Executive Summary

Regional Experience in the Implementation of the Minamata Convention

Progress Towards the Reduction or Elimination of Dental Amalgam and the Environmentally Sound Management of its Waste

1. Introduction

The virtual seminar, organized by PAHO/WHO and UNEP, brought together representatives from Uruguay, Chile, Peru, El Salvador, and Costa Rica, along with international experts in oral health, environmental health, and chemical safety.
The objective was to exchange national and regional experiences in the implementation of the Minamata Convention, highlighting the progressive phase-out of dental amalgam and the environmentally sound management of mercury waste.

Welcome remarks

- **Caroline Chang**, PAHO Representative in Uruguay, stressed that the project is of great relevance for the country and the region, highlighting Uruguay's progress in reducing and managing amalgam. She reaffirmed the country's commitment to South-South cooperation and to the promotion of comprehensive oral health, underlining that this effort should become a driving force for the entire Region of the Americas to move towards the progressive elimination of mercury.
- **Grace Halla**, UNEP, noted that reducing amalgam is an essential component in the implementation of the Minamata Convention and reaffirmed UNEP's support in fostering intersectoral collaboration and providing technical and financial assistance to States.

2. The Minamata Convention and its relevance (Francisco Sánchez – PAHO)

Dr. Luis Francisco Sánchez, PAHO Regional Advisor on Chemical Safety, presented the foundations of the Minamata Convention and the need to address dental amalgam:

- Mercury as a global pollutant: A highly toxic heavy metal, with no biological function in the human body, bio accumulative and persistent in the environment. It affects the central nervous system, fetal and child development, and the renal system.
- Sources of exposure: Artisanal gold mining, industrial emissions, forest fires, and health products—particularly dental amalgam (40–50% mercury).
- Rationale for the Convention: Adopted in 2013 after the Minamata tragedy (Japan), in force since 2017, it seeks to reduce and eliminate mercury pollution sources.
- Dental amalgam in the Convention: Included in Annex A, which establishes its phase-down. COP4 and COP5 reinforced commitments: banning bulk mercury, limiting its use in children and pregnant women, and promoting safe restorative alternatives.

- Ethical dimension: Reducing amalgam is not only a technical action, but a commitment to future generations.
- Need for comprehensive action: Combining education, fluoridation, hygiene, and regulatory frameworks to strengthen caries prevention and reduce dependence on amalgam.

He stressed that phasing down amalgam is a key component in preventing health and environmental impacts and an opportunity to transform dentistry towards a preventive and sustainable model.

3. Global perspective and 2030 targets (Gabriela Sardón – WHO)

WHO Oral Health Programme consultant Gabriela Sardón presented the global vision and strategic framework:

- Global Oral Health Action Plan 2021–2030: Responds to the historic 2021 World Health Assembly resolution recognizing oral health as part of Universal Health Coverage.
- Global target: By 2030, 90% of countries should have phased out amalgam use or fully implemented the provisions of the Minamata Convention.
- Baseline: Currently, only 34% of countries in the Americas have fully achieved this goal, and 37% partially, reflecting progress but also the need to intensify efforts.
- Bangkok Declaration (2024): International political commitment to gradually reduce or eliminate amalgam, promote preventive oral care, and mercury-free materials.
- GEF project (with WHO and UNEP): Implemented in Uruguay, Senegal, and Thailand, led by Ministries of Health and Environment. Includes knowledge generation, awareness-raising, and development of global guidance.
- New WHO Guideline (2025): Environmentally sustainable oral health care, based on 5 systematic reviews, recommending mercury-free materials and minimally invasive practices. To be presented as input for COP6.

The key message: amalgam phase-out should be seen within the global transformation of oral health towards preventive, sustainable, and equitable models.

4. Uruguay as a regional reference

Uruguay was presented as a pioneering country in the region and as a pilot of the GEF project due to its regulatory and environmental progress

4.1. Regulatory and environmental advances (Judith Torres – Ministry of Environment, Uruguay)

- Progressive elimination of mercury in other industrial sectors.
- Elimination of amalgam from university training and the national health system.
- Current project focuses on management of historical waste and strengthening interinstitutional capacities.

4.2. Clinical and social dimension (Agustín Cataldo – Ministry of Health)

- Reiterated that “there is no health without oral health.”
- Prevention and promotion as pillars: success lies in avoiding caries rather than restoring.

- Development of innovative educational materials for professionals and the public.
- Recognition of social impact: oral health influences self-esteem, employment, and quality of life.
- Environmental management: proper disposal of waste resolves a historical environmental debt.

4.3. Waste diagnosis and logistics (Mónica Méndez – PAHO Uruguay National Consultant)

- National diagnosis identified 40–50 kg of mercury across 35 sites.
- Logistic plan with collection routes and final local disposal (macro-encapsulation).
- Gender perspective: dentistry is a highly feminized profession → opportunity to promote female leadership in this transition.
- Paradigm shift: towards minimally invasive and aesthetic dentistry with higher-quality alternatives.

Conclusion Uruguay: The country consolidated a comprehensive model combining clinical prevention, academic elimination, health regulation, environmental management, and social communication, becoming a regional benchmark.

5. Experiences from other countries

- **Chile**: Amalgam use in 2024 = 0.6%. Regulatory progress, clinical guidelines, and environmental management.
- **Peru**: New Technical Standard (2024) banning amalgam in vulnerable groups, mandating pre-dosed capsules, requiring waste traps, and prioritizing alternatives.
- **El Salvador**: Eliminated in the public sector since 2021. Challenges: professional training and management of accumulated waste.
- **Costa Rica**: Target to eradicate by 2030. Active interinstitutional commission. Challenge: dependence on international agreements for waste disposal.

Panel Discussion

During the discussion, participating countries (Chile, Peru, El Salvador, Costa Rica) shared specific experiences on reducing or eliminating dental amalgam use.

Country	Advances / Regulations	Challenges	Lessons & Next Steps
Chile (Dr. Carolina Mendoza, Head, Oral Health Dept.)	Amalgam use reduced to 0.6% (2024); included in National Oral Health Plan 2021–2030; evidence-based clinical guidelines; strict waste regulations.	Maintain updated statistics; identify territorial barriers to alternatives.	Strengthen prevention across the life course; reinforce minimally invasive techniques; disseminate Minamata commitments nationally.
Peru (Dr. Lesly Tuesta Orbe, Technical Team, MoH)	New 2024 Technical Standard: bans in pregnant women, children, infants, exposed groups; only pre-dosed capsules; waste	Effective nationwide enforcement; ensure compliance in private sector.	Promote minimally invasive dentistry; coordinate health & environment in

	traps in dental units; R&D of alternatives.		legislation; consolidate audits & supervision.
El Salvador (Dr. Carlos Enrique Grajeda, Hazardous Waste Management Technician)	Amalgam eliminated in public sector (2021); procurement reform; promotion of alternative biomaterials; training through universities.	Initial resistance among professionals; no established system for historical waste.	Academia & government key in transition; urgent need for waste management mechanisms; continuous training to strengthen acceptance.
Costa Rica (Dr. Ana Gabriela Fallas, MoH)	Convention ratified 2016, in force 2017; active interinstitutional commission; eradication goal by 2030 (with exceptions); ongoing training in universities and professional boards.	Dependence on international agreements for disposal; need for stronger local management.	Strengthen national waste regulations; improve interinstitutional coordination; reinforce continuous education on mercury-free alternatives.

6. Final messages and closing

- WHO & PAHO: Urgency of establishing regulatory frameworks with clear timelines, integrating oral health into primary care, and consolidating state-level policies.
- UNEP: Commitment to technical and financial support to ensure sustainability in the transition.
- PAHO Uruguay – Wilson Benia: Confirmed that compliance with the Minamata Convention is achievable and highlighted lessons:
    - Importance of intersectoral coordination and high-level political commitment.
    - Synergy: an environmental challenge can become a driver of oral health promotion.
    - Need for international and private-sector partnerships.

7. Conclusion

The seminar demonstrated steady and diverse regional progress towards the phase-out of dental amalgam. Uruguay leads as a pioneering country; Chile, Peru, El Salvador, and Costa Rica show significant advances.
The Minamata Convention is reaffirmed as viable and transformative, and the phase-out of amalgam is consolidated as a strategic opportunity for the region: to protect health, safeguard the environment, and advance towards more preventive, equitable, and sustainable health systems.

Further resources

- Global strategy and action plan on oral health (2023–2030): https://www.who.int/es/publications/i/item/9789240090538
- Tracking progress on the implementation of the Global Oral Health Action Plan 2023–2030: baseline report(English only): https://www.who.int/publications/i/item/9789240106031

- Bangkok Declaration: https://www.who.int/publications/m/item/bangkok-declaration---no-health-without-oral-health
- GEF project knowledge hub: http://www.unep.org/phasedowndentalamalgam
- Pre-COP6 Online Side Event: “An evidence-based pathway to mercury-free materials for the prevention and management of dental caries” – Register here: https://unep.webex.com/weblink/register/r3dae0c5ebcaa73bca3bf9270c7a4edc3
- COP6 Online Events: https://minamataconvention.org/en/meetings/cop6#online-events
- PAHO Regional Webinar “Health Actions under the Minamata Convention” – October 29, 2025: https://paho-org.zoom.us/webinar/register/WN_Dh9DszNJRL-iEQvDKy_Qrw
- WHO Initiative Page: https://www.who.int/initiatives/oral-health-care-and-the-environment