SESSION CHAT QUESTIONS AND RESPONSES

FRAMEWORK FOR THE SELECTION, IMPLEMENTATION, AND FINANCING OF LABORATORY WASTE MANAGEMENT

14th April 2026

#	Question	Asker Name	Answer
1	What made these assessments to be based on HIV viral load and not any other laboratory assay	Dawn Besa Chabala	The initial impetus for HIV viral load waste was focused on the managemen of guanidine thiocyanate, the common lysing agent for several platforms, that if mixed with bleach will generate hydrogen cyanide gas.
2	Are there ways/methods to detect environmental pollution caused by improper management of laboratory wastes?	Jeremiah Otieno	For incineration , one can monitor air pollutants such as particulate material (PM) which is essentail dust released from poor combusition as well as heavy metals, dioxins and furans (from burning chlorinated plastics). Water can be assessed as well for metals, pH, Biological and Chemical Oxygen Demand (BOD and COD respectively) and for toxicty to fish (AMES test). Forever Chemicals such as PFAS and Teflon as well as particulates from plastics breaking down can be measured in water and soil around dumps and landfills
3	In Africa, there are many reputable private diagnostic laboratories complementing the public/government laboratories in many of our countries. My questions are: (1) How are the private Labs carried along in the activities/programmes of the LabCoP. (2) With respect to waste generation and managment, both public and private Labs need to involved and monitored to have an efficient waste management system. How is this being achieved?	Abraham Alabi	**1)** Private laboratories are engaged through their inclusion in national country teams participating in LabCoP activities. As part of this representation, they are expected to benefit from standardized guidelines, shared training programmes, and capacity-building initiatives that align practices across both public and private sectors. However, while many countries have already incorporated private laboratories into national laboratory mapping exercises, their level of active participation in LabCoP platforms remains variable. This highlights the need for more deliberate strategies to strengthen their engagement, ensure consistent inclusion in knowledge-sharing platforms, and enhance their contribution to national laboratory system strengthening efforts. **2)** in principle, efficiency in waste management is achieved through the enforcement of uniform national regulations that apply to both public and private laboratories. These are supported by regular monitoring, audits, and mandatory reporting mechanisms to ensure compliance and accountability. In practice, implementation varies across countries. A critical success factor is the leadership role of the
4	Please clarify the explanation on disposal of laboratory liquid and viral load waste management.	Eugene Quoikapor	We suggest reviewing the GTC guidance doucment released with our presentation at the ASLM web site for details. We can also be contact for questions.

5	Edward: Please confirm that the incinerator operated with Charcoal mentioned in the presentation was temperature monitored and reached above 1100 degrees centigrade to destroy GTC containing waste	julius mutagubya	Charcoal dust, as well as sawdust are mixed with GTC liquid as it is not a flammable liquid. One needs a matrix for the liquid to absorb to. It cannot be wet. The combusition source (disesel fuel) / burners as well as other combustible waste must be mixed with either dust form for them to ignite and be destroyed.
6	What was the best option for GTC waste management in cartridges?	julius mutagubya	We seen incineration as well as some smaller technologies which we did not have a chance to present today. We will obtain your email and share some of those.
7	How can one get access to the document on "Framework for the Selection, Implementation, and Financing of Strategies for thr management of laboratory waste"	Chima Ihemeje	https://aslm.org/resource/framework-for-the-selection-implementation-and-financing-of-strategies-for-the-management-and-treatment-of-laboratory-waste/
8	What is your opinion on the view that restrictions be made on distribution of laboratory consumables that have the potential to cause environmental pollution that are detrimental to human life be supplied only to facilities that have the capacity to treat such wastes?	Anonymous Attendee	Interesting idea - This sounds like Extended Producer Responsibility (EPR). Countries should ensure all facilities generating any waste are equipped to store waste and when possible treat on site. Alternatives are to collect waste and bring to a central processing facility as some countries have established.
9	Many thanks to all the presenters and speciall Ed and Viktor. We will start the pilot study for GTC by the end of April. We are still wating for the reagents. After the pilot study, we will train 50 Lab technicians dealing with GTC. Thank for the training materials we got in Noguchi, Accra Prof. Kouadio kouamé from Pasteur Institute	Kouame Kouadio	Great to hear from you Prof. Kouadio! Thank you!
10	How can we transition from centralized incineration models to scalable, point-of-generation titration and precipitation methods without compromising safety or regulatory compliance? Furthermore how can lab technicians integrate AI to drive change towards minimisation of lab waste? "Non-burn technology and on-site" are seen as more sustainable approaches/strategies in waste management, How can I advice our National Laboratory Service(NHLS) which preferred technology to use and why?	Tshepo Mokhadi	Great questions Tshepo…I see you are thinking about the future. I believe we need a deep dive into waste management with laboratorians / lab managers / procurement staff / government staff. They need to understand the life cycle of waste management..actually materials management. As there are centers of excellence for biosafety/biosecurity, we need a center of excellence for waste management that provides hands on exposure to technologies..so one can truly be immersed in all facets of waste/materials management.
11	I failed to get the concept of vissible and invissible waste. Please reexplain the difference between the two	Agness Nhidza	Most laboratory technologists are never involved in actually operating treatment technologies such as incinerators (the most common treatment method). The visible waste is what you see being generated in the lab. Once gone, it is out of site/out of mind - invisible to staff. There are many challenges when treating waste. Staff could assist in reducing the amount of waste being generated by proper segregation so as not to over tax any treatment process.
12	Wouldn't it be a good practice for manufacturers to provide waste handling guidelines for their products to their customers? This would ensure standard practices and saving the environment, thanks.	Martin Katuramu	Great idea Martin! SDS's often state follow your local or national rules on treatment and disposal. It would be good to have input from vendors - possibly beyond to opportunities for recycling.

13	In your experience in those countries, have you found functioning and well-sustained incinerators that serve the intended purpose?	Andrea Gardellin	Most incinerators we have seen lack appropriate loading systems as well as operating monitoring systems. It is often the case as well there is lack of maintenance and staff keep changing creating a scenario where operators do not have much experience. Where investment / funds are available operating expenses, one finds better run equipment - City of Windhoek centralized plant comes to mind.
14	In Africa, away from issues around effective management of Health care wastes, we have a big challenge with maintenance of equipment including incinerators meant to effectively handle some of these waste streams. GTC-containing wastes require very high temperatrue incinerators for proper treatment but we continue the face serious challenges with breakdown of the limited appropriate incinerators. Some labs finally turn to burning in local furnaces instead of incineartion due to lack of systems to monitor incineration temperatures. Did you observe this during your field visits in other countries? What can you advice some of us who have bought Incinis inceratiors but which are all breaken down due to lack of maintenance and also heavy running costs	Awandem Ernest Forku	We have seen cement kilns processing liquid waste - 10 and 20 liter containers but there is not only cost of treatment but also transportation logistics. Your concerns on OPEX - operating cost has been falling on deaf ears for too long. A targeted effort must be made to impress upon governments OPEX is critical to not just waste management but the entire laboratory testing cascade. We have seen some incinerators at coal mines used to process liquid waste. Incinerator vendors and procurement staff need to better understand the waste streams to be processed. Ask an incinerator vendor how to burn a non flammable liquid!
15	Not only is waste a major headache, but also 'new diagnostic platforms' face challenges when companies stop producing reagents, instruments malfunction, or algorithms become outdated. Are there any specific policies or documented experiences addressing this?	samuel Birru	Great point Samuel. There are many presentations and discussions and documents such as SOPS in some countries. We will obtain your email and share.
16	This is a very interesting topic and it need huge investment to set up waste management. More importantly is the willingness of the government to lead with policy and enforce the policy so that private organization can invest in the management of medical waste. I see a good example of one in Durban, South Africa, Makhathini, but there is a strong government support. What can other African countries do to have a serious legislation in medical laboratory waste management?	Theophilus Faruna	Good point Theophilus - governments must enforce the regulations it develops. Facilities must also fund the maintenance of their equipment - both private and public sector facilities.
17	Thank you for considering the financing of waste management in your presentation. For sure, laboratory staff and authorities are interested in proper waste management. Will you advocate for a separate budget line for waste management in view of its importance to our health and environment	Abraham Alabi	Excellent Point Dr. Alabi. Waste management is often an after thought. Yes - this shoud be a line item….that is actually funded!
18	Which specific bacteria worked best at degrading thiocyanate? which areas can the histo-chemical waste be used at upon their recycling?	Joanne Ogare	Thiobacillus species is a common bacteria but there are many. In histology, solvent recycling units - distillation devices can be used for alcohols, xylene, acetone and formalin.
19	How can other countries like Cameroon join this initiative? We are still struggling with this issue of managing GTC-containing wastes from molecular tests	Awandem Ernest Forku	Contact ASLM - Dr. Collins Otieno.

20	A big thank you to all the presenters,today.I am interested in knowing what financing or grants are available specifically for addressing biological waste management systems particularly for research institutions,Mega labs and high throput medical waste facilities and how they can be accessed.	Juliet Joseph	Thanks you Juliet. Financing has to be…chased. You can try connecting with Global Fund. WHO, Africa CDC, possibly BioPrevail. In the past USAID / CDC / PEPFAR were funding these projects. We will work on listing more funding groups and opportunities.
21	We currently have two high throughput Roche Cobas equipment processing VL and EID specimens. We have a number of jerry cans in stock for disposal. What is the best way to dispose of in resource limited countries?	Ousman Sorie Conteh	Ousman - where are you located? Contact us via email - ekrisiunas@gmail.com
22	Have we been able to do enviromental impact assessment in the various disposal method to ascertain which is more environmental friendly and safe	Chima Ihemeje	We have not done any specific/ targeted EIAs for this project although we have considered it for each method. Fluid injection of the GTC liquid is common in high income countries in centralized hazardous waste incineration plants. They are costly to operate. Bioremediation may be the least impactful.
23	If we expect manufacturers to be responsible for waste generation, how best can we loop them in sharing the waste management costs.	Agness Nhidza	Good question - we need to engage with them more. Roche has certainly been active with the WCAF tool. I believe more round table discussons as well as considering Extended Producer Responsibility.
24	Est-ce qu'il y'a une procédure internationnalement reconnu sur la gestion de ce GDC	Adama SIMPORE	Les déchets GTC seraient normalement gérés comme des déchets chimiques dangereux, mais ils ne rentrent pas dans les classifications normales des produits chimiques dangereux. Ce sont des expériences anecdotiques qui ont conduit au partage d'informations selon lesquelles le produit chimique est dangereux et ne doit pas être mélangé avec de l'eau de Javel - il générerait du cyanure d'hydrogène. GTC waste would normally be managed as a hazardous chemical waste but it does not fit into the normal classifications for hazardous chemicals. It has been anecdotal experiences that has led the sharing of information that the chemical is hazardous and should not be mixed with bleach - it would generate hydrogen cyanide gas.
25	Si disponible, prière nous en partager!	Adama SIMPORE	Je pense que notre document d'orientation ASLM GTC est une très bonne référence. https://aslm.org/resource/practical-considerations-for-managing-laboratory-guanidinium-thiocyanate-gtc-containing-waste-from-hiv-viral-load-and-early-infant-diagnosis-platforms/
26	Do you still need to treat the liquid waste and sawdust mixture before burning? and if yes what do you use for the treatment	Ogarega Daudu	No pretreatment would be needed. One can spray liquid into an incienrator - fluid injection. Not all incinerators are designed for this. The sawdust would have been destroyed/burnt to an ash..the liquid voatilized. One has to add sawdust in small batches and mixed well so the sawdust is damp and not wet. We have seen 20 liter batches to as much as 60 liters...well mixed

27	I saw the chart capturing implementation of GTC containing waste management and disposal in different countries. Here in Nigeria, beyond SOP/Policy, we do the sawdust and incineration at 1000 degrees processes	Abdullahi Wase	Thanks for sharing!