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Post-Ebola Recovery: Strengthening Community Health Services
Endline Facility Assessment Report
DECEMBER, 2017

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POST-EBOLA RECOVERY: STRENGTHENING COMMUNITY HEALTH SERVICES

ENDLINE FACILITY ASSESSMENT REPORT

DECEMBER, 2017

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In Sierra Leone, the project worked through a USD $17 million grant from USAID's "Ebola Response and Preparedness" funds, to support the Ministry of Health and Sanitation in the implementation of its 2015–2020 Health Sector Recovery Plan in five districts. The project's goal was to strengthen critical community-based non-Ebola health services, with emphasis on reproductive, maternal, newborn, and child health services.

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Photo: Joshua Yospyn

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ACRONYMS

CHP	community health post
CHC	community health center
CHW	community health worker
DHMT	district health management team
FMC	facility management committee
HMC	health management committee
iCCM	integrated community case management
IMNCI	integrated management of newborn and childhood illnesses
IPC	infection prevention and control
MCHP	maternal and child health post
MOHS	Ministry of Health and Sanitation
NGO	nongovernmental organization
PERHS	Post-Ebola Recovery of Health Services
PHU	peripheral health unit
RMNCH	reproductive, maternal, newborn, and child health
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
WAR	Western Area Rural
WASH	water, sanitation, and hygiene
WAU	Western Area Urban

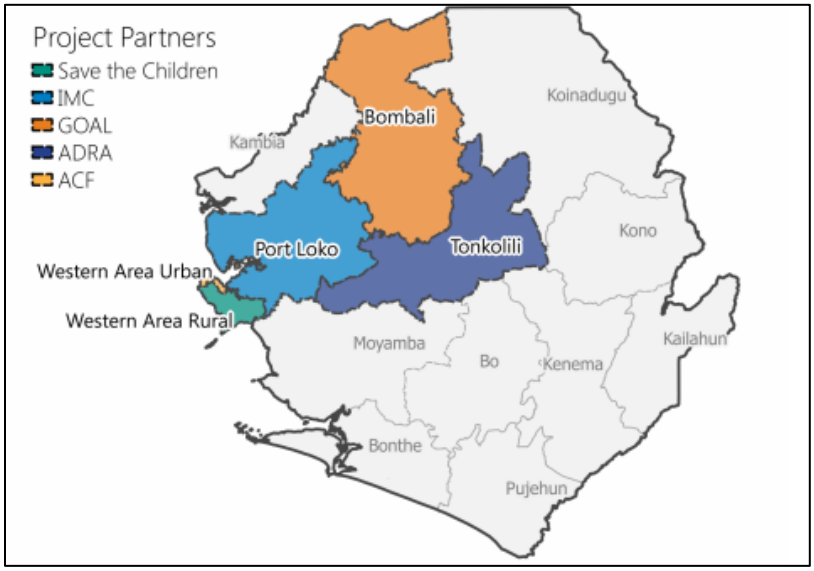
ADVANCING PARTNERS & COMMUNITIES

Sierra Leone's health system was severely affected by the Ebola virus disease (EVD) epidemic that ravaged the country from May 2014 through January 2016. In 2014, a United Nations Children's Fund (UNICEF) health-facilities survey categorized gaps in four major areas:[1]

- Inadequate training of health facility personnel.
- Lack of necessary medical equipment.
- Weakened diagnostic capability.
- Stockouts of essential medicines at peripheral health units (PHUs).

Other critical challenges and gaps in the country's health system included the lack of basic infection prevention and control (IPC) practices, and dilapidated or non-existent infrastructure for water, sanitation, hygiene (WASH), and waste management. Advancing Partners & Communities supported recovery activities conducted by the Ministry of Health and Sanitation (MOHS) that focused on reproductive, maternal, newborn, and child health (RMNCH) at maternal and child health posts (MCHPs) and community health posts (CHPs) through the Post-Ebola Recovery of Health Services (PERHS) project. PERHS was implemented by Advancing Partners & Communities between July 2015 and September 2017 in five U.S. Agency for International Development (USAID) priority districts in Sierra Leone (Bombali, Port Loko, Tonkolili, Western Area Rural [WAR], and Western Area Urban [WAU]) in association with five implementing partners: Action Against Hunger; Adventist Development and Relief Agency; International Medical Corps; GOAL; and Save the Children (see Figure 1 for project implementation districts).

Figure 1. Map of PERHS Implementation Districts



[1] UNICEF. 2014. *Sierra Leone Health Facility Survey 2014. Assessing the Impact of the EVD Outbreak on Health Systems in Sierra Leone.* December. http://www.unicef.org/emergencies/ebola/files/SL_Health_Facility_Survey_2014Dec3.pdf

In response to USAID's investment to restore and recover basic essential health services, the PERHS project aimed to improve access to and availability of high-quality RMNCH services within primary health care facilities and at the community level in Sierra Leone. The three main objectives were:

1: Improve regulatory and policy environment to enable increased service delivery access, focusing on peripheral health units (PHUs) and the community by:

- revising the national community health worker (CHW) policy and its subsequent implementation
- reviewing and updating WASH standards and guidelines for health care facilities
- developing operational guidelines for facility management committees (FMCs) and health management committees (HMCs).

2: Increase the capacity and effectiveness of the health workforce and community platforms to provide high-quality RMNCH services in line with IPC and WASH guidelines by:

- training health post staff, state-enrolled community health nurses (SECHNs), maternal and child health aides, and CHWs
- improving facility-to-community engagement by strengthening FMCs.

3: Improve physical and operational conditions of CHPs and MCHPs in project districts, including community health units (CHUs) to enhance the quality, safety, and access to health services by:

- renovating health posts—both major (expanded) and minor (limited) renovations, with focus on WASH and IPC improvements
- procuring minor medical equipment to support RMNCH services, and installing solar-powered lightning systems
- digging wells and drilling boreholes to improve access to water.

PEHRS provided services following a tiered approach. Of the 365 health facilities in the project districts, 305 received support. One-hundred-and-ten of those facilities ("priority sites") received support in all areas (WASHP/IPC rehabilitation, infrastructure renovation, capacity building, community engagement, and minor medical equipment); 106 received support in capacity building, community engagement, and minor medical equipment; and the remaining 89 facilities received minor medical equipment only.

The 110 priority sites were selected based on the results of the Ebola Response Consortium WASH survey (conducted in the fall of 2015) and the project baseline assessment (conducted in February 2016). Upgrades to each of these sites included some or all of the following:

- Installing or repairing boreholes or protecting hand-dug wells, and improving the water supply to the main health post buildings by installing piping, storage, and support structures.
- Installing with septic systems or repairing toilets.
- Improving waste management systems by adding in IPC pits (placenta, sharps, and ash) and repairing or building functional incinerators.
- PHU building upgrades and repairs included ceilings, roofs, walls, floors, painting, handicap accessibility, stencils to indicate the type of room, improving windows and doors for security.
- Installing solar power systems.

PERHS provided 305 facilities with minor medical equipment, including delivery kits, delivery beds, resuscitation equipment, and sterilizers. The project also began the implementing a quality improvement and capacity-building program covering RMNCH, integrated management of newborn and childhood illnesses (IMNCI), and IPC, which were attended by 950 staff (666 clinical and 284 non-clinical) from 243 PHUs. Local involvement was particularly critical for Sierra Leone's post-Ebola recovery, as the government sought to develop a harmonized community engagement strategy to improve existing health sector approaches. The project therefore established and/or revitalized FMCs, community-based groups that represent and mobilize people living within a PHU's catchment area, and worked through them to improve the quality of facilities.

ASSESSMENT METHODOLOGY

This baseline facility assessment was conducted in January and February 2016 to measure the capacity and infrastructure of the PHUs in the five priority districts to provide health services, and to establish a benchmark against which improvements made over the course of the project could be measured. The endline assessment was conducted in the same districts from November 2016 to May 2017, with varying dates because the role of implementing partners in the districts ceased at different times (Port Loko in November 2016, WAR and WAU in March 2017, and Bombali and Tonkolili in May 2017). Both assessments were exempt from human subject review by JSI's institutional review board because the focus was on implementation at the health facility level and was not for research purposes. Respondents who were interviewed in health facilities were given information on the survey, and before data collection, the team obtained informed consent.

SAMPLE SELECTION

Two criteria were used to determine site selection for the facility assessment: PHUs had to be managed by the MOHS and could not have been renovated within five years of the baseline assessment. It was expected that 80 percent all PHUs in a given district would meet these criteria. A random sample of facilities matching these criteria and the final list of facilities for each district was determined at baseline. These facilities were also assessed at endline. Table 1presents a breakdown of the number of PHUs assessed in each district.

Table 1. Number of Facilities Assessed at Baseline and Endline

	Number of Facilities Assessed	
	Baseline	**Endline**
Bombali	63	64
Port Loko	55	55
Tonkolili	72	72
Western Area Rural	38	38
Western Area Urban	39	40
ALL Districts	**267**	**269**

Note: Two additional facilities, one in Bombali and one in WAU were assessed at endline.

DATA COLLECTION TOOLS

To meet the objectives of the baseline facility assessment, four tools were created to capture pertinent information on health facility management and staffing, the physical infrastructure of the PHU compound, available equipment at each facility, and staff knowledge (Table 2).

Table 2. Topics Covered in the Four Tools Administered at Baseline and Endline

	Topics Covered
General Facility Overview	Overview of PHU service provision with sections covering staffing, type of services provided, staff perspectives on the quality of services provided and challenges faced, communication facilities, systems for referral, community engagement, current systems for supervision and management, IPC procedures and protocols, and other available documents.
Infrastructure Assessment	Information on PHU site conditions, fencing, water supply, waste disposal, sanitation, indoor piped water, power sources, cold chain, building, and electrical system.
Minor Medical Equipment Assessment	Three sections covering availability and functionality of clinical equipment for maternal, newborn, and child care, delivery kit equipment, and furniture/non-clinical equipment at the PHU.
Health Staff Survey	Information from selected MCH aides and SECHNs or other staff on their training received and current MNCH knowledge. Two staff members were interviewed in CHPs and MCHPs across all five districts, and three in CHCs in WAU.

DATA COLLECTION AND ANALYSIS

Implementing partners and district health management team (DHMT) members conducted the assessment in their respective districts using Samsung Galaxy 4 tablets loaded with the SurveyCTO platform at both time points. As a result, once information was uploaded to the server, data were immediately available for quality checks and analysis. All data collectors were trained to use tablets and the SurveyCTO platform to collect data and conduct practical sessions on measurement and assessment of facility structures (specifically for the infrastructure tool), and spent a day pilot testing tools at a facility. Data were analyzed to show change over time between the baseline and endline. No weights were used.

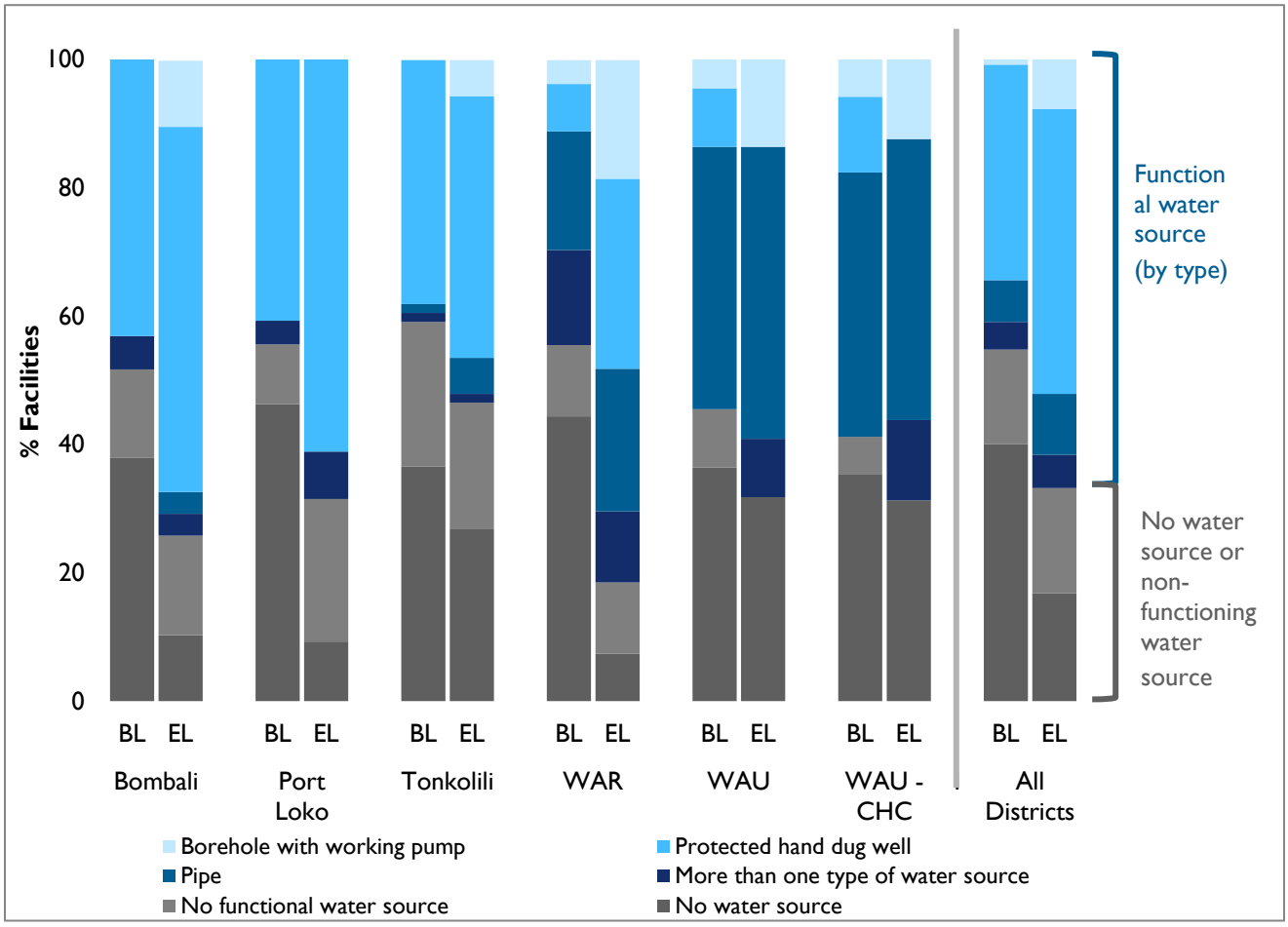
RESULTS

INFRASTRUCTURE

Functional Water Source

Overall, water availability improved across each of the five project districts. At baseline, 40 percent of facilities did not have any source of water within their compound; by endline this had dropped to 17 percent. Fifty-five percent of facilities lacked any kind of functional water source within their compound at baseline; at endline this dropped to 33 percent (Figure 2).

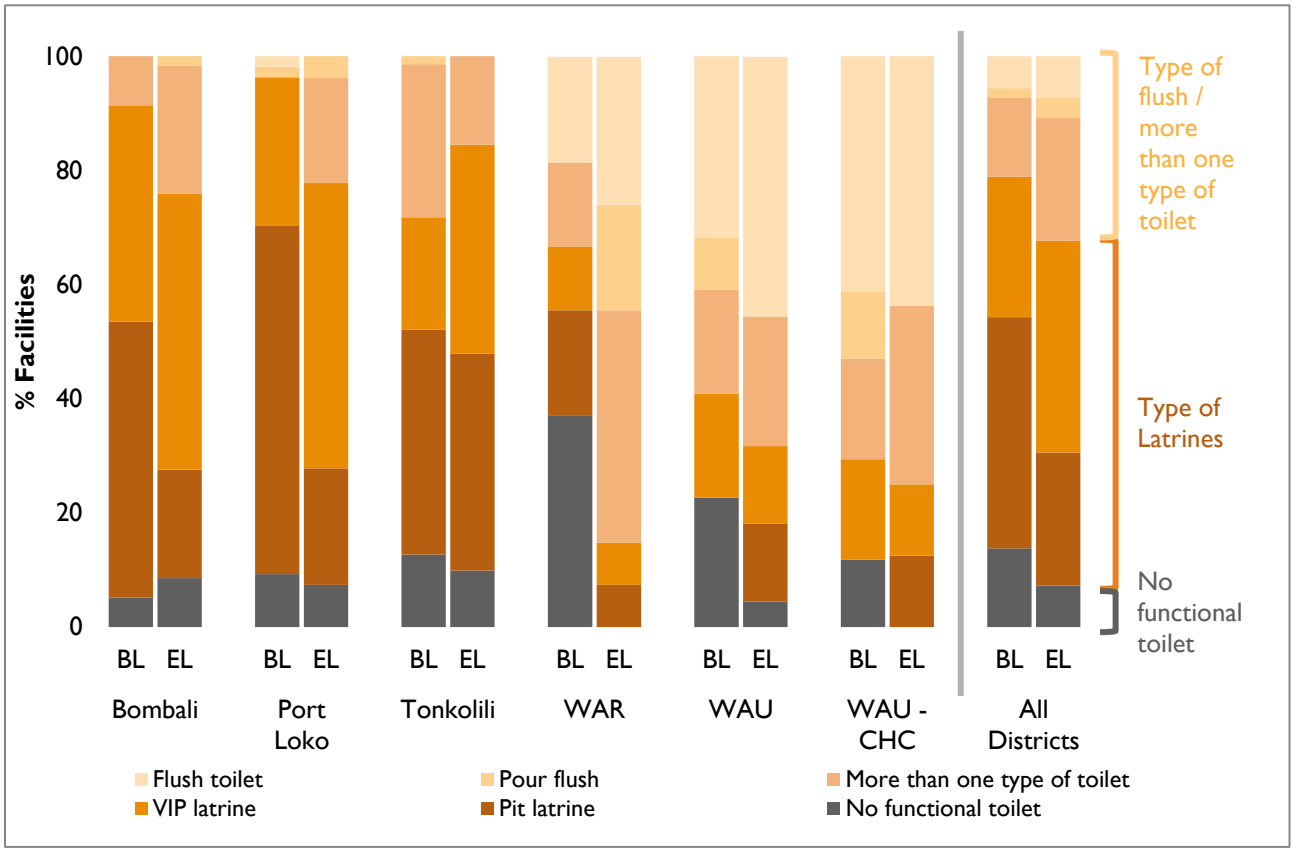
Figure 2. Water Availability, by Source, within Facilities at Baseline and Endline



Sanitation

At baseline, 14 percent of facilities across the five project districts did not have a toilet. Of those with functional toilets, 64 percent needed renovation (Figure 3). Only 21 percent had a flush/our flush toilet. At endline, only 7 percent of facilities did not have a functional toilet; 32 percent had a flush/pour flush toilet; and 60 percent had some type of latrine. Bombali was the only district where the availability of functional toilets decreased between the two time points.

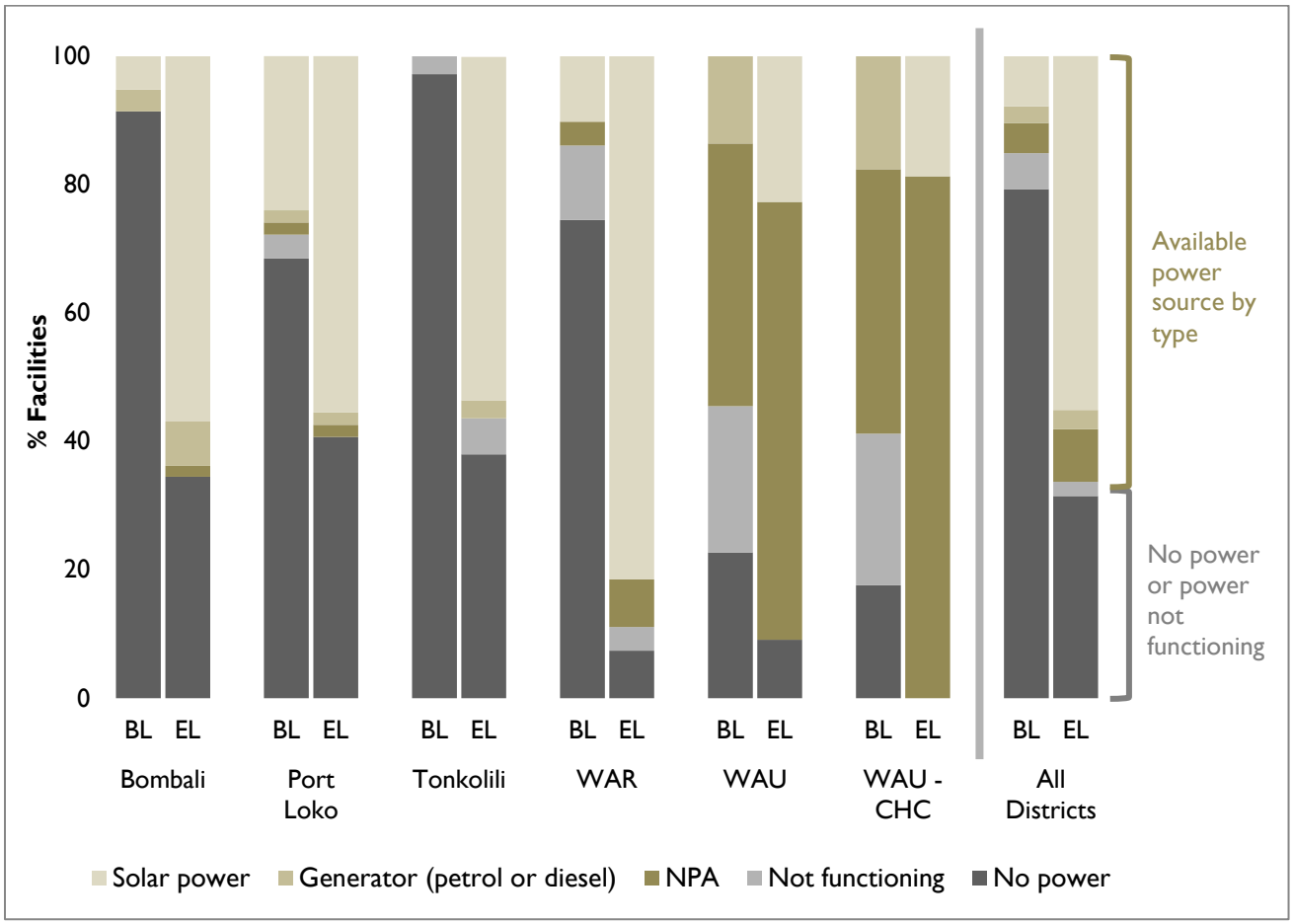
Figure 3. Sanitation Availability, by Source, within Facilities at Baseline and Endline



Power

85 percent of facilities across the five districts had no power or a functional power source at baseline (Figure 4). This was most notable in Tonkolili, where no facility had access to a functional power source. The situation was only marginally better in Bombali. Facility access to power increased considerably with project implementation, at endline, more than 66 percent of facilities reported a functional power source. WAR and WAU were the exceptions, with 55 percent of facilities having power at baseline; this increased to more than 90 percent by endline. The most common source of power across all of the districts following the intervention was solar.

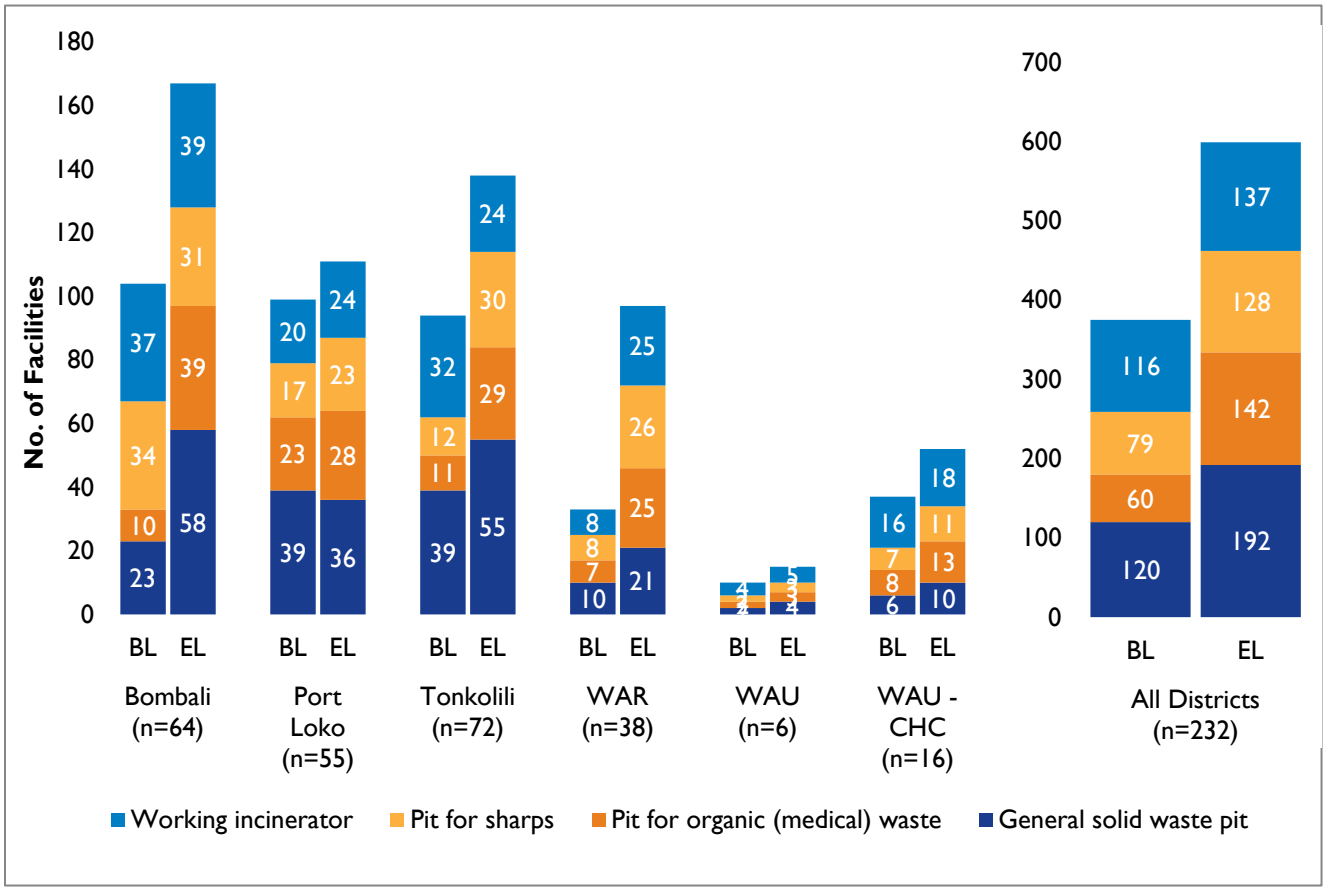
Figure 4. Power Availability, by Source, within Facilities at Baseline and Endline



Waste Disposal

The availability of waste disposal facilities greatly improved over time across the intervention districts. Many facilities had more than one type waste disposal available within their compound. The most common type of waste disposal at both baseline and endline was a general waste pit (Figure 5). By endline, over half of facilities (142) assessed had a pit for organic waste, working incinerator (137), and/or pit for sharps (128). Across all 232 health facilities evaluated, almost 600 types of waste disposal facilities were observed.

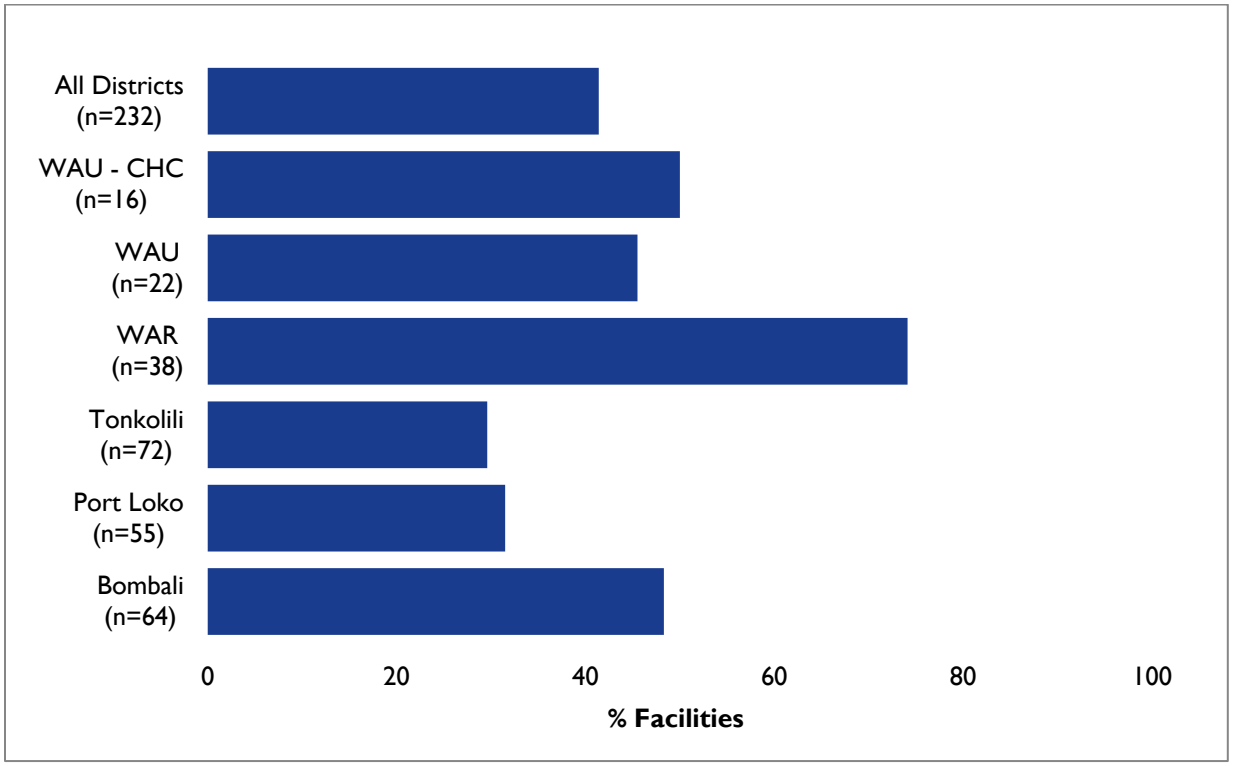
Figure 5. Facility Waste Disposal Availability, by Type, at Baseline and Endline



Infection Prevention Control Standards

All health facilities are expected to meet IPC standards, which require having: at least 2 IPC pits (placenta, ash, sharp, organic), a working incinerator, and staff trained in RMNCH and IPC. Data on the percentage of facilities that met IPC standards was calculated only at endline, because data were not available before then (Figure 6). Across all of the districts, 41 percent of facilities met IPC standards, with WAR having the highest percentage (74 percent) of facilities that met IPC standards. In all districts except Tonkolili and Bombali, more than 40 percent of facilities met IPC standards.

Figure 6. Proportion of Facilities that Met IPC Standards (Endline Only)

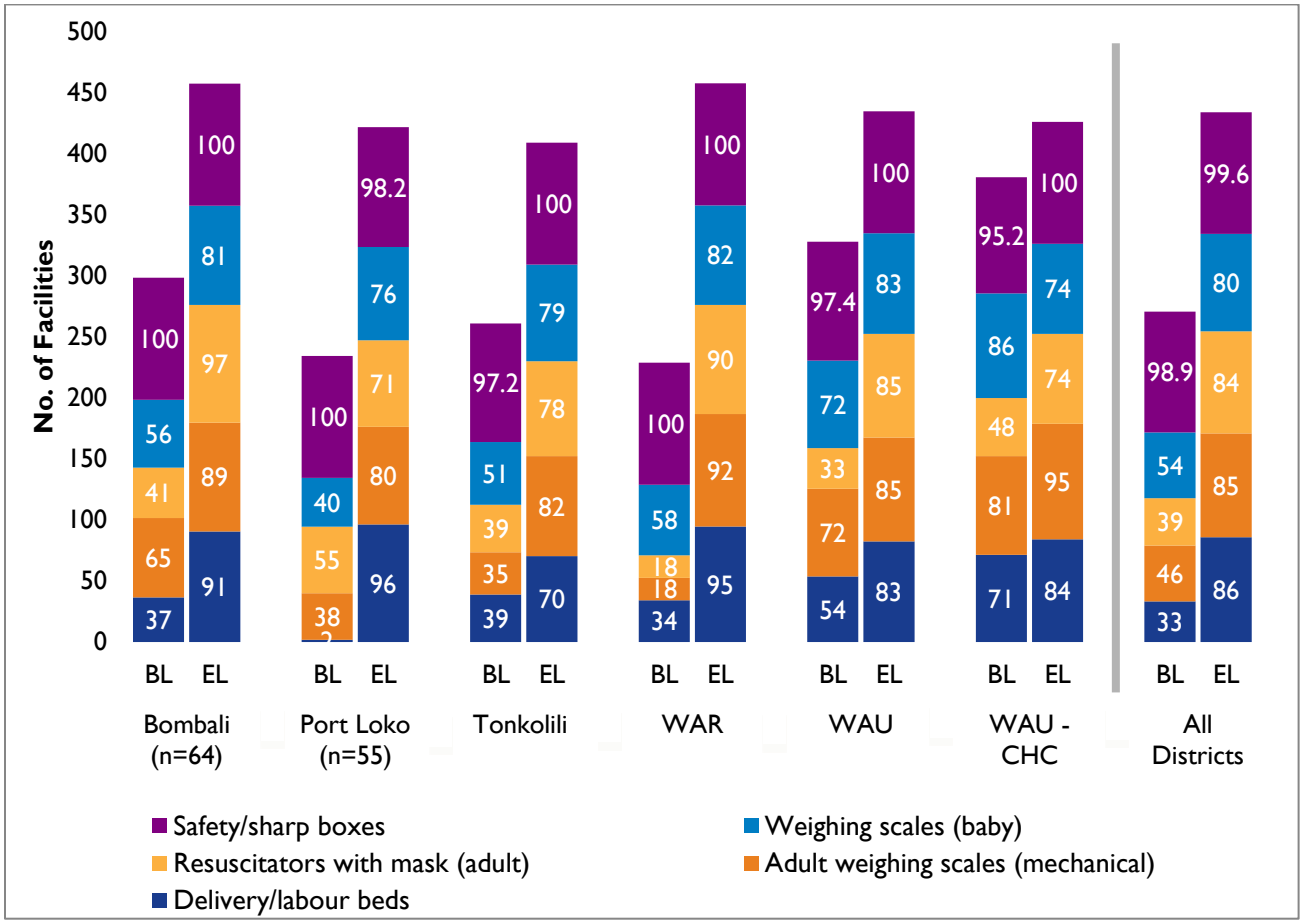


EQUIPMENT

Minor Medical Equipment for RMNCH

At baseline, the strong need for basic minor medical equipment was clear, as fewer than half the facilities had functional RMNCH equipment (Figure 7). Delivery/labor beds were available in fewer than half of facilities. Only about half the facilities had a functional sterilizer with lower availability, particularly in MCHPs/CHPs in Tonkolili, WAR, and WAU. Moreover, no facility had a fully functional RMNCH kit. At endline, 99 percent of facilities were equipped with an infant resuscitator (including mask); 86 percent had a delivery bed; 80 percent had a functional baby weighing scale; and 75 percent were equipped with a sterilizer.

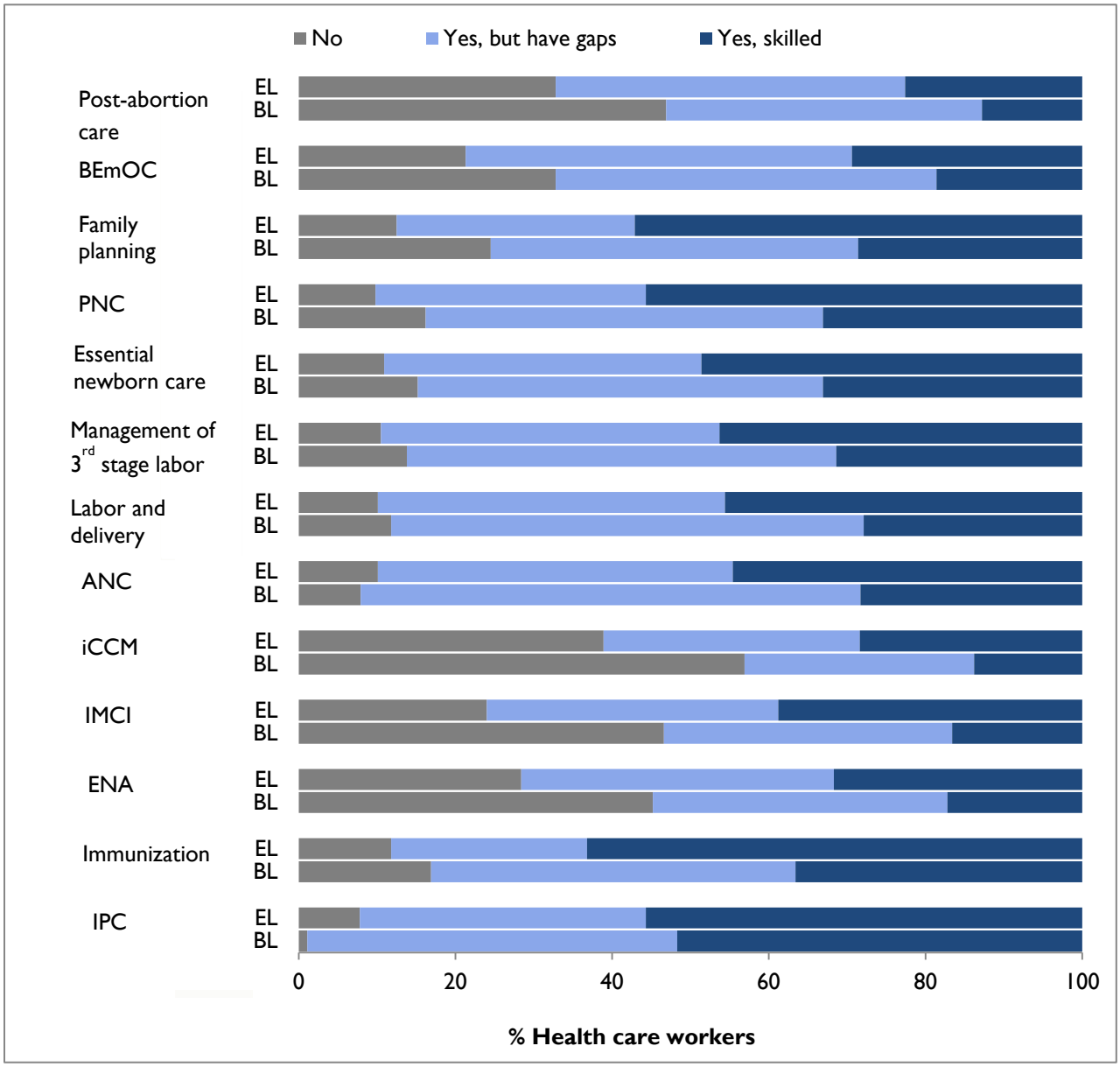
Figure 7. Proportion of Facilities with Functional RMNCH Equipment at Baseline and Endline



HEALTH STAFF CAPACITY

Between baseline and endline, the proportion of staff who felt they fully or at least somewhat skilled (with some gaps) increased in all the technical areas assessed. Exceptions were antenatal care (ANC) and IPC (Figure 8). At endline, health workers most commonly felt that they were not skilled in integrated community case management (iCCM) (39 percent); post-abortion care (33 percent); IMNCI (24 percent); and essential nutrition actions (ENAs) (28 percent). They were most skilled in immunization (63 percent); family planning (57 percent); IPC (56 percent); and postnatal care (PNC) (56 percent).

Figure 8. Perceived Skill Level of Staff (Self-Reporting) by Technical Area at Baseline and Endline



Health worker knowledge improved in most of the technical areas assessed between baseline and endline. The most significant improvement in knowledge scores was child health: at baseline only 29 percent of health workers surveyed scored 80 percent or higher on the child health questions; at endline, 63.5 percent of health workers scored 80 percent or higher. A decrease in the percentage of health workers who answered 80 percent or more on questions related to ANC/PC was observed with 68.3 percent scoring 80 percent or higher at baseline, but only 60.5 percent scoring 80 percent or higher at endline. Interestingly, 97 percent of the health workers surveyed answered 80 percent or more of questions related to newborn health correctly at endline.

Table 3. Percentage of Respondents Scoring 80 Percent or Higher on Knowledge Assessment at Baseline and Endline

	Bombali		Port Loko		Tonkolili		WAR		WAU		ALL Districts	
	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL	BL	EL
IPC	81	63.2	56.7	91	64.2	68.9	35.5	52.6	25	42.9	49	66.2
ANC/PNC	83.3	60.3	71.6	80.6	62.3	48.6	62.9	63.2	65.8	49	68.3	60.5
Maternal health	57.1	82.4	59.7	97	17	67.6	59.7	73.7	44	63.3	47.8	77.7
Newborn health	92.9	98.5	100	100	90.6	100	83.9	89.5	81.6	91.8	89.3	97
Child health	45.2	60.3	38.8	83.6	26.4	58.1	32.3	44.7	10.5	63.3	29	63.5
Partograph knowledge	.	79.4	.	88.1	.	59.5	.	65.8	.	87.8	.	76
Total number of staff	**42**	**68**	**67**	**67**	**53**	**74**	**62**	**38**	**76**	**49**	**300**	**296**

COMMUNITY ENGAGEMENT

Facility/Health Management Committees

At baseline, 80 percent of facilities had an established and functional facility FMC or HMC, when fewer than half of facilities in Bombali district having an established FMC (Figure 9). At endline, all facilities in Tonkolili, WAR, and WAU districts had an FMC or HMC, and 97 percent of facilities across all of the intervention districts had established an FMC or HMC. The FMCs/HMCs established by endline were also well-functioning (Figure 10); only 3 percent of facilities indicated that a meeting had not taken place in the last three months. Seven percent had held one meeting within the last three months; 12 percent reported holding two meetings in the last three months; and the vast majority (78 percent) reported that they held three or more meetings in the past three months.

Figure 9. Proportion of Facilities with Established FMC or HMC at Baseline and Endline

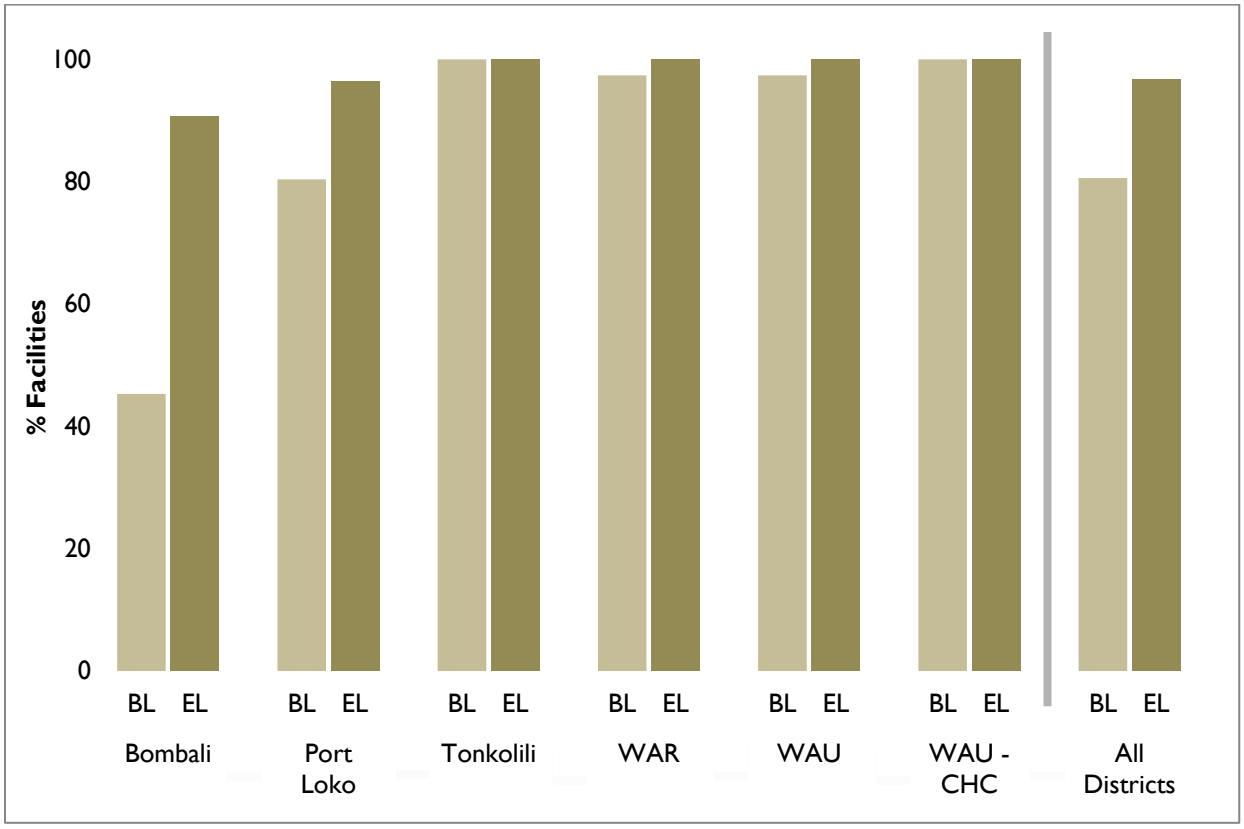
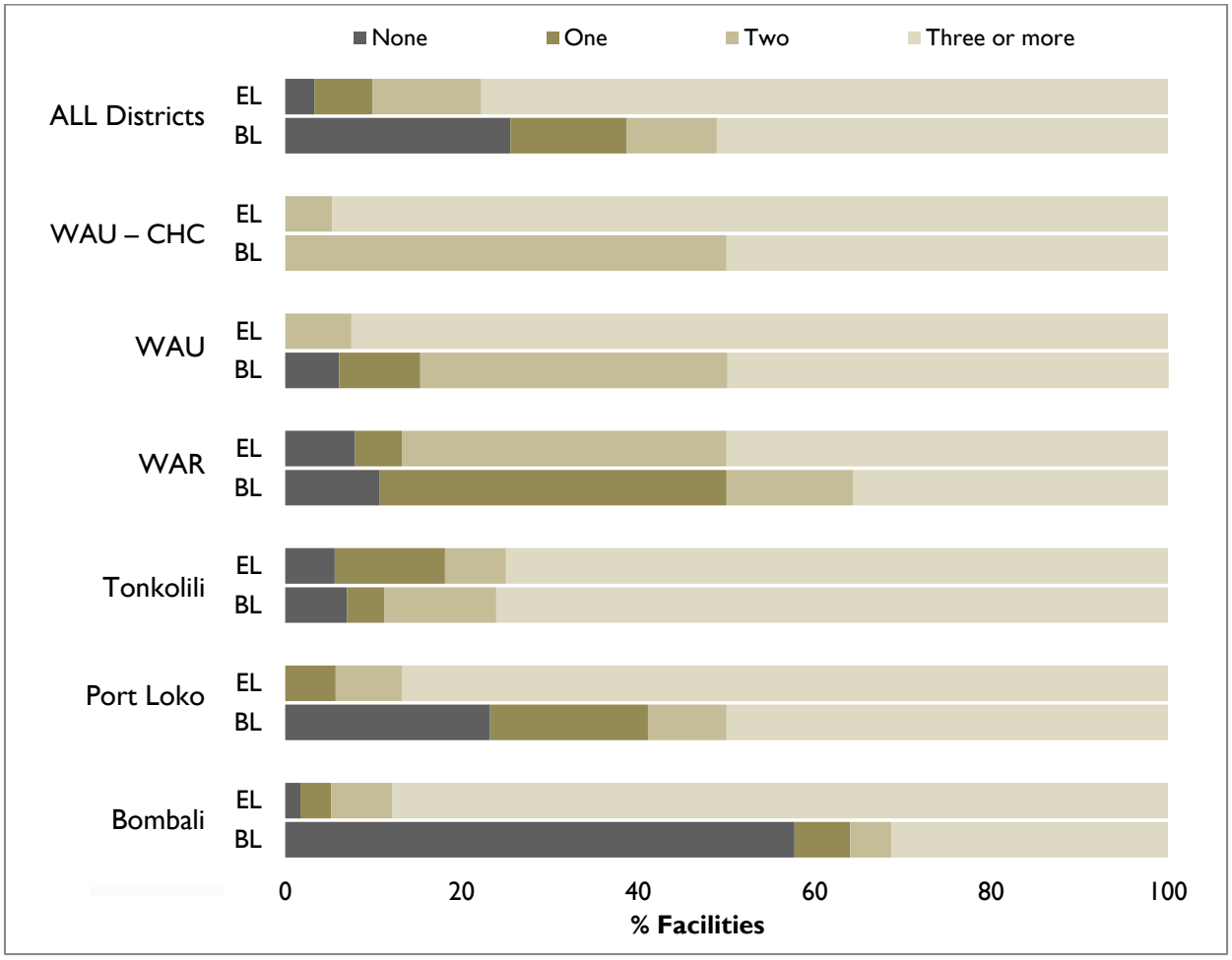


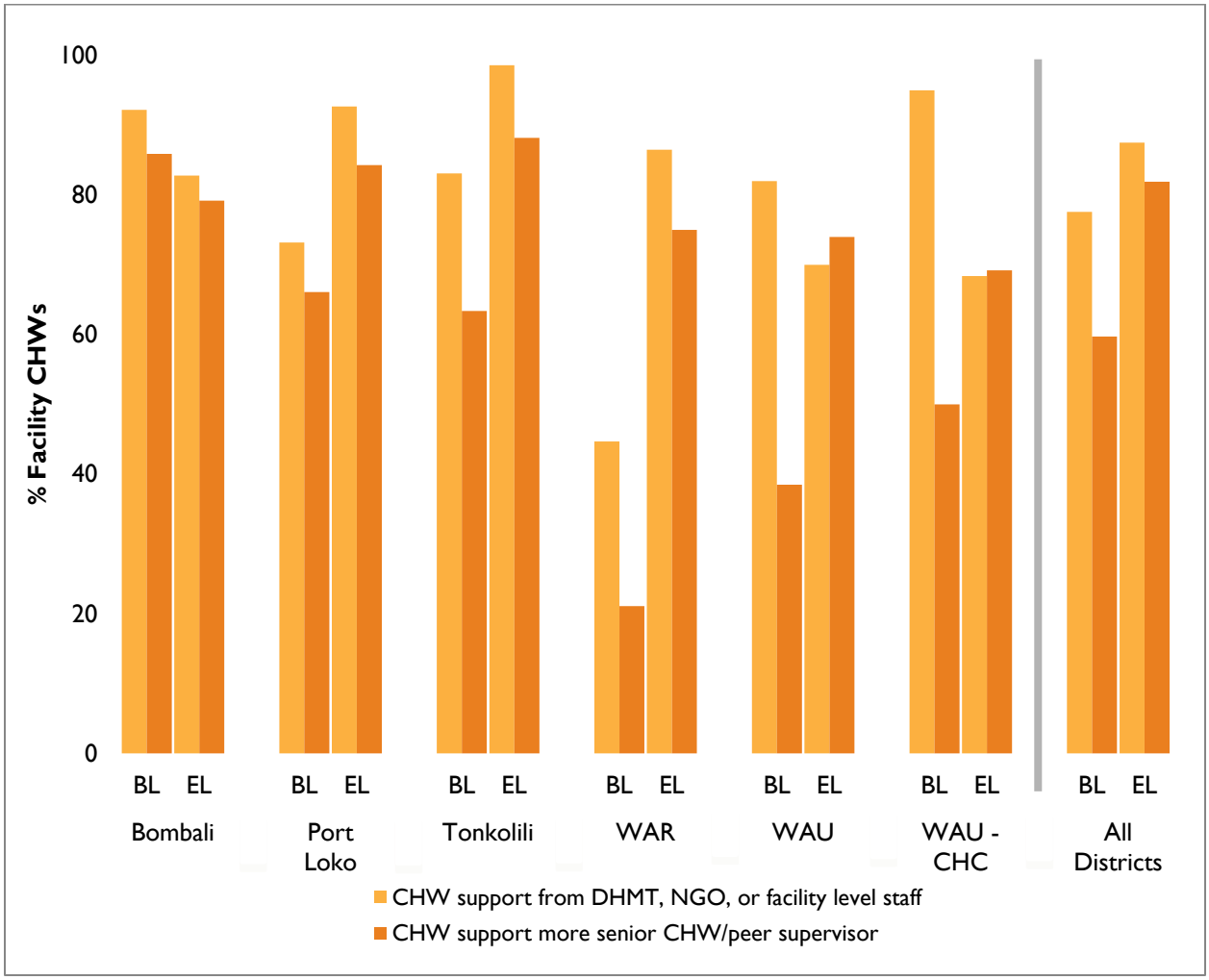
Figure 10. Number FMC/HMC Meetings within a 3-Month Period



CHW Support

At baseline, CHWs in three-fourths of facilities reported receiving support or supervision from DHMTs, nongovernmental (NGOs), or facility staff. Support from senior CHWs was lower, especially in WAR and WAU districts (Figure 11). At endline, facilities reported higher levels of supportive supervision: 82 percent indicated that their CHWs received support from a more senior CHW or peer supervisor; and 88 percent received supportive supervision from a member of the DHMT, NGO, or facility staff.

Figure 11. Sources of CHW Support at Baseline and Endline



DISCUSSION

SUMMARY OF RESULTS

Findings from the baseline assessment gave PERHS information on the status and condition of the community-level facilities across the five project districts, based on which the project objectives were translated into specific interventions to enable improved service provision. The endline assessment provided key information on the effect of PERHS' interventions on the condition of health facilities. It showed that health facilities could offer better-quality health services to the catchment population, especially in an era of recovery from the Ebola epidemic, when trust in the health system was especially low. Key results are highlighted below.

Infrastructure

PERHS revitalized 305 of 365 PHUs in five districts, improving health care for 2 million Sierra Leoneans. Improvements included:

- 51 percent increase in the number of facilities that had access to power between baseline and endline.
- In Tonkolili, where none of the facilities had access to power at baseline, more than 55 percent had access to power by the end of the project, which in most cases was provided by a solar unit.
- Access to water within the facility compound improved by 22 percent across the districts.
- In line with the project activities, most facilities accessed water from a borehole or a protected hand-dug well.
- Just under 10 percent of had more than one functional water source available within the facility compound.
- At project initiation, 86 percent of project-supported facilities had some type of toilet within their compound, but more than half of those toilets needed upgrades or repairs.
- After project implementation, only 7 percent of facilities did not have a functional toilet in their compound.
- Many of the facilities that had a waste pit at baseline did not have all of the different types of waste disposal sites. At endline, facilities had an additional 72 general waste pits; 82 organic (medical) waste pits; 49 sharps pits; and 21 functional incinerators across all of the five project districts.
- The infrastructure improvements resulted in more than 41 percent of facilities meeting IPC standards at endline. In WAR, more than 74 percent of facilities met IPC standards.

Equipment Availability

After PERHS distributed minor medical equipment, the health facilities were better able to provide services. At baseline, delivery/labor beds were found in fewer than half of the facilities assessed, and only half of facilities had a functional baby scale. Sterilizers were also difficult to come by, particularly in Tonkolili, WAR, and WAU CHPs and MCHPs. None of the facilities had a complete reproductive health kit.

When the equipment was delivered, 86 percent of facilities had a delivery bed; 80 percent had a functioning baby scale; 99 percent had an infant resuscitator on hand; and 75 percent of facilities had a functional sterilizer, all of which improve RMNCH care.

Health Staff Capacity

Training increased staff capacity across all technical areas. Over the course of the project, health workers received additional training across multiple technical areas.. They were more confident about their skills (i.e., not having gaps) by endline and their overall knowledge scores improved in all but one of the technical areas (ANC/PNC) between baseline and endline.

Community Engagement

Though not initially emphasized by PEHRS, the value of initiating or reengaging FMCs/HMCs was recognized and was a major success. The project used a human-centered design approach to determine a strategy and toolkit to support FMCs and local communities in ensuring that health facilities performed as they are expected to.

- At the endline assessment, 97 percent of facilities reported that they had established an FMC or HMC. This number was also high (80 percent) at baseline, however, only about half of facilities reported that these committees met on a regular basis.
- Following the intervention, FMCs/HMCs were found to be much more active, with 78 percent of facilities reporting that their FMC/HMC held three or more meetings within the past three months, and only 3 percent indicating that their FMC/HMC had not recently held a meeting.
- Higher levels of CHW support or supervision from DHMT, NGOs, or facility staff (88 percent) were reported between baseline and endline. Furthermore, CHWs received support from peers or more senior CHWs in 82 percent of facilities at endline.

LIMITATIONS

Interpretation of results presented in this report must consider the following:

- The assessments were conducted in collaboration with PEHRS partners who were trained to use the tools programmed into SurveyCTO, but some of whom had no previous experience with mobile data collection. As a result, data quality, especially baseline, may vary.
- The endline assessment was conducted in different districts over the course of seven months period. This resulted in districts being at different stages of implementation at the time of the endline assessment and therefore may not show the final impact of the intervention.
- Despite the team's best efforts to ensure that the status of the facilities (ie designation as a MCHP, CHP, or CHC) was recorded correctly, it was not always possible to determine the official designation of the facility. The teams therefore used criteria based on the staffing of the facility to make decisions when the facility designation was in question. Furthermore, the designation of some of the facilities changed between the baseline and endline assessments.

RECOMMENDATIONS

Overall, PEHRS made significant improvements in all areas of implementation, fitting the objectives of a project to restore trust and resume provision of high-quality RMNCH services at the health post and community levels in Sierra Leone. However, the need for further improvement continues to be great.

Moreover, to ensure sustenance in service provision, additional steps, some of which are highlighted below, must be taken.

- During project implementation, infrastructural improvements were made in 110 health facilities across all the districts. These included provision of power, water, and sanitation facilities as well as building improvements. Despite the vast improvements, more are needed. In several districts, more than 30 percent of health facilities do not have a functional source of water. In Tonkolili, where more than 40 percent of facilities do not have a water source, the need is even higher. While sanitation improvements have been made, a large percentage of health facilities in Tonkolili have pit latrines only. Overall, 30 percent of facilities have no power; in Port Loko and Tonkolili, more than 40 do not.
- Systems to ensure that facilities that received improved services continue to be maintained and are able to care for their catchment populations are needed. This requires collaboration with the MOHS and other associated government departments. Health facility staff also need to ensure that small structural fixes are made on a timely basis and that the community is involved through the FMC/HMC to see that water and sanitation facilities are maintained.
- Health staff were trained through the project in a number of technical areas, most of which led to improvements in their skillset. Areas where health staff reported low confidence need to be examined and further training provided to maintain and/or improve skills. Continued on-the-job supportive supervision and training in all technical areas will help ensure that skills are acquired, maintained, and result in better service provision.
- The project highlighted the role of communities in ensuring the quality of health services provided by health facilities and the human-centered design approach helped identify a clear community engagement strategy and approach to making FMCs/HMCs more effective. The committees will need ongoing support to sustain these groups. Such support will help these groups to support the facility in maintaining the medical equipment and other health facility improvements provided through the project.

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