**Background**

Safe management of healthcare wastes and enhanced Infection Prevention and Control (IPC) for patients and healthcare workers are critical in emergencies and routine health services in Liberia. Assessment conducted in 2015 on Service Availability and Readiness (SARA) and Quality of Care (QoC) in 2017 identified problems with the healthcare wastes management in the health facilities of Liberia. A survey jointly conducted by the Ministry of Health (MoH), National Public Health Institute of Liberia (NPHIL) and WHO in 2019 further revealed that less than ¼ (2 out of 10) of health facilities in Montserrado County had appropriate waste disposal facility; while another Joint Situational Assessment conducted in 19 health facilities in three (3) counties (Bong, Lofa, Cape Mount) within the Korean International Cooperation Agency (KOICA)-funded project in 2019 underscored critical gaps in elements of quality at primary and secondary healthcare facilities. These included poor management of healthcare wastes generated from facilities and lack/absence of waste management guidelines and Standard Operating Procedures (SOPs) at health facilities. These findings indicated an increased vulnerability of frontline healthcare workers (HCWs) and patients to healthcare infections and related hazards.

Effort aimed at improving healthcare wastes management and IPC was identified as critical in the national’s health delivery system.

To ensure the safety of the public and healthcare workers, the National Guidelines for the Safe Management of Healthcare Waste (NGSMHCW) was developed as a guide to be used by all health facilities in Liberia to support and facilitate the safe management of all wastes generated at health facilities.

The Healthcare Waste Management guidelines was updated, validated and subsequently printed in 2019. This validated and printed document was rolled-out to six (6) of the fifteen (15) counties by US-CDC through Jhpiego leaving out nine counties.
In support of the above mentioned, the National Public Health Institute of Liberia (NPHIL) requested US-CDC for support to implement the rollout in the remaining nine (9) counties (Montserrado, Bomi, Grand Cape Mount, River-Gee, Grand Bassa, River-Cess, Bong, Margibi and Gbarpolu). In response, US-CDC provided funding through Jhpiego for the implementation and roll-out of the nine counties.

The counties were divided into region for successful implementation. Counties were grouped regionally and were listed as follows: Region one (Bassa, River-Gee, Margibi and River-Cess) Region two (Bomi, Grand Cape Mount and Gbarpolu Counties) while region three was (Montserrado and Bong Counties). The travelling including training days were as followed:

Region One: May 10- 14, Region two: May 15 - 19 and Region Three: May 23- 25

**Goal**

The goal of the rollout and orientations were to strengthened wastes management at healthcare institutions by ensuring improved health through the WASH- FIT implementation in health facilities.

**Training objectives**

The objectives of the workshop included the followings:

- To ensure frontline healthcare workers are trained to use the Healthcare Wastes Management Guidelines;
- To provide the Healthcare Wastes Management Guidelines, job aids and SOPs to improve wastes management at health facilities;
- To build the capacities of healthcare staff in healthcare wastes and IPC activities;
- To refresh participants in the use of Water Sanitation and Hygiene for Health Facility Improvement Tool (WASH -FIT) and the IPC application in health facilities;
- To equip healthcare waste managers, IPC Focus Persons, EHT and Nursing directors with new skills in managing healthcare wastes at the facility levels and
- To build a network of healthcare waste managers at the county level.
Methodology

To implement the plan successfully, a team of experts from the NPHIL, US-CDC and Jhpiego departed from central on the 10th-15th and the 23rd of May 2022 respectively to different venues. (Buchanan, Tubmanburg, and Monrovia) on specified dates as per the schedules for different venues.

The actual training in Buchanan ran from May 11-13 while the Tubmanburg and Montserrado venues ran from May 14-16 and May 23-25th respectively. A total of 72 additional healthcare workers were orientated while copies of the guidelines, SOPs and job aids were distributed amongst the participating counties.

The orientations were conducted for three days at each locations or venues using face to face interactions, PowerPoint presentations, group works, practical sessions, organized group discussions, video presentations, sharing of experiences from previous and present areas of work, best practices, visual aids and exhibitions, visitation of health facilities, questions and answers and pre and post tests.

Topics including the use of colour coded bins, waste segregation, storage, treatment and safe disposal were discussed. Other treated topics were WASH-FIT in health facilities, hand hygiene, environmental management and energy and facility management.

Participants included EHTs, Nursing Directors, Janitors, WASH Focal Persons, IPC Focal Persons and Waste Managers

The training brought together 26 participants from Montserrado and Bomi, 28 from River-cess, River- Gee, Margibi and Grand Bassa counties and 18 participants from Maryland, Bomi and Gbarpolu Counties.

Outcome of the orientation

- Seventy-two (72) frontline health workers from the nine (9) counties were orientated on the Healthcare Wastes Management Guidelines and refreshed on the WASH-FIT methodology for improving WASH and IPC at healthcare facilities;
- Participating counties were provided copies of the Healthcare Wastes Guidelines, job aids and SOPs and
- Reinforcing WASH and IPC measures or protocols in line with national standards and protocols on COVID-19 and other infectious diseases.
**Daily Activities or Agenda included**

- Discussion with the County Health Team
- Registration and Devotion
- Self-Introductions
- Welcome Remarks and opening statements by the County Health Officer
- Remarks by representatives of Jhpiego, CDC- USA and NPHIL/ MOH
- Expectation, Fears and Ground rules
- Pre and Post Test
- Workshop objectives and Overview of the HCWM Guidelines
- Chlorine Mixing
- Hand Hygiene
- Recap of day one
- Environmental Management and Energy
- Supportive Supervision, Mentorship and Risk Score Calculation of WASH
- Practical Sessions (Calculations) group work on calculation
- Re-cap of day two
- Review of Forms, SOPs and Checklists
- Facility Assessment Looking at specific Domains (HCW, Sanitation and Water Supply)
- Group Work and Reporting, Questions and Answers
- Recommendations for improvements
- closing

**CHOs**

In the opening remarks, the County Health Officers (CHOs) welcomed participants and acknowledged that waste management and disposal have become major problems in the health facilities. They made specific references to waste generated during the EVD and COVID 19 epidemics. They said that separating waste according to the 3 bins system is helping to improve and strengthened the prevention and spread of diseases.

The counties CHOs also said that all WASH and IPC Focal Persons should intensify their work as they get back to those facilities they represent. Speaking to the EHTs, the CHO encouraged them to visit every facility making sure that what they learned will be maximized in their professional areas, and that they design, process and package all their thoughts to the end users in a refined way, and intensify their actions in their line of duties.

**Jhpiego**

In welcoming remarks, Blossom Hodges, welcomed all the participants on behalf of her organization and said, the guidelines are being rolled-out in several other counties and made it clear that they have always been supportive to wastes management in Liberia and will continue when necessary.
Nadoris of US- CDC in remarks welcomed participants and admonished them to read the guidelines to ensure implementations of wastes management policies and regulations. Nadoris further emphasized US-CDC willingness to support waste management and WASH-FIT in healthcare facilities across Liberia.

**NPHIL**

On behalves of NPHIL, Mr. Dahnlo, Mr. Henah and Mr. Kortimai speaking at various venues welcomed all of the participants and encouraged them to take the training seriously. They stressed that waste management is crucial in the healthcare delivery system and if not managed well, the health of the workforce could be endangered as well as the patients, visitors and even the communities.
Evolutions

Bassa Venue Pre- Test

Bassa Post Test


**Recommendations:**

- That US-CDC supports the revision of the liquid portion of the healthcare waste management guidelines due to limited information on liquid waste;
- That US-CDC through Jhpiego supports the revision of the training modules to correlate with the updated guidelines;
- That additional copies of the guidelines and SOPs be printed by US-CDC to enable every healthcare facility receives copies;
- That US-CDC supports NPHIL/DEOH to get and supply waste management supplies (bins, waste bags, wheelbarrow, weighing scale, mops, brooms etc) to health facilities;
- That NPHIL gives support to participants to carryout in-service training at their facilities;
- That the WASH-FIT/IPC Committee be given necessary materials and supplies by National (NPHIL and MoH) &Partners;
- That facilities staff routinely revisit and update plan as required, share reports with all level of the health system and
- That staff promotes routine WASH-FIT in HCF meetings with team and
community people, including education, awareness and involvement for sustainability.

- That the CHTs work with partners and national leadership to support the rehabilitation of waste management infrastructures (incinerators, autoclaves, etc.) and supply needed consumables (color-coded bins, sharp boxes, waste weighing scale, bio-hazard bags, ledgers etc.) at the health facilities and.
- That participants be awarded with certificate at the end of the training by National and Partners
- That the waste weighing scale be given to all health facilities in Liberia
- That this training be conducted at least 2 times a year

**Conclusion**

During a response to disease outbreaks, strategic intervention is key for health system strengthening, especially for the health system of Liberia that continues to experience several public health setbacks (the Ebla Epidemic of 2013-2015 and the COVID-19 Pandemic which started 2019-present).

The dissemination of technical guidelines, standard operating procedures, job aids, waste weighing scales, bio-hazard bags and other materials will strengthen WASH and IPC in healthcare facilities. Copies of the Healthcare Waste Management Guidelines were distributed, SOPs and job aids were supplied. The orientation had been conducted in all 15 counties in Liberia
PHOTOS

Group work in Montserrado County
Team Presents Walk through assessment Report