client interaction and informing women of their rights) – saw less progress and were slower to change.5 The marginal improvement in neonatal care may also have suffered from a tendency for health centers to refer families to hospitals to manage the sick newborns, and possibly fatalism6 to neonatal survival rates.

Family planning performance standards generally improved across the case study facilities. Challenges in providing evidence-based information on specific FP methods such as the oral contraceptive, IUD, and implants were observed at health centers. Critical education on the need for dual method use, information on the fertility cycle, and method-related side effects was provided inconsistently. Boffa and Tougue improved performance markers, reaching the 80% threshold in 2018 and 2019 respectively. Performance issues in these facilities also are likely due to the need for continuous training as staff relocate or disengage if not motivated to perform all aspects of the clinical protocol.

Observation: The SBM-R process demonstrates that clinical performance criteria can be improved through continuous training and supportive supervision at the facility level. Dramatic improvements were observed shortly after the start of the HSD activity. HSD has facilitated the process by preparing a team of trainers around the country. To maintain progress, regular investment in training on standards and refresher training will be needed in future and can be driven by the District and Regional Directorates of MoH.

Observation: The SBM-R quality improvement process was more successful for the less- complicated interventions than those that require more skill (some neonatal care) or behavior change of providers. Provision of incorrect information on FP may be due to provider values or opinions rather than lack of knowledge.

Managerial performance

Managerial standards are those that control facility processes such as cleanliness, record keeping, job descriptions, posting on walls of information, and review of services indicators. Compared to clinical performance indicators, performance against managerial standards was the most variable as they took into consideration client and staff views of managerial processes. Responses ranging from client-provider interaction experience to leadership and availability of protocols differed significantly between and within the same facility over time likely reflecting change of staff and management. Comparability of the results is limited across data points and should rather be understood a simple indication of lack of continuity of management style and effectiveness over time.

Managerial issues focused on improving the client experience fared least well with missed criteria throughout assessment periods for poor client provider communication, information giving and posting; availability of IEC materials, registers, patient files, client flow protocols, and job descriptions for staff; and lack of attention to waiting times in all case study facilities except Wondy HC (which provided too little information to assess). In Tougue HC particularly, and to a slightly lesser

degree in CSU Boké and Labé Hospital, missed criteria were achieved by 2019. Exploration of client satisfaction through comment boxes or forms was generally not pursued in any facilities except Wondy HC. Specific efforts were made to improve these indicators in Tougue HC, and Labé and Mamou Regional Hospitals.

Management of IPC through regular monitoring and oversight of cleanliness was an issue in Mandiana, Boké, and Tougue Health Centers, and in both regional hospitals with basic issues such as hand washing before performing essential newborn care (Mamou Hospital) and cleaning staff not using gloves to manage medical waste (Labé Hospital) indicating gross infractions of protocol. Generally, IPC management was less strong in hospitals, particularly related to organization and standards in the morgues.

Observation: When in place and functional, managerial standards (e.g. cleanliness, record keeping, job descriptions, posting information on walls, and review of service indicators) can motivate, and inspire improvements in clinical performance. Many are quite visible thus contribute to an overall perception of progress, motivating staff and community to engage and support quality improvement.

Observation: The role of facility, district, and regional managers cannot be underestimated. SBM-R facilitated managerial leadership through training tools and protocols, which was effective in some districts and facilities. Given the role they play in the quality improvement process, more could be done to measure managerial performance and problem solving within the SBM-R assessment process.

Observation: Facility in-charges and managers can advance quality improvement by prioritizing systemic solutions through guidelines, checklists, supervision, and control measures. Oversight is ad hoc in some facilities. Use of assessment data to make an action plan focused on specific issues is done inconsistently. Routinized behaviors should be emphasized. The SBM-R program should develop adapted tools that can facilitate management of IPC, including basic sanitation and hygiene measures in all service areas. The community is supposed to be part of this process and should be enlisted to participate in support of such measures.

Equipment, supplies, and infrastructure

Shortages of Equipment and supplies required for implementation of clinical or managerial standards are particularly difficult challenges to overcome as facility staff feel disempowered to affect change in these domains. To some extent, this is true; however, small improvements such as ensuring availability of disinfectants, protective wear, and basic supplies can contribute significantly towards improved IPC and EmONC criteria.

Many of the case study facilities struggled in the initial years to put in place small equipment, such as scales, blood pressure gauges, resuscitation tables, trash receptacles, and in an extreme case, even tables for vaginal births. Mandiana had experienced the most difficulties during the MCSP project of the case study facilities as they had not yet benefited from the HSD-related equipment contributions which were done between 2016-2017. Mamou Hospital also reported difficulties, particularly related to equipment and supplies needed for sterilization and hygiene throughout the assessment period. Inappropriate storage and ruptures in essential medicines, commodities and products such as oxytocin, magnesium sulfate, and blood also occurred in Mandiana and Labé Hospitals. HSD-supported facilities relied on family planning commodities facilitated by other program partners, including USAID's Global Health Supply Chain-Procurement and Supply Management Project and UNFPA, however supply gaps remained a considerable challenge for many facilities.

Facilities' capacity to perform sterilization and waste management to standard was particularly problematic. Lack of disinfectants and antiseptics (Mandiana, Boké, and Labé Hospitals), gloves and protective wear (Mandiana, Wondy, and Labé Hospitals), basic equipment such as tables or dedicated space for sterilization and packaging of sterile equipment was often not available (Mandiana, Wondy, Labé, and Mamou Hospitals). These challenges are exacerbated if there is no functional autoclave or capacity to do high-level disinfection as was the case in Mandiana, Boké, and Mamou Hospitals. Lack of an incinerator was also recorded in Mandiana, Boké and Tougue Health Centers (though later resolved in Tougue HCe in 2018), and the use of open waste pits in CSU Boké and Mamou Hospitals. Even in facilities that have functional equipment and the capacity

to properly dispose of medical waste, it is often not done properly, as was the case in CSU Boké and Labé Regional Hospitals. In both Labé and Mamou Hospitals, the laundry machines were also not functioning properly, contributing to inadequate infection prevention and control standards, particularly in the hospital.

Infrastructure issues played a significant role in terms of space to provide care, space to manage client flow, and receptiveness of the facilities. Specific challenges related to lack of an admissions area (Mandiana, Boké, Labé and Mamou Hospitals), a waiting area (Tougue, Labé Hospitals), a space for immediate post-partum (Boké), and abortion care (Tougue), a private space for family planning counseling and exams (Boké, Tougue and Labé Hospitals), and a space for staff to rest (Mandiana, Boké, Tougue, and Labé Hospitals). Essential amenities such as water and functional toilets were almost universally unavailable (except in Wondy). In addition, there was reported a lack of a functional climatized laboratory that further complicated performance of EmONC and FP as observed at Mandiana, Boké and Tougue Health Centers and Labé Hospital.

Despite these challenges, most facilities (except Mandiana and Mamou Hospital) managed to overcome infrastructure limitations within a year or two of their engagement in the SBM-R process, as was the case in Boké in 2017, Labé Hospital in 2018 and Tougue by 2019.

Although many of the challenges listed above seemed unsurmountable, leadership by the "in-charge", hospital director or manager played a significant role. As noted above, achievement of performance criteria in these areas were in fact largely influenceable though managerial measures, systems, budget allocations, and supervision. Ensuring adequate staff, training, and materials and supplies can advance progress. Infrastructure issues, sanitation, and waste management were managed in some settings without major investment. Indeed, where MoH managers at facility, district and regional levels are supportive, quality improvements were achieved, as was seen in Kindia. In the regional hospitals where volume is high however, managerial and staff interventions around cleanliness beyond cosmetic solutions may not be sufficient and require higher levels of intervention with commitment and resources from the district, regional, or central level.

Observation: Facility managers must be proactive in identifying equipment and infrastructural deficiencies that limit quality improvements. The SBM-R program needs to include stock taking exercises that go beyond the facility raising the issue and responsibility for quality improvement at district and regional levels for inputs that cannot be addressed locally. The SBM-R process needs to implicate the MoH at all levels to own the achievements and challenges that they must help to overcome. The needs and obstacles to achievement need to be made visible in the process.

Observation: Critical facility improvements including water, sanitation (toilets and waste management) and sterilization need to be supported to provide the basis for quality improvements. Investment in these areas also helps to build staff commitment and momentum for further improvements.

Analysis (Internal and external performance drivers)

Key factors affecting the implementation and achievement of performance as evidenced by the case study facilities include inputs by the HSD activity such as training, equipment donations, tools and managerial processes; and facility level receptivity of SBM-R. HSD (and MCSP previously) inputs cannot be underestimated as they created the impetus to engage in quality improvement in many facilities and districts. Training and the necessary equipment needed for clinical practice to standard provides the basis for engagement and commitment. Training and equipment alone, however, are insufficient to drive quality improvement. Leadership by facility managers and supervisors, coupled with the engagement, commitment and appreciation of district and regional actors within the MoH in the SBM-R process is essential. While HSD facilitated this broader engagement, maintenance over time must be managed locally. Participation of other government officials and community leaders such as mayors, village chiefs, COSAHs, and communities stimulate facility staff to engage and improve. Sustaining interest and engagement by staff, however, requires continuous monitoring, self-assessment, and action planning for targeted improvements of specific indicators. Involving the whole staff seems to be a positive factor in facilities that have shown improvements. Community appreciate and engagement further motivates staff.

> *A star can bring respect and appreciation to the entire staff. It can increase skills of the staff and create a culture of self-assessment to differentiate what to do from what to avoid, improving behaviors (for instance, separating biological waste)"*
>
> – Mandiana HC Staff

While data to determine why some facilities regress was insufficient, indications from case study facilities suggest that changes in staff and or managers played an important role. Facility performance is highly dependent on close monitoring and follow up of the process. Peer reviews, COSAH meetings, and DPS monitoring are all important to maintain progress. Staff motivation is critical for success. This can be inspired by internal recognition of staff members who are leading the change process and contributing to quality improvements. Other key issues include consistency and retaining of staff in the process. Division of tasks also supports progress as the gaining (or maintaining of stars) becomes a team effort.

Close follow up by project staff from MCHIP/MCSP and HSD also has been a factor for improvement, and conversely, when they are not available, for abandonment of the process. Unattended infrastructural deficiencies and high volume of clients can demotivate staff to engage, particularly when these shortcomings structurally impede quality improvements. In hospitals such as Ignace Deen, such conditions have limited engagement.

Observation: Building teams to engage in quality improvement processes requires more than training on clinical and managerial skills so that they can work together effectively towards common aims. This continual process will need to be embedded in the organization's culture. To change organizational culture in facilities and motivate those that are not currently engaged, new or adapted (non-monetary) incentives need to be developed with providers to ensure they are valued and appreciated by the staff on the frontline of quality improvement

Perspectives on Ownership, Replicability and Sustainability

Currently, facilities that have engaged in the SBM-R process show that engagement itself positively affects motivation. Positive competition is recognized as a sustainable way to improve quality without considerable cost to the system. Despite the positive perceptions of the process however, some facilities do not engage, likely because of the perception of additional work it entails from staff and managers, or as mentioned above, a sense of fatalism that improvements cannot be achieved given the state of the facility and skills of the staff. District and regional managers, and central MoH has not fully owned the process nor provided the leadership needed to maintain it. While the SBM-R process is appreciated by staff and communities in many locations, higher-level leadership from the MoH is needed to drive participation in the quality improvement process more broadly in Guinea.

Currently SBM-R is in-place in about one-third of the HSD-supported health facilities in Guinea. Other approaches ("Monitorage Amelioré") to quality improvement currently being trialed in Guinea include results-based financing and improved monitoring approaches. The SBM-R process has now been adopted by the MoH, but it remains unclear how SBM-R will be aligned with the other QI approach of the MoH. To expand the program, full participation is needed across the health sector. Hospitals' quality assurance departments need to also engage and support a common approach. USAID is organizing consultation meetings with other partners to involve them to support and facilitate adoption of the SBM-R process across health care thematic areas and levels. One manager noted:

> *It's not even in hospitals alone that the SBM-R approach can be used; it's in all departments, even in governance, because it's a quality [improvement] approach."*
>
> – Labé Hospital manager

Observation: To fully engage communities and facility staff in the improvement cycle, support needs to be grounded locally. Government representatives from all sectors and levels need to engage in healthy competition and team up with the facility to make the improvements. Facilities, even with the support of the community, cannot go it alone. HSD and future USAID activities need to work more closely with multi-sectoral stakeholders beyond the MoH to build support and commitment to the program, particularly with the support of local governance structures.

CONCLUSIONS: A REALIST VIEW

A realist review of SBM-R asks, "What works, for whom, in what respects, to what extent, in what contexts, and how?" In this case study we have explored the contexts in which SBM-R is an effective quality improvement process. We have detailed the generative mechanisms that facilitate some health centers and hospitals to achieve success while others regress or do not engage. Finally, we have reviewed the outcomes achieved generally and more specifically in the selected case study facilities. The context-mechanism-outcome of the SBM-R process is described below.

Context

HSD reports that SBM-R currently engages 97 facilities across Guinea. This case study found that although each has some level of engagement since the start of the program in 2009 under MCHIP, not all are active. The following conditions affect engagement:

- The health status of mother and children is precarious, and existing health services are not of sufficient quality to quickly improve MCH in Guinea.
- The MoH and partners support improvement through training but it is not enough to change quality of services.
- Contextual factors including poor infrastructure (limited or no water, toilets, sufficient physical space) and shortages or dysfunction of materials, supplies, essential medicine and equipment undercut participation, particularly when the factors are out of the control of facility managers or staff.
- Human resource constraints (in number, capacity, and motivation) limit the perspective for rapid improvement in the quality of service delivery.
- Community trust in the health system after Ebola is being rebuilt, albeit slowly.
- Organizational culture in health facility, DPS, DRS and at the central level of the MoH is generally passive, fatalistic, self-serving, and opportunistic.
- Accountability in the health system is low.

Generative mechanism

The SBM-R program is predicated on the belief that through recognition, staff, managers, community members and MoH and other local government leaders at District and Regional level can be motivated to improve service quality through public recognition. The mechanism assumes that:

- Healthy competition between facilities should generate commitment and motivation to engage.
- If providers are given training and equipment, they will choose to participate.
- Managerial tools and training can be used by facility managers to lead the process in the facility. Through this process, leadership skills will be built.
- Close follow-up, mentoring, and monthly meetings with the DPS and DRS, community leaders, COSAHs and facility managers help to sustain the process.
- Gaps in infrastructure, equipment and other material deficiencies can be overcome largely by the facilities, districts and regions themselves.
- Being awarded a Star will yield community recognition, appreciation, and reputation.

Outcomes

The SBM-R program further hypothesizes that in the Guinea health system context, the generative mechanisms of the SBM-R program will be sufficient to catalyze service and facility quality improvements that can be measured in improved service systems and health outcomes. Specifically, when facilities succeed in gaining a star, the progress will result in the following outcomes:

- Participation in the quality improvement process and achievement (in stars) will change organizational culture towards service performance and monitoring;

- Collective action, engagement and leadership at facility and district level with demonstrable results will sustain momentum and stimulate ownership of the program by the MoH;
- MoH engagement will release investment and support for facility needs to sustain improvements;
- Achievements and associated potential investments by the MoH will motivate providers and other staff to stay committed and engaged in the quality improvement cycle;
- Community recognition of improved service quality at their local facility leads to greater utilization of health services; and
- Maternal and child health will improve.

We conclude that in the Context of the Guinean health services at HSD-supported SBM-R facilities, existing engagement of the MoH at all levels, and past distrust by the community of the health sector, quality improvement processes through SBM-R (generative mechanism) can lead to modest improvements that contribute to selected health Outcomes. Prospective outcomes could include:

- Positive short-term improvements in clinical performance leading to improved delivery of specific health services and the resulting improved immediate health outcomes;
- Improved managerial systems needed to begin to address hygiene and sanitation challenges but not sufficiently to significantly change IPC outcomes (due to structural limitations in terms of water, waste management, and equipment needed for sterilization, as well as difficulty in changing providers' behavior);
- Increased linkages and ownership of facility quality improvement efforts by communities and local government representatives including the DPS and DRS; and
- Community satisfaction, trust, and utilization of the facility and its services improve through QI process.

However, we do not see the context changing significantly through SBM-R to sustain and expand the program by the MoH without a change in the approach to increase their leadership and accountability to the process.

RECOMMENDATIONS FOR SUSTAINABILITY

Context

- Small renovations of facilities are needed for the provision of integrated quality care that can meet IPC standards.
- There is a need to expand these processes to rural and smaller health centers that still do not have consistent supplies and lack basic equipment like beds and scales. "Strategies avancés" (Outreach) and referral systems also need to be improved.
- Better understanding how to adapt the SBM-R approach to the range of facilities, from small health centers to large hospitals is needed to ensure successful engagement by these facilities in the approach. A 'one size fits all' approach will not work.

Process

- Staff and manager engagement for quality improvement should be intrinsic in the job descriptions. Additional resources should not be needed to engage and participate in quality improvement processes to be implemented on existing services and structures with existing resources.
- Engaging communities as partners increases commitment and motivation to achieve quality improvements at the facilities.
- The national committee that validates SBM-R at the facility level needs to be formalized as part of the job descriptions or compensated to ensure its regular functioning. Making progress more visible through public dashboards with incremental steps will help to maintain engagement in the process. The committee must meet and conduct assessments at regular intervals that staff and communities can depend upon and plan for. The current ad hoc convening for the committee does not valorize the process. It also does not allow for the removal of stars for unsatisfactory performance which is also critical for the validity of the process.
- The performance criteria assessed through SBM-R is extensive, and many are interdependent, particularly related to IPC such that if one factor is out of order, numerous other criteria cannot be met. A minimal set of

criteria that capture the most critical aspects of quality care could replace the current list to make achievement (and maintenance of core standards) within reach for all facilities.

- For the performance criteria in the tool it would be helpful to have an essential equipment and infrastructure list, that all facilities should have in place to achieve the performance standards. This will focus pressure on district and regional MoH representatives to ensure the minimum requirements are in order in each facility.
- To facilitate regular internal assessment using the criteria, a tablet-based version could be established that would allow the team to check if essential equipment, supplies, consumables, and other resources are in place, and, if not, have a skip pattern to avoid answering interdependent questions. Transition to tablet-based technology will also support data sharing at all levels.
- Progress on indicators also should be valued by the process, demonstrating effort and incremental achievement of criteria. If this was made visible, it may motivate staff and communities to engage more actively. This would require a steps or points to be given or ratings by subdomains such as equipment, infrastructure, client friendly, community engagement, clinical quality standards – some of which the staff can affect more readily than others.

Engagement

- Skills-building and close follow up is needed with managers at all levels to encourage ownership and commitment in the process. Many staff-based criteria could be met with closer follow up and small improvements in the conditions in which they work, beginning with waste management and hygiene. This will also require continuing education and engagement of staff and COSAH.
- Better managerial leadership in conducting monthly monitoring and supervision could re-engage facility staff in SBM-R.
- Given their commitment, MoH managers at the DPS and DRS levels should consider providing additional skilled staff and facility improvements. To not lose momentum, an evaluation should take place soon as they have made significant progress since they began. To ensure momentum is not lost, DPS and the DRS managers need to provide basic support through repair and renovation of critical equipment and facilities. In Labé, repair of the incinerator is urgent and deserved.

Performance (Achievements and Outcomes)

- A constellation of factors contributes to quality improvement achievements more than simply the length of time the facility has been engaged in the process. The specific context of a facility needs to be taken into account. Consider simplification of the QI process to focus on managerial process indicators linked to adherence to managerial standards for all facilities (at a high level)) rather than the granular investigation that can misfocus attention on detail when larger process and leadership issues mostly determine the effectiveness of the facility engagement.
- The SBM-R process demonstrates that clinical performance criteria can be improved through continuous training and supportive supervision at the facility level. Dramatic improvements were observed shortly after the start of the HSD activity. HSD has facilitated the process by preparing a team of trainers around the country. To maintain progress, regular investment in training on standards and refresher training will be needed in future and can be driven by the District and Regional MoH.
- When clinical performance is found to be unsatisfactory or even harmful, mechanisms for immediate recourse need to be in place with disciplinary measures that are clear to everyone. For example, management must respond to the discovery that some providers give personal, biased opinions on family planning messages that are not evidence-based.
- The role of facility, district, and regional managers cannot be underestimated. SBM-R facilitated managerial leadership through training tools and protocols, which was effective in some districts and facilities. Given the role they play in the quality improvement process, more could be done to measure managerial performance and problem solving within the SBM-R assessment process.

- Facility managers can advance quality improvement by prioritizing systemic solutions through guidelines, checklists, supervision, and control measures. Currently in some facilities, oversight is ad hoc. Using assessment data to make an action plan focused on specific issues was not done consistently. Routinized behaviors should be emphasized. The SBM-R program should develop, with managers, adapted tools that can facilitate management of IPC, including basic sanitation and hygiene measures in all service areas. The community could be enlisted to participate in support of such measures.
- Facility managers must be proactive in identifying equipment and infrastructural deficiencies that limit quality improvements. The SBM-R program needs to include stock taking exercises that go beyond the facility raising the issue and responsibility for quality improvement at district and regional levels for inputs that cannot be addressed locally. The SBM-R process needs to implicate the MoH at all levels to own the achievements and challenges that they must help to overcome. The needs and obstacles to achievement need to be made visible in the process.
- Critical facility improvements including water, sanitation (toilets and waste management), and sterilization need to be supported to provide the basis for quality improvements. Investment in these areas also helps to build staff commitment and momentum for further improvements.

Analysis (Internal and external performance drivers)

- Building teams to engage in quality improvement processes requires more than training on clinical and managerial skills, it also requires providing the training and resources that staff and managers need, so that they can work together effectively towards common aims. This is a continual process that will need to be embedded in the organization's culture. To change the organizational culture in facilities and motivate those that are not currently engaged, new or adapted (non-monetary) incentives need to be developed with providers to ensure they are valued and appreciated by the staff on the frontline of quality improvement efforts.

Perspectives on Ownership, Replicability and Sustainability

- HSD efforts to establish regional SBM-R committees is important for local ownership, sustainability, and mentoring and should be sustained and reinforced by any future USAID activity in the sector.
- As it is unlikely that the district and facilities can maintain the level of inputs of the HSD activity, it will be necessary to advocate for other sources of external support, possibly through local government and community resources to maintain the momentum that SBM-R has created.
- To fully engage communities and facility staff in the improvement cycle, support needs to be grounded locally. Government representatives from all sectors and levels need to engage in the healthy competition and team up with the facility to make the improvements. Facilities, even with the support of the community, cannot go it alone. HSD and future USAID activities need to work more closely with multi-sectoral stakeholders beyond the MoH to build support and commitment to the program, particularly with the support of local governance structures.