Consultation Report

Towards a coordinated, multi-sectoral lead management approach in the Latin America and Caribbean region

Thursday, 30 October 2025

15:00 - 17:00 CET

1. Introduction

The United Nations Environment Programme (UNEP), with the support of the European Union, facilitated a consultation on lead sources and management in countries in Latin America and the Caribbean (LAC), in collaboration with the Global Alliance on Health and Pollution (GAHP).

This initiative comes at a crucial juncture, as previous international efforts around lead exposure reduction primarily targeted single sources of lead contamination, such as leaded petrol and paint. However, a growing body of research highlights the wide variety of sources impacting lead exposure, particularly in developing countries, encompassing various industries and consumer products.

Recognizing that policy and regulatory approaches to addressing sources of lead exposure may vary, adopting a comprehensive look at lead management policies across sectors in developing countries holds immense promise. By embracing a holistic perspective, it becomes feasible to discern the primary drivers of lead exposure with greater clarity, increase awareness among policymakers, and pave the way for the development of cohesive, enduring mitigation strategies, action plans, and other relevant instruments. Moreover, addressing lead management on a multi-sectoral basis empowers stakeholders to forge vital connections between lead mitigation efforts and broader development objectives or societal priorities, thereby enhancing the mobilization of resources towards this critical cause.

Through promoting collaborative action and a multifaceted approach, this consultation aimed to catalyze impactful change in safeguarding public health and environmental well-being across the LAC region.

The aim of this consultation was to explore the feasibility of a coordinated, multi-sectoral approach by national governments in LAC to address sources of lead exposure.

Objectives

The consultation aimed to elicit feedback on current efforts to manage sources of lead exposure and to explore the feasibility of a coordinated, multi-sectoral approach by national governments in LAC to manage sources of lead exposure.

- To facilitate the exchange of information among LAC countries on existing lead management activities and needs;
- To understand sources of lead exposure and applicable regulations identified at the country or regional level;
- To present examples of coordinated multi-sectoral lead management approaches, including country-level efforts;
- To discuss current barriers and opportunities for lead exposure reduction action, including coordinated and multi-sectoral lead management approaches at the national or regional level.

The following discussion questions were provided ahead of the consultation to the panelists and were shared with the audience during the event:

1. What strategies have been successful in identifying and addressing sources of lead exposure in LAC countries? This could be either high concentration sources (such as industrial hotspots), or more diffuse sources of exposure (that may be lower concentration, but more ubiquitous). What sort of monitoring mechanisms are required and what are the current challenges?

2. How can LAC countries leverage existing lead management activities to enhance collaboration and knowledge sharing nationally and across the region?

3. What practical steps can be taken to overcome barriers to implementing a coordinated, multi-sectoral approach to lead management, and how can stakeholders collaborate to address these challenges effectively? What are the roles of various stakeholder groups (government, NGOs, academia, industry, local communities)?

4. How can stakeholders in LAC countries align their efforts in lead management with broader development goals and societal priorities, and what strategies can be implemented to improve the mobilization of resources for this purpose?

5. How can the international community support LAC countries in developing and implementing comprehensive and multi-sectoral lead management strategies that align with broader development objectives and priorities?

2. Welcome Session

A welcome message was delivered by Ms. Mihaela Paun, Officer-in-Charge, Head of the Knowledge and Risk Unit of UNEP's Chemicals and Health Branch. Ms. Paun welcomed panelists and participants and expressed his gratitude for their contribution to this initiative.

Ms. Paun, explained that the aim of the consultation was to explore the feasibility of a coordinated, multi-sectoral approach by national governments in the Latin America and Caribbean (LAC) region to manage sources of lead exposure. Ms. Paun noted that UNEP hoped

to learn from the experiences shared during the event and to further refine the discussions together with participants.

She provided an overview of the structure of the consultation, explaining that the session would begin with three introductory presentations designed to set the scene for this year's consultation. These presentations would be followed by two panel discussions: the first dedicated to government representatives from the LAC region, who would share their experiences with lead management at the national level; and the second featuring representatives from international organizations and civil society, who would discuss how the global community supports or can support coordinated lead management at both national and global levels.

3. Setting the Scene

3.1. Overview of Lead Pollution Issues in Latin America and the Caribbean , Ms. Mihaela Paun, Officer-in-Charge, Head of Knowledge and Risk Unit, Chemicals and Health Branch, United Nations Environment Programme

Ms. Paun, United Nations Environment Programme (UNEP), delivered an introductory presentation providing an overview of lead exposure issues in the Latin America and Caribbean (LAC) region. She began by recalling that globally, one in three children has blood lead levels exceeding 5 micrograms per deciliter, and in the LAC region, the average level is approximately 3.6 micrograms per deciliter. She highlighted that from a **public health** and **scientific** perspective, **no level of lead exposure is considered safe**. Even blood lead levels **below 5 µg/dL** can cause measurable harm, especially in children — including reduced IQ, learning difficulties, and developmental issues, with significant socio-economic impacts due to IQ loss and related decreases in GDP, as well as an estimated 90,000 deaths annually in the region, based on 2021 data.

To frame the discussion, Ms. Paun outlined the main sectors contributing to lead exposure. She began with **energy and transportation**, noting the 2021 global success of eliminating leaded petrol, which resulted in a measurable decline in blood lead levels worldwide. However, she emphasized that legacy contamination persists in soil and that the majority of lead use, approximately 86% globally, is now concentrated in lead-acid batteries. While these batteries are highly recyclable, she stressed the importance of strong environmental controls, as informal or substandard recycling operations continue to pose major risks.

In the **mining and smelting sector**, Ms. Paun explained that lead exposure arises both from primary mining and recycling activities. Improper smelting practices can release lead into the air and produce hazardous solid waste, with direct effects on workers and surrounding communities.

Turning to the **electronics sector**, she highlighted the growing issue of e-waste management. Informal recycling and improper disposal of electronic goods often release toxic components, including lead, leading to occupational and community-level risks.

In **infrastructure and construction**, Ms. Paun discussed the continued use of lead in paint. She noted that only 48% of countries worldwide have enacted laws limiting lead content in paint to a maximum of 90 parts per million, despite ongoing global efforts led by the Global Alliance to Eliminate Lead Paint, a joint initiative of UNEP and WHO.

Addressing **drinking water**, she reported that data for the region remain scarce, though studies indicate potential contamination from industrial activities and water distribution infrastructure. Approximately 13% of non-targeted studies in the LAC region were found to exceed WHO guideline values.

Regarding **food and agriculture**, Ms. Paun cited limited regional data but noted concerns about soil contamination from industrial sources, informal recycling, and mining activities. She also mentioned lead exposure associated with certain local practices, such as the use of lead in hunting ammunition and fishing weights in Amazonian communities, and the presence of lead in specific food products like candies in Mexico.

Finally, in **consumer products**, she drew attention to elevated lead levels in ceramic and metal cookware, as well as in traditional glazed ceramics. She noted that these items have been linked to elevated blood lead levels in certain populations, such as in Mexico, and suggested that further data collection and monitoring are needed.

Ms. Paun concluded by emphasizing that lead exposure in the LAC region stems from diverse and overlapping sources, varying widely by geography and socioeconomic context. This complexity, she underscored, demonstrates the need for a coordinated, multi-sectoral approach to lead management that integrates health, environmental, and economic perspectives.

3.2. Country-level whole of government examples, Mr. Elmer Quichiz Romero, Hospital Solid Waste Coordinator, Directorate General of Environmental Health and Food Safety, Ministry of Health, Peru

Mr. Elmer Quichiz Romero, Ministry of Health of Peru, delivered a presentation on the country's experience in regulating lead in paints and other consumer products. He began by extending warm greetings on behalf of the Minister of Health of Peru, Dr. Luis Quiróz Avilés, and expressed appreciation to UNEP, the organizers, and participants for the opportunity to share Peru's progress during such important event.

Mr. Quichiz Romero explained that Peru's efforts to control lead and other heavy metals in paints date back to 2004, when a national law was enacted to regulate the content of these substances in toys and school supplies. This law established a maximum limit of 90 parts per million (ppm) of lead in such products, marking the start of long-standing national engagement on this issue. Since then, the Ministry of Health has held regular meetings with civil society, industry representatives, and international partners, while maintaining laboratory-based monitoring and testing of toys for lead content as part of its ongoing sanitary surveillance system.

He described how Peru has continued public awareness efforts through campaigns tied to major events such as Halloween, during which authorities have detected lead in painted masks and decorative items. Despite challenges posed by the COVID-19 pandemic, Peru maintained its prevention activities, including public communication campaigns and the promotion of lead-free paint. These efforts have also been symbolized through the creation of public murals painted with lead-free paints.

Mr. Quichiz Romero emphasized the importance of international cooperation in advancing Peru's initiatives. He highlighted partnerships with organizations such as Vital Strategies, which, through an agreement with the Ministry of Health, provided portable equipment to identify lead in paint, enabling pilot interventions in schools and health facilities. He also noted active collaboration with other partners, including UNICEF, which has supported awareness and outreach activities.

Another partner is the LEAD EXPOSURE ELIMINATION PROJECT, with whom the Peruvian Ministry of Health has signed a MEMORANDUM OF UNDERSTANDING "Study and collaboration in the implementation of standards on lead in paint in Peru" signed on July 16, 2025 for 2 years. They are developing activities for the implementation of the lead in paint regulations, conducting diagnostic studies on the level of lead in paints marketed in Peru and strengthening the DIGESA laboratory on lead analysis methodology in paint.

Building on this foundation, Peru adopted a new national law in 2021, during the pandemic, regulating the lead content in paints and coating materials. The law establishes a legal limit of 90 ppm and will officially enter into force in December 2025. Furthermore, the Peruvian Congress declared the last week of October as the National Lead Poisoning Prevention Week, aligning national awareness efforts with international observances. Mr. Quichiz Romero underscored this milestone as a sign of growing engagement from legislators, civil society, and local authorities in the elimination of lead.

He shared examples of recent awareness activities carried out during the 2024 and 2025 National Lead Poisoning Prevention Weeks. In collaboration with schools, students participated in educational sessions about the health effects of lead exposure and helped paint murals using certified lead-free paints. One of these murals, created by students, featured the slogan "Más colores y menos plomo" ("More colors, less lead"), which Mr. Quichiz Romero described as a powerful message reflecting children's understanding and commitment to the cause.

He also highlighted a major 2025 awareness event held in Ollantaytambo, Cusco, where local authorities, teachers, parents, and children participated in the painting of a mural, produced by a local artist using lead-free paint, facing the historic ruins of the city. This activity symbolized the expansion of national awareness beyond Lima and into local communities, reinforcing the role of municipalities, schools, and media in sustaining long-term change.

This activity was organized and coordinated by the ONG Grupo GEA, an important partner in the country with whom activities and activations for the prevention of lead contamination in paints in Peru have been carried out for several years.

Mr. Quichiz Romero concluded by reaffirming Peru's commitment to the elimination of lead exposure, particularly in paints, and to the protection of children's health. He emphasized that children are not only the future, but the present of the country, and therefore must be safeguarded from the dangers of lead.

3.3. Introducing the new Regional Action Plan - strengthening regional cooperation on lead and chemicals management in LAC, Ms. Christina Steinhart, Chemicals and Pollution Action Programme, UNEP LAC Office

Ms. Christina Steinhart, United Nations Environment Programme (UNEP) Regional Office for Latin America and Caribbean, welcomed participants and thanked the organizers for the opportunity to speak at the regional consultation on lead management. She delivered her remarks on behalf of the UNEP Regional Coordinator on Chemicals and Waste, Mr. Jordi Pon, and introduced the new Regional Action Plan on Cooperation on Chemicals and Waste Management for 2026–2029, which had been adopted earlier in the month during the 24th Forum of Ministers of Environment of Latin America and the Caribbean, held in Lima, Peru.

Ms. Steinhart explained that the Action Plan was developed under the Intergovernmental Network on Chemicals and Waste and represents a collective regional commitment to strengthen cooperation, support national legal and institutional frameworks, and advance the circular economy for sound chemicals and waste management. Among the six priority areas identified, one focuses specifically on mercury and lead, recognizing the serious risks these substances pose to human health and the environment.

The plan calls for actions to reduce and eliminate lead exposure from key sources such as the informal recycling of used lead-acid batteries and the phase-out of lead in paints and other products. It also promotes the application of best available techniques and best environmental practices for the safe handling of lead-contaminated materials and hazardous waste, as well as the strengthening of systems for the collection, storage, and treatment of such wastes.

Building on existing regional cooperation, the Intergovernmental Network will implement a series of follow-up activities under the new plan, including a regional webinar on lead exposure reduction, a policy brief on effective enforcement strategies, and a technical note on the management of used lead-acid batteries at end-of-life. These efforts will be supported by ongoing capacity-building and information exchange among countries in the region.

Ms. Steinhart concluded by emphasizing that this new Regional Action Plan provides a strategic framework to coordinate action on lead and other hazardous substances, directly supporting

the goals of the present consultation to promote a multi-sectoral and coordinated approach to lead management.

4. Panel discussion – Country Representatives

Ms. Paun introduced the first of two panel discussions, where three country representatives shared their experiences with lead management approaches and challenges at the country level in the LAC region.

4.1. Ms. Judith Torres, International Agenda and Cooperation Area Manager, National Directorate of Climate Change, Ministry of Environment of Uruguay – ULABs

Ms. Judith Torres, representing Uruguay, shared the country's experience in addressing lead contamination and managing used lead-acid batteries. She recalled that Uruguay had faced a serious lead contamination problem many years ago, primarily caused by communities living on polluted sites, which required years of inter-institutional work to address. The issue was jointly managed through collaboration between the Ministry of Health and the Ministry of Environment, which at the time formed part of the Ministry of Housing, Territorial Planning, and Environment.

Following that phase, Uruguay shifted its focus to tackling the management of used lead-acid batteries, a major source of lead pollution in the country. Although national legislation exists to regulate batteries, Uruguay currently lacks an industrial facility for processing or recycling them. As a result, batteries are collected through a national collection system and exported for treatment under the Basel Convention's transboundary movement provisions.

Ms. Torres noted that this challenge has led Uruguay to engage in regional cooperation under the MERCOSUR framework, which includes Argentina, Brazil, Paraguay, and Uruguay. Within this framework, an environmental sub-group has been established, with a specific work plan that addresses battery management. Since 2011, member countries have conducted a regional lead balance assessment and explored strategies for facilitating the safe circulation and recycling of batteries within the region, while respecting national legislative restrictions.

In addition to its MERCOSUR engagement, Uruguay participates in the Small Inter-Sessional Working Group of the Basel Convention, which is currently updating the technical guidelines on the environmentally sound management of used lead-acid batteries. Ms. Torres explained that this update is essential, as previous guidelines did not fully address modern challenges, such as the need to manage lead-contaminated plastics and acid residues generated during recycling. Newer recycling technologies now allow for the recovery and reuse of these materials within production chains, reducing environmental risks.

She also emphasized the valuable participation of the private sector in both the MERCOSUR discussions and the Basel Convention working group. This collaboration has provided critical insights into the industry's challenges and opportunities in improving material recovery and integrating recycled components into supply chains.

Ms. Torres concluded by noting that Uruguay's experience demonstrates the importance of combining national regulation, regional cooperation, and stakeholder engagement to strengthen lead management and promote sustainable practices in hazardous waste handling.

4.2. Ms. Trecia David, Registrar, Pesticides and Toxic Chemicals Control Board, Guyana – Lead in paint

Ms. Trecia David, representing the Pesticides and Toxic Chemicals Control Board of Guyana, shared her country's progress and recent milestones in lead-in-paint management. She began by explaining that under Guyana's Pesticides and Toxic Chemicals Act and Regulations, paints and paint products are classified as toxic chemicals, and therefore fall under the Board's jurisdiction. However, for many years there had been a regulatory gap, as no specific limits for lead in paint were established in national legislation.

Through the support of the U.S. Environmental Protection Agency (EPA) and UNEP, Guyana successfully developed and adopted an amendment in 2024 establishing 90 parts per million (ppm) limit for lead in paint, in alignment with international standards. This amendment now provides a clear legal framework for managing lead content in paints and enforcing compliance across the country.

Prior to the adoption of this amendment, the Board had already taken regulatory and monitoring measures to address the issue. Between 2021 and 2023, studies conducted by researchers from Mercy University revealed that both locally manufactured and imported paints often exceeded the 90 ppm limit, including paints used in schools, furniture, and playgrounds. In response, the Board strengthened its registration system for manufacturers, importers, and suppliers of paint products, creating a comprehensive database that now includes 191 companies and over 1,000 paint products.

The Board also initiated port-of-entry inspections and vendor monitoring to oversee imports, labeling, and distribution practices. These inspections identified a growing influx of industrial paints, linked to the expansion of Guyana's oil and gas sector, and led to new safety measures ensuring segregation between industrial and residential paints to minimize exposure risks.

In 2023, the Pesticides Board received approval to enhance its laboratory testing capacity through the procurement of ICP-MS and X-ray fluorescence equipment. Despite challenges in building laboratory capabilities in the region, Guyana has now developed and accredited testing methodologies, enabling lead-in-paint analysis as of August 2025.

Ms. David highlighted that the legislative framework includes clear provisions for non-compliance, such as import prohibitions, reshipments, product confiscation, stop-sale orders, and court-imposed penalties. She also noted that the Board is currently developing testing policies and sampling strategies, drawing from international best practices to ensure systematic monitoring across all registered products.

Preliminary testing results for three major paint companies, Harris Paints, The Paint Palace, and Torginol, indicated encouraging findings, with no samples exceeding the 90 ppm limit. Moving forward, Guyana aims to expand testing coverage and implement continuous monitoring of all paint products on the market.

Ms. David concluded by emphasizing that Guyana's journey reflects steady progress from regulatory development to implementation and enforcement, and that the country now stands ready to ensure that paints available on the market are safe for human health and the environment.

4.3. Dr. Martha María Téllez Rojo, Medical Sciences Investigator, National Institute of Public Health Mexico – BLL surveillance/lead-glazed pottery

Dr. Martha María Téllez Rojo, researcher at the National Institute of Public Health (INSP) in Mexico, presented her team's work on understanding lead exposure and its health impacts in Mexico. She highlighted a major culturally rooted source of exposure: the use of lead-glazed pottery (barro vidriado) for cooking and serving food. This practice leads to significant dietary lead intake, particularly affecting the most vulnerable populations.

A pilot study in Morelos state measured umbilical cord blood lead levels at birth and found a clear association between maternal use of lead-glazed pottery during pregnancy and newborn blood lead levels. About 14% of newborns in the study were lead-poisoned, rising to 22% among lower-income families. These results prompted the inclusion of blood lead measurement in the National Health and Nutrition Survey (ENSANUT), enabling the first nationwide assessment of lead exposure.

National data revealed that 17.4% of children exceed the reference level of 5 µg/dL, corresponding to an estimated 3.3 million children exposed. Dr. Téllez Rojo emphasized the lack of a national surveillance system to routinely identify and manage these cases.

The research showed that about half of childhood lead poisoning in Mexico is attributable to lead-glazed pottery, with the remaining half coming from other, still unidentified sources. Repeated ENSANUT surveys indicate that prevalence remains stable over time, suggesting that current control efforts have not significantly reduced exposure.

Vulnerable groups were identified, including children from low socioeconomic backgrounds, those suffering from malnutrition, children in indigenous and rural communities, and those whose families frequently use lead-glazed pottery.

Dr. Téllez Rojo also highlighted the cognitive and economic consequences: nationwide, children lose an estimated 4 IQ points on average, rising to 6–7 points among those with lead poisoning. The resulting economic impact is about 3% of Mexico's GDP, disproportionately affecting regions with the highest exposure.

She concluded by stressing the need to strengthen lead exposure control policies, identify additional sources, and implement targeted interventions to protect Mexican children from the irreversible effects of lead poisoning.

5. Panel discussion – International Organizations and Civil Society Representatives Ms. Paun introduced the second panel discussion, which included representatives from international organizations and civil society.

5.1. Mr. Luis Francisco Sánchez Otero, Advisor for Health, Environment and Climate Change at the Pan American Health Organization (PAHO/WHO) – PAHO/WHO related interventions in LAC countries

Luis Francisco Sanchez Otero, from PAHO/WHO, provided a regional perspective on lead exposure and its persistent health risks across Latin America. He emphasized that, as highlighted by Dr. Téllez Rojo, lead exposure remains a significant public health issue due to multiple sources, including informal battery recycling, lead-glazed ceramics, occupational exposures, and residual environmental contamination.

He stressed the importance of identifying vulnerable populations, including workers with chronic exposure and communities with socioeconomic disadvantages, as lead affects both neurological development in children and health in exposed adults.

While many countries, such as Guyana, Peru, Mexico, Colombia, Brazil, and Argentina, have conducted important studies and developed characterizations of lead exposure, not all Latin American countries yet have active surveillance systems for monitoring lead-related health impacts. He noted that only 16 out of 40 countries in the Americas currently have legislation regulating lead in paint, highlighting the need for continued progress in regulatory frameworks and enforcement.

PAHO's ongoing efforts include:

-Strengthening toxicology information and treatment centers,

-Training healthcare personnel to diagnose and manage acute and chronic lead poisoning,

-Improving surveillance strategies, and

-Enhancing compliance with existing regulations.

He emphasized that addressing lead exposure requires collaboration with strategic partners, community engagement, and raising public awareness. While annual events like Lead Awareness Week are important, he highlighted the need for year-round strategies to protect vulnerable populations and ensure that scientific evidence continues to guide policy and interventions.

5.2. Mr. Alberto Santos Capra, Director, Basel Convention Regional Centre for Training and Technology Transfer for the South American Region, Argentina (BCRC Argentina) – Basel Convention ULABs guidance update

Alberto Santos Capra, from BCRC Argentina, presented an overview of the work of the South American Regional Centre for the Basel Convention (BCRC Argentina) and the activities conducted under the framework of international chemical and waste management agreements.

BCRC Argentina is hosted at the National Institute of Industrial Technology, established in 1999. The Centre supports countries referenced under the Basel Convention, assisting them with matters related to hazardous and other wastes. While the initial focus was on Basel-related agendas, BCRC Argentina now works across all relevant international conventions, including the Stockholm Convention and the Rotterdam Convention, the Minamata Convention, the Vienna Convention, the Montreal Protocol and the Kigali Amendment, among other initiatives such as the one relating to plastics.

Mr. Capra described a regional project conducted in collaboration with the Basel Convention Secretariat, which focused on the management of lead-acid batteries in Latin America and the Caribbean. The project, funded by the Secretariat, aimed to provide a comprehensive diagnosis of the management of spent lead-acid batteries and to develop a regional strategy for environmentally sound management. Activities included promoting regulatory and operational systems, sharing best practices, and supporting national authorities in implementing rational waste management strategies.

According to Mr. Capra, the project produced two primary outcomes. The first outcome was a roadmap or action plan for countries to implement environmentally sound management of lead-acid batteries. This roadmap, validated by over fifteen participating countries, included information collection on battery types, actors involved, volumes, inventories, and national evaluations of collection, transport, handling, capacities, health impacts, and informal sector practices. It also identified barriers, defined responsibilities for all actors including transporters, operators, and generators, and established priorities for regulation. Furthermore, the roadmap incorporated municipal schemes such as extended producer responsibility, reverse collection systems, and measures to formalize the informal sector. Complementary actions included information dissemination, regulatory support, and monitoring and traceability systems.

The second outcome was the development of model legislation to guide countries in regulating all actors within the lead-acid battery lifecycle. This legislation addressed authorization procedures, regulatory scope, roles and responsibilities of operators, and requirements for treatment facilities. It also promoted the implementation of digital traceability systems, internationally recognized as the “digital product passport,” which tracks batteries through their lifecycle, monitors environmental impacts, and ensures compliance with contingency and safety plans.

Mr. Capra highlighted a pilot implementation of the digital product passport system in Uruguay. This pilot includes an analysis of existing regulations, identification of key actors, stakeholder engagement, and preparation of a digital traceability platform. The pilot aims to optimize regulatory processes and provide a model that can be replicated across the region.

In his presentation, Mr. Capra also discussed regional variations in regulatory frameworks and infrastructure. While some countries have made significant progress, particularly in implementing extended producer responsibility and promoting sustainable practices, disparities remain. Brazil recently modified its general waste legislation to allow the import of lead-acid batteries under producer responsibility programs. This modification enhances regional capacity for treatment and strengthens the implementation of the Basel Convention framework in South America.

Overall, BCRC Argentina's work supports the promotion of circular economy policies and the sustainable management of lead-acid batteries. By collaborating with the Basel Convention Secretariat and other international programs, the Centre aims to ensure an inclusive and environmentally sound transition for battery management throughout the region.

5.3. Mr. Dan Kass, Senior Vice President of Environmental, Climate and Urban Health Vital Strategies – Institutional capacity building

Mr. Kass, from Vital Strategies, provided insights on the critical importance of intersectional approaches and capacity building in addressing lead exposure globally. He noted that historically, resources at both national and international levels have been limited, but recent philanthropic investments are now enabling new opportunities to learn from global experience and strengthen public health systems.

Vital Strategies is a global public health NGO that collaborates with governments to co-create programs that enhance the capacity of public health systems to address environmental hazards, including lead exposure. Drawing on his experience in New York City and over seven years of international work with Vital Strategies, Mr. Kass emphasized that effective lead management requires coordinated efforts across multiple sectors both within and outside of government.

Mr. Kass outlined the importance of conducting formative assessments to evaluate national capacities. These assessments identify gaps in laboratory capacity, clinical systems, legal frameworks, surveillance, and data governance. Laboratory capacity is critical to support both biological and environmental testing, while clinical systems must be able to respond effectively to lead exposure and implement guidelines tailored to national capacities. Legal frameworks must enable intersectoral collaboration, as evidenced by successful efforts to eliminate leaded gasoline, while recognizing that many other sources of exposure remain insufficiently regulated.

Understanding the expected burden of lead exposure is another key component. While modeled estimates of blood lead levels exist for most countries, data are often limited, particularly for

country-specific exposures. Mr. Kass stressed the need to assess existing research on lead sources and risk factors, and to evaluate the capacity for population-based surveillance. Such assessments allow governments to characterize risk factors accurately and determine the ability of health systems to expand and analyze data effectively.

Mr. Kass also described the dimensions of capacity that need to be strengthened. These include enhancing the ability of health systems to respond to lead exposure through testing of children and occupationally exposed adults, adoption of clinical guidelines, and healthcare training for medical, nursing, and community health programs. Laboratory and surveillance capacity must be increased, encompassing both representative population surveys and passive surveillance systems that can absorb data generated throughout a country. Risk communication strategies are essential to ensure stakeholders are informed and engaged, including the public, healthcare providers, and policymakers.

Sustainability was emphasized as a central consideration. Interim ministerial technical working groups, stakeholder engagement, strategic communications, and sustained financing schemes are all critical to ensuring long-term effectiveness of lead management programs. Mr. Kass highlighted the need to integrate lead management into existing structures and educational curricula to ensure continued capacity building, rather than creating new systems from scratch. He also noted the work of the Partnership for a Lead-Free Future in compiling and translating tools and resources for wider use, particularly in Spanish-speaking countries.

Through these efforts, Vital Strategies aims to strengthen public health systems, build intersectoral capacity, and promote sustainable approaches to lead exposure management globally.

5.4. Dr. Lilian Corra, Senior Advisor, Global Alliance on Health and Pollution – GAHP support in addressing ULABs (Brazil case study)

Dr. Corra, representing the Global Alliance on Health and Pollution (GAHP), presented the organization's efforts to address the health impacts of pollution, particularly chemical pollution, in low- and middle-income countries. GAHP works to strengthen both financial and technical capacity in countries to tackle pollution, building programs based on local capacities and priorities.

GAHP was contacted over six years ago by Uruguay regarding the challenges related to used lead-acid batteries. These challenges were identified across the Mercosur region, which includes Argentina, Uruguay, Brazil, and Paraguay. Dr. Corra described GAHP's study of battery management in the region, applying technical tools such as material flow analysis. The work involved leveraging existing regional groups and convening multi-sectoral meetings over four years to share information across government, private, and civil society stakeholders.

The study revealed that the problem of lead-acid batteries had been underestimated. For instance, 85% to 90% of recycled lead originates from ULABs, totaling around eight million metric tons annually. Recycling and recovery of batteries were identified as critical due to high demand and the need to reduce informal handling of lead. Additional concerns included contamination of plastics with lead, sometimes exceeding 10,000 ppm, and unsafe disposal of sulfuric acid, which can enter other production chains, including fertilizers, with minimal treatment.

GAHP's project aimed to remove batteries from the informal circuit, emphasizing that returning batteries to producers for formal recycling was the only effective method to reduce informal handling and illicit trafficking. Dr. Corra hilighted that lead pollution causes over six trillion dollars in annual losses, mainly through undetected cardiovascular disease and lost future productivity, disproportionately affecting low- and middle-income countries.

The presentation highlighted regulatory progress in Brazil, including amendments to the country's hazardous waste legislation, which now supports reverse logistics systems for battery collection and recycling. This approach allows countries in the region to overcome barriers, particularly given Brazil's position as the largest battery producer in Mercosur.

GAHP's efforts demonstrate a long-term commitment to addressing lead pollution using local public health and technical resources, fostering collaboration between public and private sectors. Partnerships with organizations such as the International Solid Waste Association and battery producer associations in Brazil have been key to implementing sustainable solutions.

Finally, GAHP continues to support the four Mercosur countries by strengthening data collection, providing decision-making tools, and reducing chronic low-dose lead exposure in affected communities, including informal workers. Based on the regional experience, GAHP has proposed a global initiative within the Global Framework on Chemicals to address under-prioritized chemical pollution issues, with early support from Peru, Mexico, Uruguay, and some African countries. Dr. Corra concluded by emphasizing GAHP's commitment to ongoing collaboration and sustainable solutions for health and pollution challenges.

6. Questions and Open Discussion

- What is the substitute for lead-acid batteries?

Lead-acid batteries are gradually being replaced by more efficient, lighter, and sustainable technologies. The main substitutes depend on the type of application (vehicles, solar energy, UPS, etc.).

- What is the proportion of contribution of the lead exposurefrom diffirent souces of lead?

The proportion of lead exposure from different sources varies by region, economic activity, and regulatory controls, but globally, research identifies several major contributors: Lead-acid battery manufacturing and recycling; Lead in paint and pigments; contaminated soil, dust, and air (industrial emissions, legacy pollution); lead in spices, ceramics, toys, and consumer goods;

lead in drinking water (from pipes and plumbing); traditional medicines, cosmetics, and contaminated food.

- How have paint manufacturers responded to the increased cost of lead-free pigments?

Local manufacturers were cooperative, supported by early awareness raising, technical guidance, and stakeholder consultations. They researched and tested alternative pigments to ensure compliance with lead limits

- How can governments ensure effective compliance with lead regulations?

A coordinated approach is essential, combining strict laws with administrative and criminal sanctions, engagement with industry and civil society, technical assistance for reformulation, and a transition period of 6–12 months for manufacturers to comply.

- Will UNEP push for listing lead-based pigments under the Rotterdam Convention?

UNEP cannot interfere with the decision-making process under the Rotterdam Convention. However, subject to availability of resources, it can support countries in raising awareness, documenting the problem, regulating the lead-based pigments and guiding submission of final regulatory actions to the Secretariat of the Rotterdam Convention.

- How are other countries addressing lead regulations?

Panama highlighted challenges in registration and verification. Regional webinars (e.g., November 26) will present national activities on prevention, regulation, and monitoring.

7. Closing Remarks

Ms. Mihaela Paun (UNEP) concluded the webinar by expressing sincere gratitude to all panelists and participants for their active engagement and valuable contributions. She emphasized that the meaningful discussion highlighted the importance of continued collaboration and dialogue to advance lead exposure reduction efforts across the LAC region. Appreciation was expressed to colleagues and interpreters who supported the organization and translation of the session.

The session highlighted lessons learned, ongoing challenges, and successful approaches across various lead sources, including lead-acid batteries, leaded paint, and ceramic, while emphasizing the health impacts and need to strengthen national capacities.

8. Key Takeaways

The consultation discussions yielded the following key takeaways:

- Notable initiatives are already underway across the region to address major sources of lead exposure, including lead-acid batteries, lead-containing paint, and lead-glazed ceramics.

- Because there is no one-size-fits-all solution, countries must identify their specific lead exposure sources—whether from paints, batteries, cookware, or other materials—and design mitigation strategies that are tailored to their national contexts.
- Strong multi-sectoral collaboration—across environment, health, industry, customs, and other relevant sectors—is essential for effective prevention and sustainable lead management.
- Robust regulatory frameworks and proper enforcement were highlighted as critical. Cooperation with industry has proven particularly effective in reducing lead content in high-risk products such as paint.
- High-quality national and subnational data are equally important. Strong surveillance and biomonitoring systems enable countries to identify populations most at risk, understand exposure pathways, and design targeted and effective interventions.
- Preventive action is more effective and far less costly than responding to the health, economic, and environmental consequences of exposure; regulatory measures should be implemented before harm becomes visible.
- Increasing awareness among communities, healthcare providers, and decision-makers is vital. Initiatives such as WHO's International Lead Poisoning Prevention Week and country-level outreach efforts play an important role in motivating action. Local organizations and academic institutions also serve as key drivers of research, advocacy, and multi-stakeholder engagement.

Appendices

- A. Presentations: Setting the scene
- B. Presentations: Country representatives' panel
- C. Presentations: International organization and civil society representatives' panel

A. Presentations: Setting the scene

Setting the scene on lead management 1

30 min

Panel discussion Country Representatives 2

Panel discussion International Organizations and Civil Society Representatives 3

1 2 3

10 min

UN environment programme

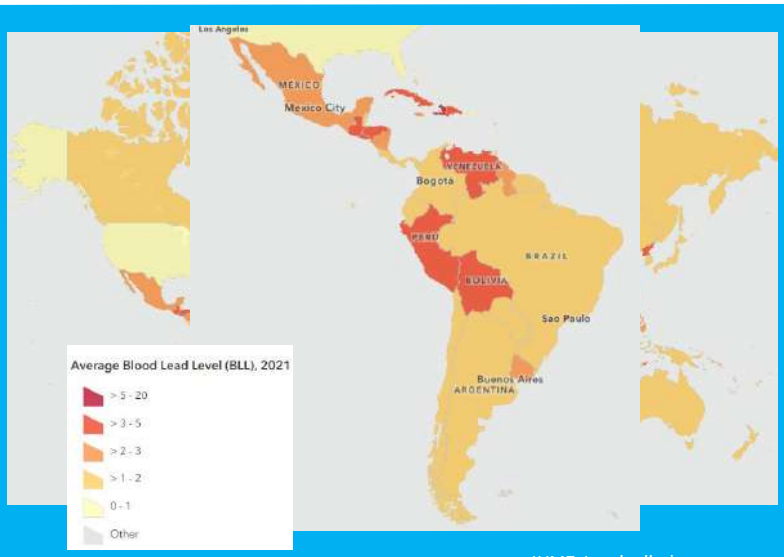
Setting the scene: Overview of lead exposure sources in the Latin America-Caribbean Region

Overview of Lead Pollution Issues in Latin America and the Caribbean

Ms. Mihaela Claudia Paun, Officer-in-Charge, Head of Knowledge and Risk Unit, Chemicals and Health Branch, United Nations Environment Programme

Lead exposures globallyand in the LAC Region

- 1 in 3 children have BLLs above 5 µg/dL[1]
- 94% of the disease burden (years of healthy life lost) occur in LMICs[1]
- Mean BLL for LAC: 3.6 µg/dL; worldwide mean BLL: 4.1 µg/dL
- Socioeconomic implications: cost due to IQ loss 2.1% of GDP for region[2]
- Nearly 90,000 estimated deaths across region (IHME 2021)



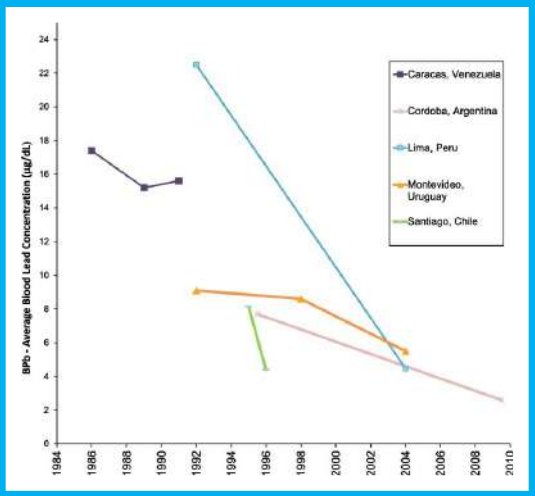
IHME, Leadpollution.org

Global Lead Exposure Sources by Sector

Energy and Transportation

Legacy of leaded petrol

- Some countries in region started banning leaded petrol in the 1990s; in others, use continued until 2005
- Reductions in population - level blood leads observed in available datasets [3]
- Lead can remain in soil and act as reservoir of exposure[4]



Angrand et al., 2022

Energy and Transportation

Lead-acid battery manufacturing and recycling

- ~86% of lead in the global economy used in LAB[5]
- Applications:
  - Vehicles are the largest sector using LABs
  - Followed by energy infrastructure for telecommunications and data networks
  - Component of renewable energy power systems
- LABs are highly recyclable but process requires tight environmental controls

Adnan Abidi/REUTERS

Mining and Smelting

Lead mining
- Lead is highly recyclable but globally 4.5 million tons still mined annually[6]
  - Mexico and Peru are top 4th and 5th lead-producing countries globally

Other metals
- Zinc, silver, gold
- Exposure to lead dust while working with ore and widespread environmental contamination

Smelting
- Required for primary lead from mining, as well as recycled lead
- Process of heating lead ore or recycled lead and adding reducing agents
- Can release lead particles into air and hazardous solid waste (slag), affecting workers and surrounding communities
- Even formal facilities can lack necessary environmental controls

Ingo Doerrie/Unsplash

Ernesto Benavides / AFP

Electronics

Electronic waste management
- Globally, 22% of the e-waste formally collected and recycled; 30% in the Americas[7]
- E-waste contains valuable reusable materials, but releases contains toxic components
- Potential for lead exposure at sites of informal recycling or discard of electronic goods
- Occupational and community-level risks
- Growing number of countries in the region have e-waste regulations

UNIDO

Infrastructure/Construction – Paint

Lead-based paint
- Globally 48% of countries have lead paint laws (January 2024)
- Continued availability of paint with lead concentrations above 90 ppm in region, including in countries with laws enacted[8,9]

WHO Global Health Observatory

Infrastructure/Construction – Drinking water

- Limited information available at regional level
- Potential for contamination from water distribution infrastructure or from industrial activities
- Recent global systematic review; ~13% of non-targeted studies in LAC exceeding WHO guideline value for lead (124 studies included from the region)[10]

Food and Agriculture

- Agricultural soil contamination
  - Limited data at regional level on lead in content in food
  - Potential for soil contamination from industrial sources (mining, recycling)
  - Studies have highlighted concerns about contribution of dietary sources to overall lead burden and lead levels in specific food items (e.g. manioc)[11]
- Potential for lead exposure through lead shot used for hunting or through the production of lead fishing weights in Amazonian communities [12,13]
- Lead in Mexican candy previously identified – prevalence appears to have declined [14]

Getty Images

Consumer Products - Cookware

NYC DOHMH

Pure Earth

Ceramic cookware
- Lead may be present in glazes and decorative paints applied to ceramic ware
- Use of lead-glazed ceramics has been linked with elevated blood lead levels at population level in Mexico[15]
- In Pure Earth Rapid Market Screening, proportion of items containing lead above 90 ranged from 42-67% in 4 countries in Latin America[8]

Metal cookware
- Growing data on lead in metal cookware, particularly inexpensive aluminum items
- Lead present in scrap metal used for production
- Risk of lead exposure through leaching
- Proportion of items containing lead above 100ppm ranged from 25-69% in Latin America[8]

Implications for Lead Exposure Management

- Documented lead exposure severity differs across the region
- Lead exposure sources are diverse
- Some sources are limited geographically to hot spots, while others may affect a larger proportion of the population
- Populations may face multiple exposure sources simultaneously

Complexity of lead exposure scenarios underlines the important role of coordinated, multi-faceted approaches

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Thank you!

Mihaela Claudia Paun, Officer-in-Charge, Head of Knowledge and Risk Unit, Chemicals and Health Branch, Industry and Economy Division
EMAIL: mihaela.paun2@un.org

United Nations Avenue, Gigiri
PO Box 30552 – 00100 GPO Nairobi, Kenya

www.unep.org

1 2 3

10 min

Setting the scene: Overview of lead exposure sources in the Latin America-Caribbean Region

Country-level whole of government example

Mr. Elmer Quichiz Romero, Hospital Solid Waste Coordinator, Directorate General of Environmental Health and Food Safety, Ministry of Health, Peru

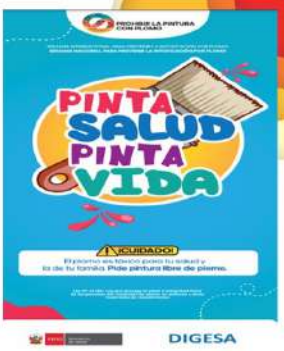
PERÚ | Ministerio de Salud | Viceministerio de Salud Pública | Dirección General de Salud Ambiental e Inocuidad Alimentaria

"Hacia un enfoque coordinado y multisectorial para la gestión del plomo en la región de América Latina y el Caribe"

Pinturas Libres de Plomo en el Perú

Mg. Biólogo Elmer Quichiz Romero
Coordinador Área de Residuos Sólidos
Dirección de Control y Vigilancia DCOVI
Dirección General de Salud Ambiental e Inocuidad Alimentaria DIGESA
Ministerio de Salud

Lima, 30 de octubre de 2025



20

COOPERACION INTERNACIONAL

1. VITAL STRATEGIES:

Apoyo con pistola PORTATIL XRF e insumos de laboratorio

2. MEMORANDO DE ENTENDIMIENTO ENTRE EL MINISTERIO DE SALUD- DIGESA Y LA ONG LEAD EXPOSURE ELIMINATION PROJECT

"Estudio y colaboración en la implementación de normas sobre el plomo en la pintura en Perú". Firmado 15 julio 2024 por un año, Extensión 16 de julio 2025 por dos años.

3. UNICEF COORDINACION Y APOYO CON MATERIAL DE DIFUSION

21

NORMATIVIDAD

En el Perú se cuenta con la **ley N° 31182 Ley que protege la salud e integridad física de las personas del contenido de plomo en pinturas y otros materiales de revestimiento** (publicada el 31 abril 2021).

DECRETO SUPREMO Nº 007-2025-SA, Decreto Supremo que aprueba el Reglamento de la Ley Nº 31182, Ley que protege la salud e integridad física de las personas del contenido de plomo en pinturas y otros materiales de revestimiento (publicada 03 junio 2025).

Ley N° 32038 se "Declara semana nacional para prevenir la intoxicación por plomo la última semana de octubre de cada año", esta norma fortalece y contribuye a reconocer la importancia de la prevención frente a sustancias dañinas para el ser humano como es el plomo y la sensibilización frente a los daños que produce el plomo en el ser humano (publicada 29 de mayo 2024).

La ley tiene por objeto fomentar la toma de conciencia y fortalecer las acciones preventivo-promocionales de mitigación y cuidado de la salud afectada por la contaminación por plomo, metales pesados y otras sustancias químicas, en armonía con las recomendaciones de la Organización Mundial de la Salud (OMS).

LEY Nº 31182

LEY QUE PROTEGE LA SALUD E INTEGRIDAD FÍSICA DE LAS PERSONAS DEL CONTENIDO DE PLOMO EN PINTURAS Y OTROS MATERIALES DE REVESTIMIENTO

SALUD

Decreto Supremo que aprueba el Reglamento de la Ley Nº 31182, Ley que protege la salud e integridad física de las personas del contenido de plomo en pinturas y otros materiales de revestimiento

DECRETO SUPREMO Nº 007-2025-SA

NORMAS

LEY Nº 32038

LEY QUE DECLARA SEMANA NACIONAL PARA PREVENIR LA INTOXICACIÓN POR PLOMO LA ÚLTIMA SEMANA DE OCTUBRE DE CADA AÑO

ACTIVIDADES SEMANA INTERNACIONAL Y NACIONAL DE PREVENCION DE INTOXICACION POR PLOMO 2024

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ACTIVIDADES 2024 - SEMANA INTERNACIONAL Y NACIONAL DE PREVENCION DE INTOXICACION POR PLOMO

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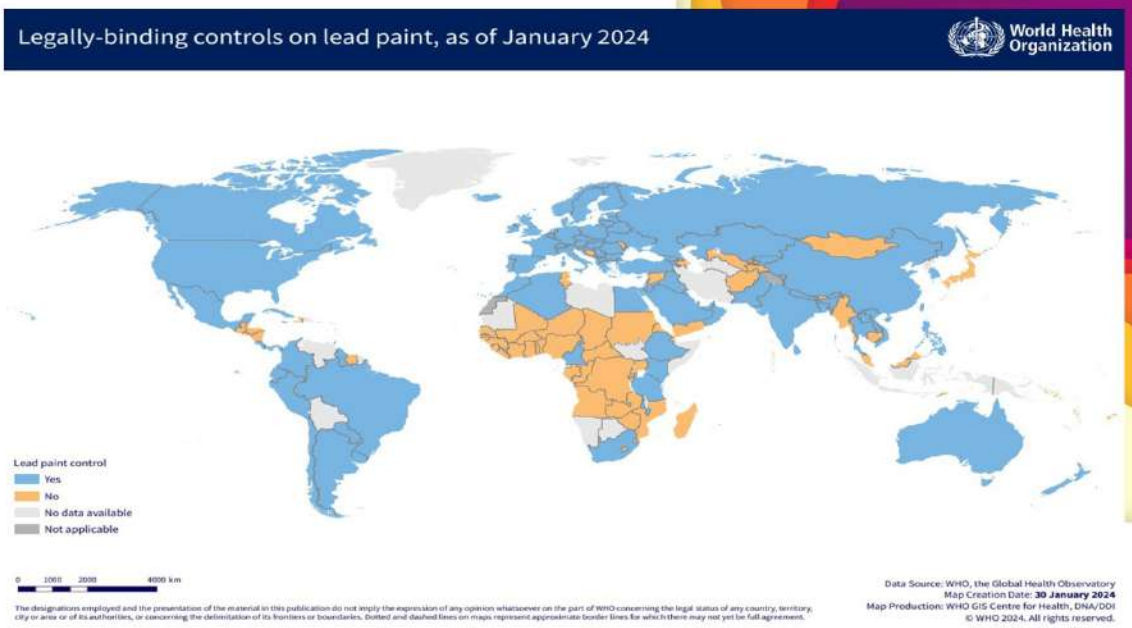

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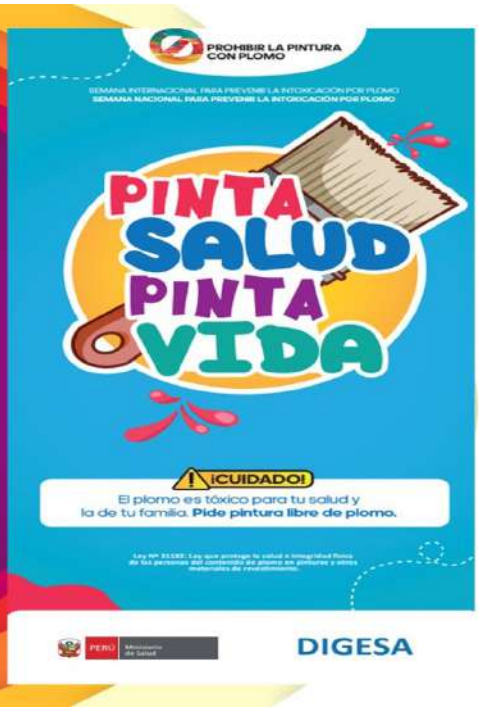
Gracias

equichizr@minsa.gob.pe



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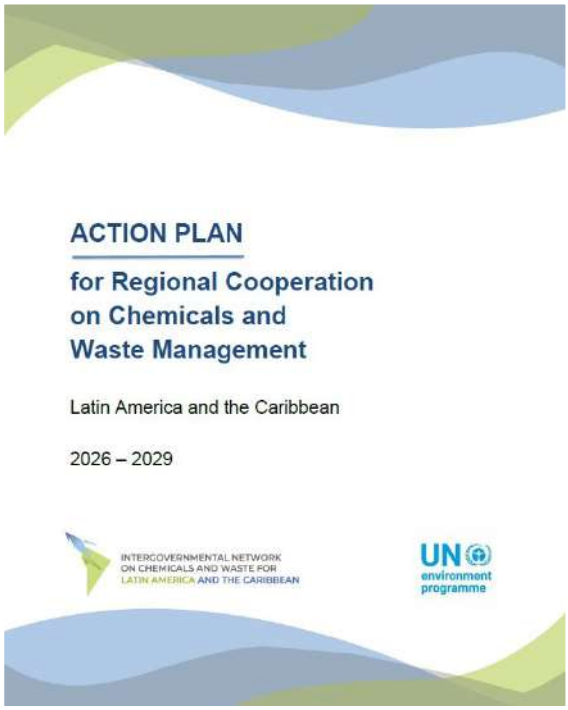
1 2 3

10 min

Setting the scene: Overview of lead exposure sources in the Latin America-Caribbean Region

Introducing the new Regional Action Plan - strengthening regional cooperation on lead and chemicals management in LAC

Ms. Christina Steinhart, Chemicals and Pollution Action Programme, UNEP LAC Office



B. Presentations: Country representatives' panel

Setting the scene on lead management

1

Panel discussion Country Representatives

30 min

2

Panel discussion International Organizations and Civil Society Representatives

3

1 2 3

10 min

Panel discussion – Country Representatives

ULABs

Ms. Judith Torres, International Agenda and Cooperation Area Manager, National Directorate of Climate Change, Ministry of Environment of Uruguay

10 min

Panel discussion – Country Representatives

Lead in paint

Ms. Trecia David, Registrar, Pesticides and Toxic Chemicals Control Board, Guyana

Pesticides and Toxic Chemicals Control Board

LEAD IN PAINT MANAGEMENT

Guyana's Experience

No safe level: act now to end lead exposure.

Introduction

- The Pesticides Control Board is mandated by the Pesticide Act 2000, and its associated Regulation which governs lifecycle management of Pesticides and Toxic Chemicals in the Guyana.
- By definition, paints are classified as "toxic chemicals".
- - Amendment of Legislation:
- - Establish the lead limit in paints (90ppm)
- - Establish within the implementing regulation.

Regulatory Approach

- Two studies conducted on paints sold in Guyana had found levels of lead above the limits (paints manufactured locally and imported)
- as well as legacy paint that has already been applied to objects such as walls, furniture, and playground equipment.
- PTCCB began monitoring through registration and imports permits.
  - Record all manufacturers, importers
  - Product data (SDS & Labels), Quantities Imported.

Monitoring & Testing

❖**Inspections**

- At ports of entry
- Vendors/Distributors
- Labeling

❖**Testing**

- Procurement of (ICP-MS) & X-ray Fluorescence (XRF)
- Implementation of testing – August, 2025

❖**Regulatory Provisions for Non-Compliance**

- Prohibition on Imports, Reshipments, Confiscation, Stop Sales and Penalties

Findings

Paint Companies	Paint colour
Harris Paint (Supplier & Importer)	Yellow, Green, Blue, Red
The Paint Palace (Importer)	Green, Yellow, Blue
Torginol (Local Manufacturer)	White, Yellow, Green, Blue, Red

Lead Concentrations found in Paint Samples from Harris Paint Guyana Inc.

Element	Lab ID	Colour of Paint	Average Conc. (ppm) (He Mode)	Average Conc.(ppm) (No Gas Mode)	Limits for Lead (Pb) In Paint (ppm)
Lead (Pb)	PTCLQCU/2510 - 004 (EL)	Green	2.97	3.00	90
	PTCLQCU/2510 - 005 (EL)	Red	1.58	1.60	
	PTCLQCU/2510 - 006 (EL)	Yellow	1.78	1.90	
	PTCLQCU/2510 - 007 (EL)	Blue	1.60	1.72	

The results indicate that the lead levels in paint samples were below the maximum permissible limit of 90 ppm.

THANK YOU!

1 2 3

10 min

Panel discussion – Country Representatives

Blood Lead Level (BLL) surveillance/lead-glazed pottery

Dr. Martha María Téllez Rojo, Medical Sciences Investigator, National Institute of Public Health Mexico

Instituto Nacional de Salud Pública

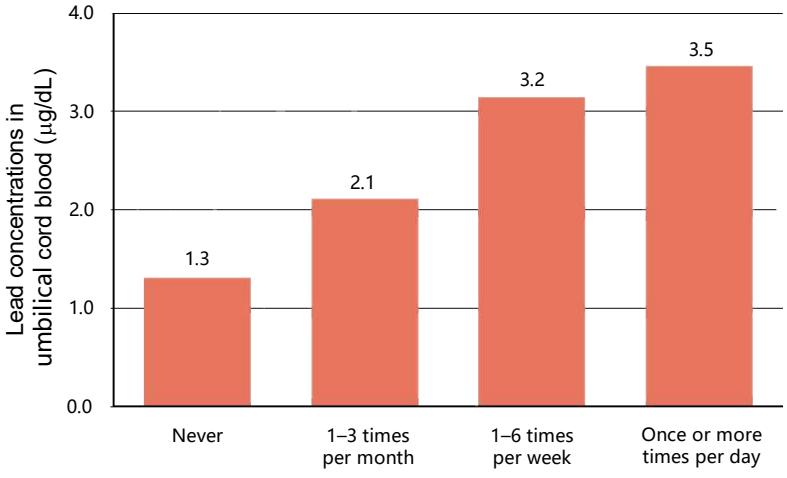
LEAD EXPOSURE IN MEXICO: Lessons Learned in Identifying the Main Source of Exposure

Martha Ma. (Mara) Téllez -Rojo

Instituto Nacional de Salud Pública

October 2025

Cord blood lead and lead -glazed ceramics use: Morelos, Mex,



14.7 %

of newborns had that should be considered **poisoning** according to **national regulation** (NOM-199 **≥5µg/dL**)

22%

in the lowest socioeconomic level population

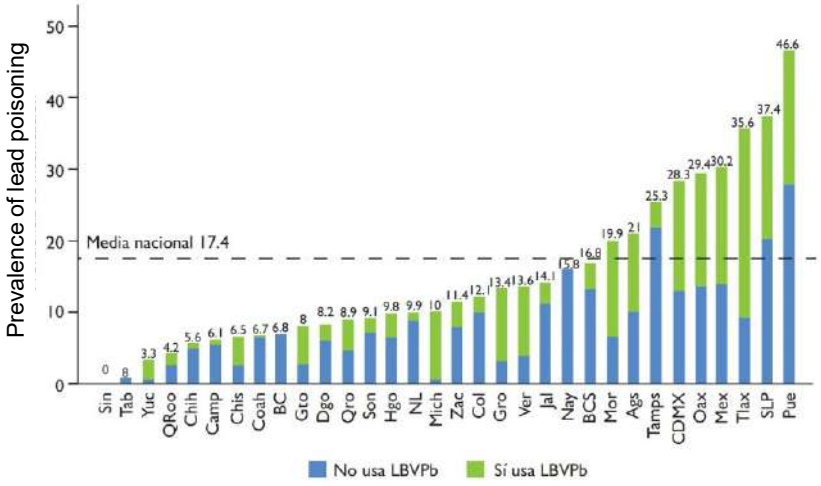
57%

reported using lead -glazed ceramics during pregnancy

70%

of them used it **daily**

17.4% of Mexican children exceed the national threshold for **lead poisoning** (≥5μg/dL) blood lead levels



1.4 million children **aged 1-4** have lead poisoning BLL

Expanding to children aged **1–14**, the total reaches **3.3 million**

48% is associated to **lead glazed ceramics use**

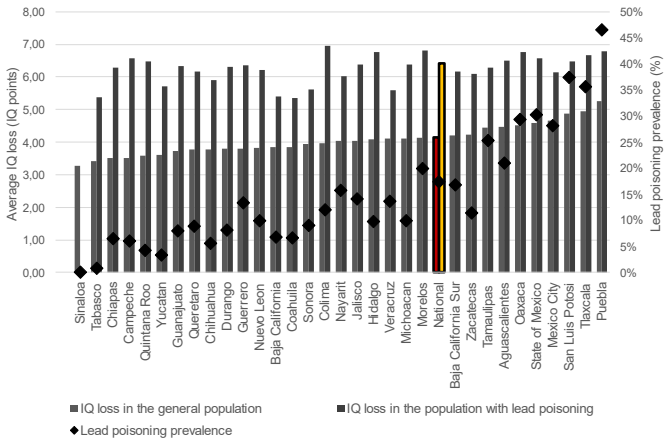
Blood lead level by risk factor vulnerability profile

Risk factors for Blood Lead Levels

1. Reported Lead Exposure
   a. Lead Glazed Ceramics (LGC)
   b. Sources not Including LGC
2. Malnutrition
3. Low Socioeconomic Status
4. Indigenous Identity
5. Rural Residency

Fuente: Téllez Rojo et al. Salud Publica Mex, 2024

Children under 4 years lose up to **4.14 IQ points** per capita, and **6.42 among those with lead poisoning**



In states like **Puebla**, the average loss exceeds **5 IQ points**, reaching up to **6.7 points** among children with lead poisoning

Instituto Nacional de Salud Pública

Thank You!

Martha Ma. (Mara) Téllez -Rojo

Instituto Nacional de Salud Pública

October 2025

C. Presentations: International organization and civil society representatives' panel

Setting the scene on lead management 1

Panel discussion Country Representatives 2

Panel discussion International Organizations and Civil Society Representatives 3

30 min

1 2 3

7 min

PAHO Pan American Health Organization World Health Organization

Panel discussion – International Organizations and Civil Society Representatives

PAHO/WHO related interventions in LAC countries

Mr. Luis Francisco Sánchez Otero, Advisor for Health, Environment and Climate Change at the Pan American Health Organization (PAHO/WHO)

Situación en América Latina y EL Caribe

- Persisten riesgos por reciclaje informal de baterías, cerámica vidriada, pinturas con plomo y uso artesanal del plomo
- Poblaciones vulnerables: niños, mujeres gestantes, trabajadores informales
- Si bien es un problema de salud pública aún se requiere avanzar en prevención vigilancia y control
- Existe legislación y avances pero aún con heterogeneidad en los niveles máximos permitidos
- No todos los países hacen vigilancia activa
- Programas en países como estrategia para la reducción de impactos en salud. Ejemplos: "lead-free pottery", Medidas de reparación y salud pública– La Oroya, Perú.

https://sdg.iisd.org/news/43-of-all-countries-have-lead-paint-laws-unep-update/

OPS
Organización Panamericana de la Salud
Organización Mundial de la Salud
Región de las Américas

Hacia dónde vamos

https://www.who.int/data/gho/data/themes/topics/indicator-groups/legally-binding-controls-on-lead-paint

Categoría	Países incluidos	Notas
Sí – Ley o regulación vinculante	Argentina, Brasil, Chile, Colombia, Costa Rica, Cuba, Ecuador, México, Panamá, Perú, Uruguay, Guyana, Jamaica*, República Dominicana*, Trinidad y Tobago*	En algunos casos requiere verificación de ppm y actualización a estándar ≤ 90 ppm
No / ND – Sin confirmación de ley vinculante vigente	El Salvador, Guatemala, Honduras, Nicaragua, Bolivia, Venezuela, Belice	Representan oportunidad de asistencia técnica para desarrollo normativo
Situación mixta / especial	Paraguay, Barbados, Santa Lucía, Dominica, Granada, San Vicente y las G., Aruba, Curazao, Sint Maarten, Guadalupe, Martinica, Guayana Francesa	Estándares voluntarios o regímenes derivados del marco UE/Reino de los Países Bajos

Argentina, Brasil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guyana, Jamaica, México, Panamá, Perú, Trinidad y Tobago y Uruguay,
Estados Unidos, Canadá también presentan reglamentación para el plomo en Pinturas

OMS/PNUMA (GHO Lead Paint Status), compendios regulatorios regionales y artículos técnicos.

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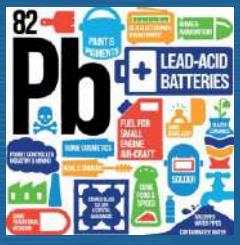
Región de las Américas

Hacia dónde vamos

- El plomo sigue siendo una amenaza prevenible.
- Requiere acción intersectorial entre salud, ambiente y educación.
- El personal sanitario juega un rol clave en la prevención y respuesta temprana.
- Se requiere avanzar en normatividad y su´implementación



- **Fortalecer la vigilancia y respuesta sanitaria** ante intoxicaciones por plomo, incluyendo diagnóstico, notificación y atención integral.
- **Promover marcos normativos y cumplimiento** de límites máximos de plomo en pinturas, productos y ambientes laborales.
- **Ampliar la cooperación intersectorial** entre salud, ambiente, educación y trabajo.
- **Fortalecer capacidades del personal sanitario** en prevención, comunicación de riesgo y detección temprana.
- **Sensibilizar a la población y comunidades vulnerables** mediante campañas permanentes de educación y comunicación.
- **Consolidar la evidencia científica y los datos regionales** para sustentar políticas públicas.

OPS
Organización Panamericana de la Salud | Organización Mundial de la Salud
Región de las Américas

Thank You!

Luis Francisco Sánchez Otero MD MSc (OPS/OMS)

Regional Advisor on Chemical Safety and Toxicology of PAHO and currently also responsible for solid waste management and health issues.
Physician with a Master's degree in Toxicology, with experience in capacity building in the areas of environmental public health, waste management, chemical safety and toxicology.

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Región de las Américas

1 2 3

7 min

CRBAS
Centro Regional Basilea para América del Sur

Panel discussion – International Organizations and Civil Society Representatives

Basel Convention ULABs guidance update

Mr. Alberto Santos Capra, Director, Basel Convention Regional Centre for Training and Technology Transfer for the South American Region, Argentina (BCRC Argentina)

"Towards a coordinated, multi -sectoral lead management approach in the Latin America and Caribbean region"
Thursday, October 30

CRBAS
Centro Regional Basilea para América del Sur

Environmentally Sound Management (ESM) of Used Lead-Acid Batteries (ULABs) in the Latin American Region

Mg. Alberto Santos Capra
Director BCRC Argentina

14 BASEL CONVENTION REGIONAL AND COORDINATING CENTRES

Assist the regions and subregions of UNEP: Latin America and the Caribbean (GRULAC); Africa; Asia and the Pacific; Eastern Europe; Western Europe.

- **Provide training and technology transfer in the management of hazardous and other wastes, as well as in the prevention and minimization of their generation.**
- They are autonomous institutions operating under the authority of the Conference of the Parties (COPs), the decision-making body of the Convention composed of all Parties to the Convention.
- They have been established within intergovernmental institutions or national institutions that possess the relevant experience and capacity to carry out the task of providing technical assistance and capacity-building at the regional level.
- They operate under a Framework Agreement between the host government or institution and the Basel Convention Secretariat on behalf of the COP.

TECHNOLOGY TRANSFER AND TRAINING ASSISTANCE IN SOUTH AMERICA 10 LATIN AMERICAN COUNTRIES

Basel Regional Centre for South America for Training and Technology Transfer (CRBAS, BCRC Argentina) on hazardous and other wastes has been located at the National Institute of Industrial Technology (INTI) since 1999.

It serves as a key reference for the environmentally sound management (ESM) of waste, technology transfer, and legislative assistance in the South American region, providing training and strengthening national capacities on the international agenda of chemicals and waste in the region's productive sectors.

Established under Article 14 of the Basel Convention.

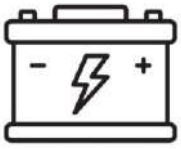
Project: ESM of ULABs in the Latin American Region 2023 -2024

- **Funding donors:** SBC (Secretariat of the Basel Convention)
- **Focal Point:** Francesca Cenni; Programme Management Officer
- **Partner:** BCRC Argentina
- **Focal Point:** Alberto Santos Capra; Director of BCRC Argentina

Background

This project seeks to provide a comprehensive diagnosis of the management of ULABs and to design a regional strategy to support the implementation of ESM of ULABs within the region, promoting regulatory cooperation and sharing experiences.

- **Total Project Budget: USD 55,000**
- **CRBAS Co-financing: USD 10,000**
- **Project Completion Date: December 31, 2024**



Activity: Preparation of a Roadmap Document for the ESM in 7 Steps; validated by regional countries.

1. **Information Gathering:** Identify legislation, key stakeholders, waste streams and composition; volume inventories and trend analysis; existing infrastructure and international best practices.
2. **National Assessment:** Existing collection, transport and handling mechanisms; technical capacities and health and safety requirements; informal activity and awareness campaigns.
3. **Gap Identification:** Detect national challenges and needs; establish activities to achieve ESM.
4. **Assignment of Responsibilities:** Stakeholder roles (transport, recycling, treatment); environmental assessments and joint decision-making spaces.
5. **Definition of Priorities and Regulation:** Financial approach: EPR or other schemes; reverse collection systems and progressive formalization of the informal sector.
6. **Implementation of Activities:** National action plan with goals and indicators; dissemination of the ESM scheme and complementary regulatory development .
7. **Monitoring and Adjustments:** Traceability systems and technical training; continuous control to ensure compliance.

Activity Assessment of ULAB management capacity in Latin America based on analysis of available information in the region

Key findings:

- The analysis of regulations and infrastructure in selected countries reflects a diverse landscape regarding ULABs, showing significant progress in the incorporation of the EPR principle and installed capacity for the treatment of these wastes.
- At the regional level, there is a trend toward harmonization of standards and promotion of sustainable practices, although gaps remain in technical and financial capacity, especially in emerging economies. Strengthening international cooperation, technology exchange and investment in infrastructure are key elements to overcome these barriers and move towards comprehensive ULABs management that prevent and minimizes environmental impact and maximizes resource recovery.
- Looking ahead, it is essential to continue developing policies that encourage the circular economy and promote active participation of all actors involved, from producers to consumers, thus ensuring a transition towards more inclusive and sustainable waste management systems in the region.

Activity: Drafting of model legislation for the ESM of ULABs, including EPR policy schemes for ULABs; validated by regional countries.

Model Environmental Authorization – Management of ULABs

General information:

- Company: legal name, trade name, addresses.
- Activity: operator, generator, recycler, transporter, or hazardous waste storer.
- Regulations: applicable national and international laws and resolutions (e.g., Basel Convention).

Scope of the certificate/authorization:

- ❑ Controlled categories:
  - Operation: Waste batteries and components (lead, acid electrolyte, etc.).
  - Generation: Oils, slags, other hazardous wastes.
  - Disposal operations: According to national and international regulations.
- ❑ Holder's obligations:
  - Report environmental contingencies (spills, leaks, etc.) within 24 hours.
  - Accept audits, inspections and requirements from the environmental authority.

Continues

Model Environmental Authorization – Management of ULABs

For operators and treatment facilities:

- Storage: Capacity, conditions, and location of collection sites.
- Technologies: Treatment processes and environmental control.
- Traceability: Tracking system (Digital Passport Prodcut (DPP) - QR, spreadsheets, etc.).
- Environmental monitoring: Soil, water, and air, with reference values.

Key documentation:

- Site sketch, contingency plans, recovery targets.
- Valid insurance and licenses.
- Worker health monitoring (e.g., blood lead levels).

For hazardous waste transport:

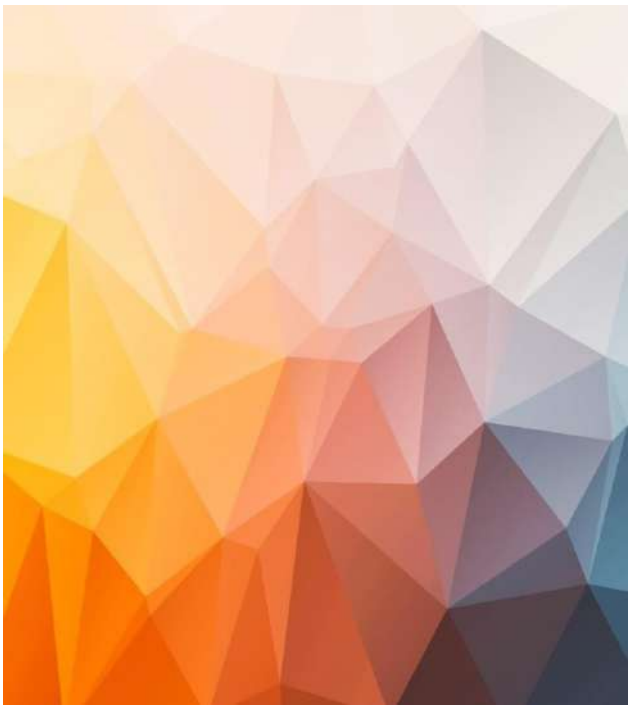
- Vehicle fleet: Vehicle data, cargo conditioning, and routes.
- Contingency plans: Accidents or spills.
- Licenses: Permits for drivers and vehicles.
- Insurance: Valid for the entire authorization period.

Pilot Project – Basel Convention Secretariat and Uruguay

Traceability System for the Management of ULABs– Implementing DPP

Objective: Design and implement a traceability system enabling complete tracking of ULABs throughout their life cycle, transmitting real-time information to competent authorities, with potential for replication in other Latin American countries.

- **Phase 1 – Diagnosis and Project Design: starting 2026**
  - Assess environmental regulations and propose improvements.
  - Identify key stakeholders and conduct participatory workshops.
  - Define viable systems, estimate costs and validate selected solution (DPP)
  - Pepare terms of reference and pilot project implementation plan.
- **Phase 2 – Development and Execution of the Pilot Project: ending 2026 and 2027**
  - Develop traceability system including DPP with selected company
  - Implement pilot project and adjust according to results.
  - Design a plan to replicate the system in other countries in the region.



CRBAS
Centro Regional Basilea para América del Sur

¡Thank you!

Alberto Santos Capra
acapra@inti.gob.ar

bcrc-argentina@inti.gob.ar
https://bcrc-argentina.net.ar/

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Vital Strategies
Global Public Health

Panel discussion – International Organizations and Civil Society Representatives

Institutional capacity building

Dr. Dan Kass, Senior Vice President of Environmental, Climate and Urban Health Vital Strategies

Formative Work for Capacity-Building for Lead Poisoning Prevention

Capacity analysis
- **Biologic and environmental laboratory**
- **Clinical systems responsiveness**
- **Legal frameworks**

Understanding expected burden
- **Modeled blood-lead levels**
- **Prior research on exposure and sources**
- **Characterizing known risk factors**

Surveillance systems analysis
- **Current and past population-based health surveillance systems**
- **Strength of data systems, analysis, and reporting**

Environmental health risk communication
- **Clinical workers' knowledge**
- **Population knowledge and beliefs**

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Dimensions of Capacity

Healthcare systems response to lead exposure
- Need to adapt and adopt clinical guidance
- Training
- Position source and risk identification within existing healthcare delivery

Data governance and integration
- A true portrait of lead poisoning requires depends on myriad ministerial and local data sources

Laboratory capacity
- Biological samples from surveys, routine care, and case investigations
- Environmental samples from case investigations, environmental characterization, product testing

Strengthening surveillance systems
- Representative population surveys, passive surveillance systems

Rick communication
- Its absence impedes willingness to inquire and act

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How to sustain investments for capacity strengthening

- Intra- and inter-ministerial technical working groups to prioritize and ensure follow-up
- Adapt, not invent
- Stakeholder engagement to build demand for sustained action
- Strategic communications to direct public and policymaker attention to leading sources of lead exposure
- Policy development and adoption that considers enforcement and sustained financing schemes
- Health worker training from the start – clinical degree programs, elevating knowledge and functional role of community health workers
- Integrating, where possible, work into existing structures, frameworks, and data systems

Vital Strategies

THANK YOU!

Dan Kass

Sr. Vice President

Environmental, Climate & Urban Health

Vital Strategies

New York, NY

Vital Strategies

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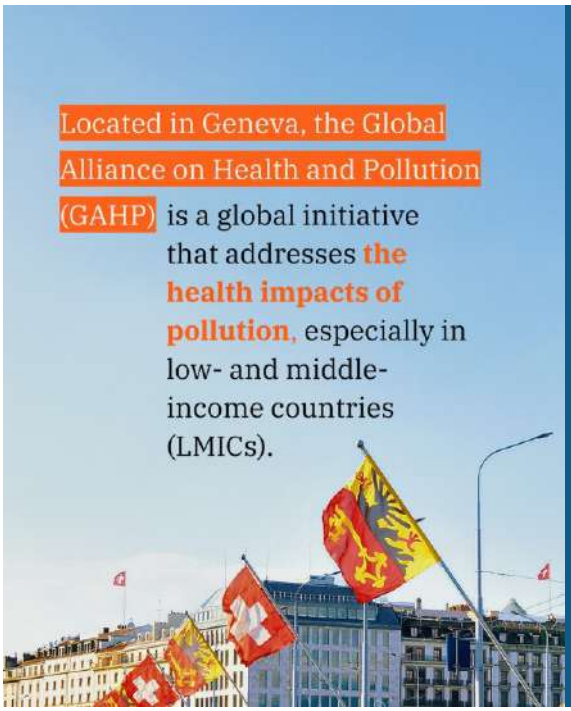
GAHP
GLOBAL ALLIANCE ON HEALTH AND POLLUTION

Panel discussion – International Organizations and Civil Society Representatives

GAHP support in addressing ULABs (Brazil case study)

Dr. Lilian Corra, Senior Advisor, Global Alliance on Health and Pollution



Located in Geneva, the Global Alliance on Health and Pollution (GAHP) is a global initiative that addresses **the health impacts of pollution**, especially in low- and middle-income countries (LMICs).

GAHP
GLOBAL ALLIANCE ON HEALTH AND POLLUTION

Advocacy and Awareness-raising

Building public, technical, and financial support to improve health outcomes by addressing pollution globally.

Country-specific support

Assisting LMICs to prioritize and address pollution problems through country-specific governmental and non-governmental projects.

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The production of LABs account for about 85% of total demand for primary lead.

Global refined lead production reached 11.9 million metric tons, comprising both:

- **Primary sources estimated about 4.5 million metric tons**, (lead extracted from mined ores), and
- **Secondary sources estimated about 8 million metric tons**, (mainly recycled lead).

Notably, **around 85% to 90% of recycled lead originates from used lead-acid batteries (ULABs).**

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- Beyond the lead parts (plates), **other components such as sulfur acid and plastics are also highly contaminated with lead.**

- Plastic waste from used battery cases may contain lead levels of up 10,000 ppm.

- Highly lead polluted plastics are often burned in the open or are poorly recycled.

Highly lead polluted sulfuric acid may be dumped into the environment or reused as precursor for unregulated purposes, both posing substantial environmental and health risks.

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Ensuring the proper return of used sealed units

also helps prevent informal dismantling;

a significant issue that drives illicit trafficking.

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Recognizing Lead Pollution and Toxicity
Cost of inaction according to the WB (2023):

Lead exposure involves a global cost reaching US$6 trillion.

77% accounted for the welfare costs of cardiovascular disease mortality.

23% represented the value of future productivity losses.

These impacts are disproportionately felt in LMICs, with significant consequences for productivity, economic stability and development.

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A Step Toward Solving Lead Pollution
An important step towards a collaborative solution:

On January 2025 the amendment to Article 49 of Law No 12.305 (2010) on Solid Waste will allow Brazilian importers and manufacturers to reintroduce solid waste derived from domestically produced and exported products, including hazardous waste, strictly for comprehensive recycling within reverse logistics systems.

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A Long Journey of Multisectoral Dialogue

GAHP

After years of hosting multi sectoral dialogue
led by the Global Alliance on Health and Pollution (GAHP)
the issues of lead-related disease burden and pollution
from informal ULABs management
have been successfully brought to the forefront.

The multi sectoral dialogue was established within the
framework of MERCOSUR 's Subgroup 6 on Environment
and with the participation of the private sector
(including ISWA and ABRABAT).

**This sustained effort is now yielding tangible results,
with actions identified to overcome barriers
and drive necessary reforms,
achieved through the participation and commitment of all
sectors, resulting in a win-win outcome.**

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**GAHP continues to prioritize multisectoral dialogue,
providing platforms and data as decision-making tools
to enable informed decisions across sectors.**

By emphasizing the cost-benefit of
circular economy principles and health protection,
GAHP advocates for win-win solutions
that enhance environmental outcomes
while reducing production costs.

**This work is ongoing and continues to drive
positive change across various sectors.**

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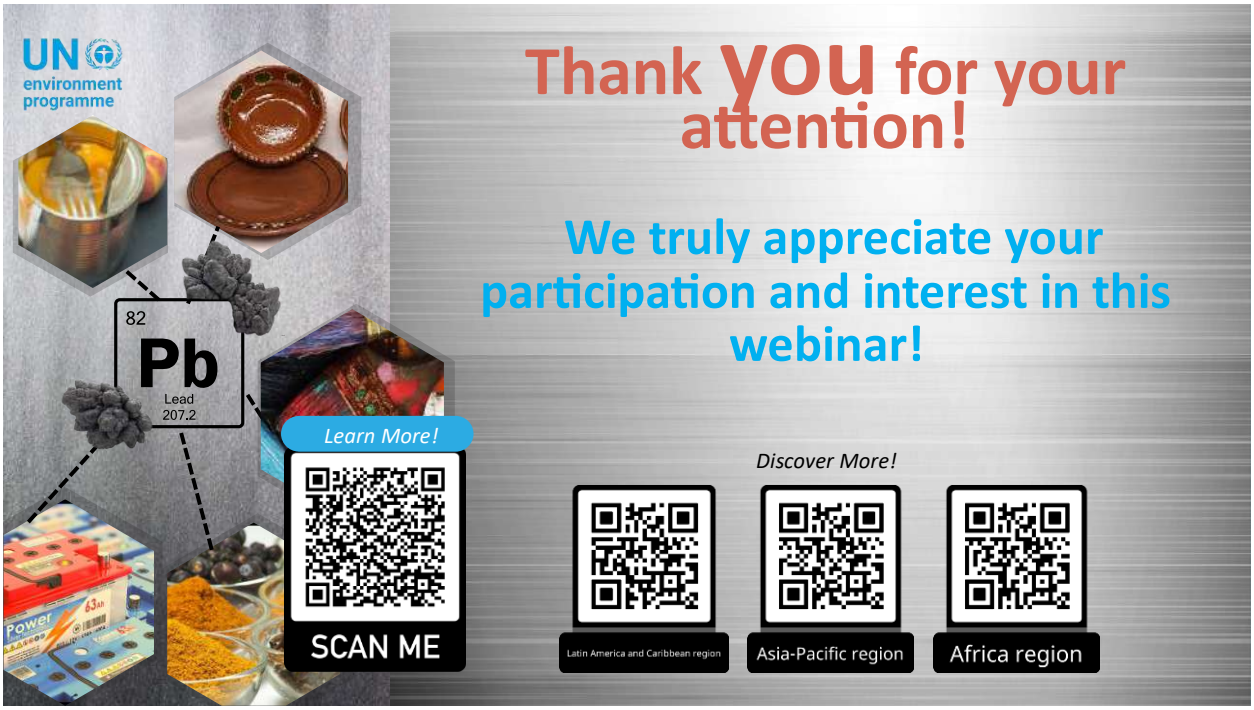
UN environment programme

Any Questions?

Towards a coordinated, multi-sectoral lead management approach in the Latin America and Caribbean region
30 October 2025

UN environment programme

Thank you !

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