



ASLM
AFRICAN SOCIETY FOR LABORATORY MEDICINE

Addressing Laboratory waste through a community of practice (LabCoP)

Collins Otieno Odhiambo

April 2026

The Laboratory Systems Strengthening Community of Practice (LabCoP)

LabCoP Partners

- WHO
- Africa CDC
- WHO-AFRO
- CDC ILB
- UNITAID
- USAID
- CHAI
- Global Fund
- ITPC
- OGAC
- MSF

LabCoP country teams

- Designated by the MoH
- Central level
- Include:
 - laboratory (at large)
 - clinicians
 - civil society
 - Implementing partners

2017



2026



Gates
Foundation

Identify and share best practices for scaling up HIV viral load and strengthening laboratory systems

Our Theory of Action

LabCoP THEORY OF ACTION

AIM: TO FACILITATE THE IMPROVEMENT OF LABORATORY SYSTEM FUNCTIONS AND ACCELERATE THE SCALE-UP OF DIAGNOSTICS FOR IMPROVED PATIENT OUTCOMES



Gaps in laboratory systems underlying VL testing

1	2	3	4	Additional explanation whenever applicable	
1.1	In this a national strategy/procedure to increase demand of specimen to newly introduced lab tests by clinicians & clients at health-care facilities (HCFs)	No standard operating procedure (SOP)/strategy to increase demand	SOP/strategy developed, but not in use for updating, clients, clinicians & stakeholders	SOP/strategy are used, and clinicians and clients actively seek such tests	Most of facilities continuously monitor & evaluate test demands by clinicians and clients, and take actions to improve outcomes
1.2	In this a national awareness creation initiative on PLHIV about VLT accessibility and its benefit?	PLHIV unaware of the access to VLT and do not know its benefit	PLHIV informed about the access to VLT but do not know its benefit	Education/ awareness creation provided, and PLHIV actively seek VLT	>75% of health workers management teams review data, work with stakeholders, and act to improve demand by clients/PLHIV

In 2019 we identify 4 priority areas

- Demand creation
- Network optimization
- Result utilization
- Waste management

2019	Country 1	Country 2	Country 3	Country 4	Country 5	Country 6	Country 7	Country 8	Country 9	Country 10	Country 11
Demand creation for HIV Testing											
Specimen collection and processing											
Sample transportation											
HIV VL Testing											
Waste Management and Biosafety											
Supply Chain and Equipment Maint											
Result utilization											
Leadership & management											



Absence of attribute	Foundational level	Managerial level	Advanced level
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Survey on WM policies, regulation, treatment and practices in 5 PEPFAR countries

Type of waste collected	# of countries
a. Chemical waste	6
b. Cytotoxic waste	3
c. Infectious waste	6
c. Non-hazardous or general waste	6
d. pathological waste	3
e. pharmaceutical waste	3
f. radioactive waste	2
g. sharps waste	6

Availability of Treatment technology for hazardous waste	# of countries
a. Burn pits	1
b. Chemical Treatment (e.g. use of chemicals)	2
c. Dry-heat treatment (e.g. use of hot-air ovens)	
d. Encapsulation	1
f. Microwave treatment	
g. Steam Treatment	4
h. Thermal treatment	5

Current national regulations and policies on waste disposal	# of countries
a. Yes	4
b. No	1
Regulatory bodies that enforce these national regulation	
a. Yes	4
b. No	1

Current disposal of liquid chemical waste	# of countries
a. Encapsulation	1
b. Poured down the sink	4
c. Thermal treatment (e.g. incineration)	
d. Don't know	
e. Not applicable	

Country Challenges and Barriers to Safe waste disposal

- Lack of country specific WM regulations and guidelines
- Limited financial and human resources
- Lack of technological and infrastructural advancement
- Shortage of local WM technical expertise
- Lack of awareness about the dangers of hazardous waste and its effect on public health and the environment

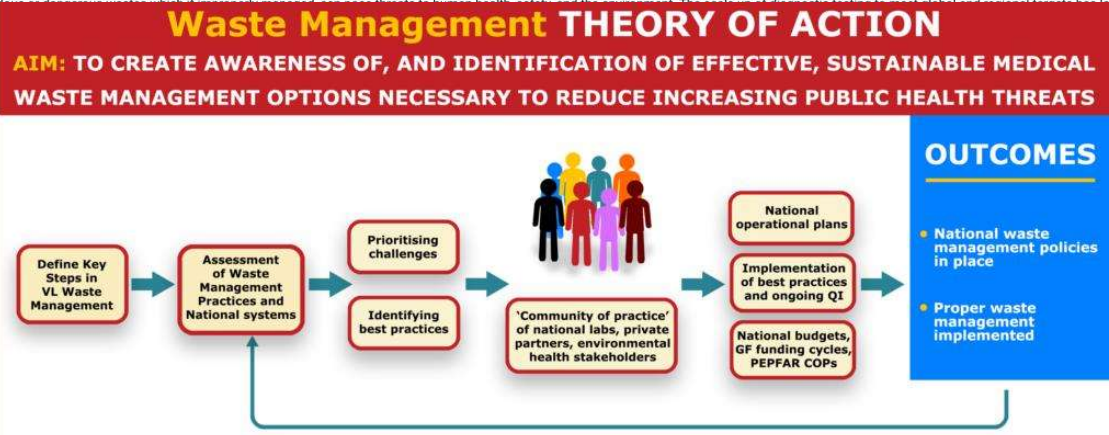


Addressing the situation



The Waste Management sub-community of practice (Waste Mgt sub-CoP) is a dedicated segment of the greater LabCoP. The Waste Mgt sub-CoP gathers country teams (made up of laboratorians, clinicians, and representatives from ministries of health and stakeholders (implementing partners, regulatory and technical agencies) to find concrete ways to improve and increase adoption and implementation of safer, practical, and sustainable methods/technologies for the disposal of waste generated by testing for COVID-19, HIV, tuberculosis (TB), malaria and other key diseases.

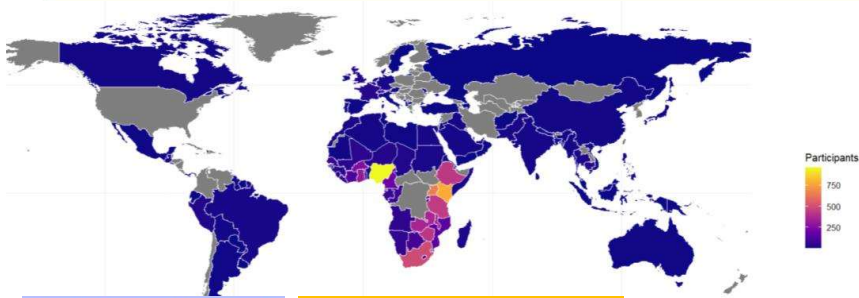
Safe health-care waste management is fundamental for the provision of quality, people-centered care, protecting patient and staff safety and safeguarding the environment. Diagnostic laboratories regularly generate hazardous waste that can be transmitted to exponential



Awareness of, and identification of effective, sustainable medical waste management options is necessary to reduce this increasing public health threat

Countries require assistance on waste management (WM) methods for the disposal of waste generated during HIV VL testing

LabCoP Unique processes approach for sharing and creating knowledge



**WASTE MANAGEMENT TRAINING SERIES
SESSION 1 – MARCH 2019**

Topic: Waste Management at the Country Level:
Responses to the November 2018 LabCoP
Waste Management Questionnaire

Date: Thursday, 28 March 2019
Time: 15:00-16:00 EAST / 9:30 AM EST
Location: Zoom - (Link inserted)

- >1500 participants
- >Median >400/session
- 90 countries



In collaboration with the African Society for Laboratory Medicine (ASLM) and the LabCoP community, the CDC International Laboratory Branch (ILB) is excited to offer a short-term healthcare and laboratory waste management distance learning opportunity. Over the next six months, we will cover critical issues of laboratory/healthcare WWM with particular focus on oral fluid (OF) waste products.

During the monthly one-hour ZOOM/ECHO session, you will learn about key concerns that are all face when dealing with healthcare waste - its sources, the hazards, and potential strategies for dealing with this global issue.

The March session will cover:

- A review of essential practices based on questionnaire responses
- An introduction to the WHO Bluebook in line with the questionnaire.

This includes types of biohazard waste generated, collected, transported and disposed of; treatment systems available in country, and disposal of liquid chemical waste (LC) at PPE/AB supported facilities.



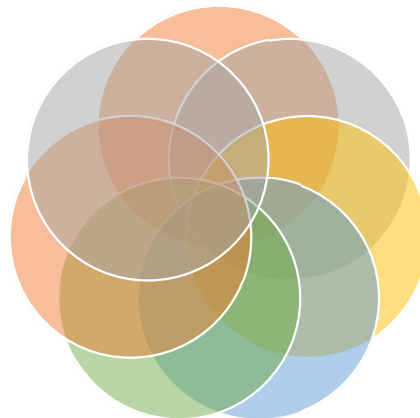
Webinars ECHO sessions

Supportive technical assistance in country

South to South collaborations

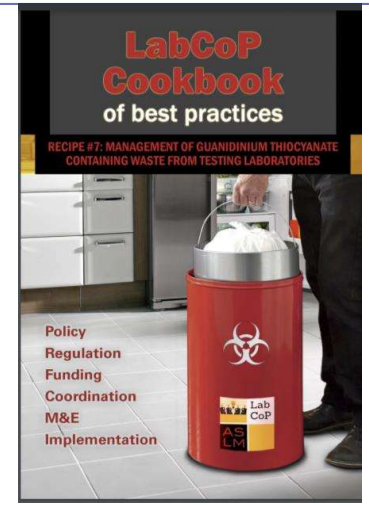
Standardized assessments

Evidence based work plans → funding



Knowledge creation and sharing → LabCoP recipes, guidance, publications, knowledge hub

Advocacy (country visits)



Journal of Hazardous Materials Letters 2 (2021) 100030

Contents lists available at ScienceDirect

Journal of Hazardous Materials Letters

journal homepage: www.elsevier.com/locate/jhazmat

Managing laboratory waste from HIV-related molecular testing: Lessons learned from African countries

Collins Otieno Odhiambo^{a,*}, Anafi Mataka^a, Getachew Kassa^b, Pascale Ondoa^{a,c}

From the journal: **Lab on a Chip**

Engineering a sustainable future for point-of-care diagnostics and single-use microfluidic devices

Alfredo Edwards Ojeda^a, Zibhusiso Ndlovu^b, Elodie Sollier^c, Collins Otieno^d, Pascale Ondoa^e, Alice Street^f and Malwenn Mersaouy-Kerbois^{g,*}

Improvement in Laboratory Systems underlying VL testing

2019	Country 1	Country 2	Country 3	Country 4	Country 5	Country 6	Country 7	Country 8	Country 9	Country 10	Country 11
Demand creation for HIV Testing	Advanced	Advanced	Advanced	Advanced	Managerial	Foundational	Foundational	Managerial	Managerial	Foundational	Absence
Specimen collection and processing	Advanced	Managerial	Managerial	Managerial	Advanced	Foundational	Managerial	Foundational	Foundational	Absence	Foundational
Sample transportation	Advanced	Managerial	Managerial	Foundational	Foundational	Managerial	Absence	Managerial	Absence	Absence	Absence
HIV VL Testing	Advanced	Managerial	Advanced	Managerial	Managerial	Managerial	Foundational	Absence	Foundational	Foundational	Foundational
Waste Management and Biosafety	Advanced	Managerial	Foundational	Foundational	Absence	Foundational	Foundational	Foundational	Absence	Foundational	Absence
Supply Chain and Equipment Maint	Managerial	Managerial	Foundational	Managerial	Foundational	Foundational	Foundational	Foundational	Managerial	Foundational	Foundational
Result utilization	Advanced	Managerial	Managerial	Managerial	Managerial	Foundational	Foundational	Foundational	Managerial	Foundational	Absence
Leadership & management	Advanced	Advanced	Managerial	Advanced	Advanced	Foundational	Advanced	Managerial	Advanced	Managerial	Foundational

2025	South Africa	Uganda	Tanzania	Zambia	Kenya	Ethiopia	Congo (DRC)	Sierra Leone	South Sudan	Zimbabwe	Malawi
Demand creation for HIV Testing	Advanced	Advanced	Advanced	Advanced	Managerial	Advanced	Managerial	Managerial	Managerial	Managerial	Managerial
Specimen collection and processing	Advanced	Managerial	Advanced	Advanced	Managerial	Managerial	Foundational	Managerial	Foundational	Managerial	Managerial
Sample transportation	Advanced	Managerial	Managerial	Managerial	Foundational	Managerial	Absence	Foundational	Managerial	Foundational	Managerial
HIV VL Testing	Advanced	Managerial	Managerial	Managerial	Advanced	Managerial	Foundational	Foundational	Foundational	Advanced	Managerial
Waste Management and Biosafety	Advanced	Advanced	Managerial	Foundational	Foundational	Managerial	Foundational	Managerial	Managerial	Advanced	Managerial
Supply Chain and Equipment Maint	Managerial	Foundational	Foundational	Managerial	Foundational	Managerial	Foundational	Foundational	Managerial	Foundational	Managerial
Result utilization	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial	Managerial	Advanced	Managerial
Leadership & management	Advanced	Advanced	Advanced	Advanced	Managerial	Advanced	Advanced	Managerial	Advanced	Advanced	Advanced

Absence of attribute	Foundational level	Managerial level	Advanced level
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Thank you

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