



**World Health
Organization**

GEF7 PHASING DOWN DENTAL AMALGAM PROJECT

Global Project Kick-off meeting

28 April, WHO Headquarters, Geneva



**World Health
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**HEALTH
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WELCOME TO PARTICIPANTS

- Welcome and opening remarks
 - Anil Sookdeo, Global Environment Facility (GEF)
 - Ludovic Bernaudat, United Nations Environment Programme (UNEP)
- Welcome from Host Organization
 - Bente Mikkelsen, World Health Organization (WHO)



Accelerating implementation of dental amalgam provisions of the Minamata Convention on Mercury

GEF #19036: Phasing Down Dental Amalgam Project

Global Kick-off Meeting

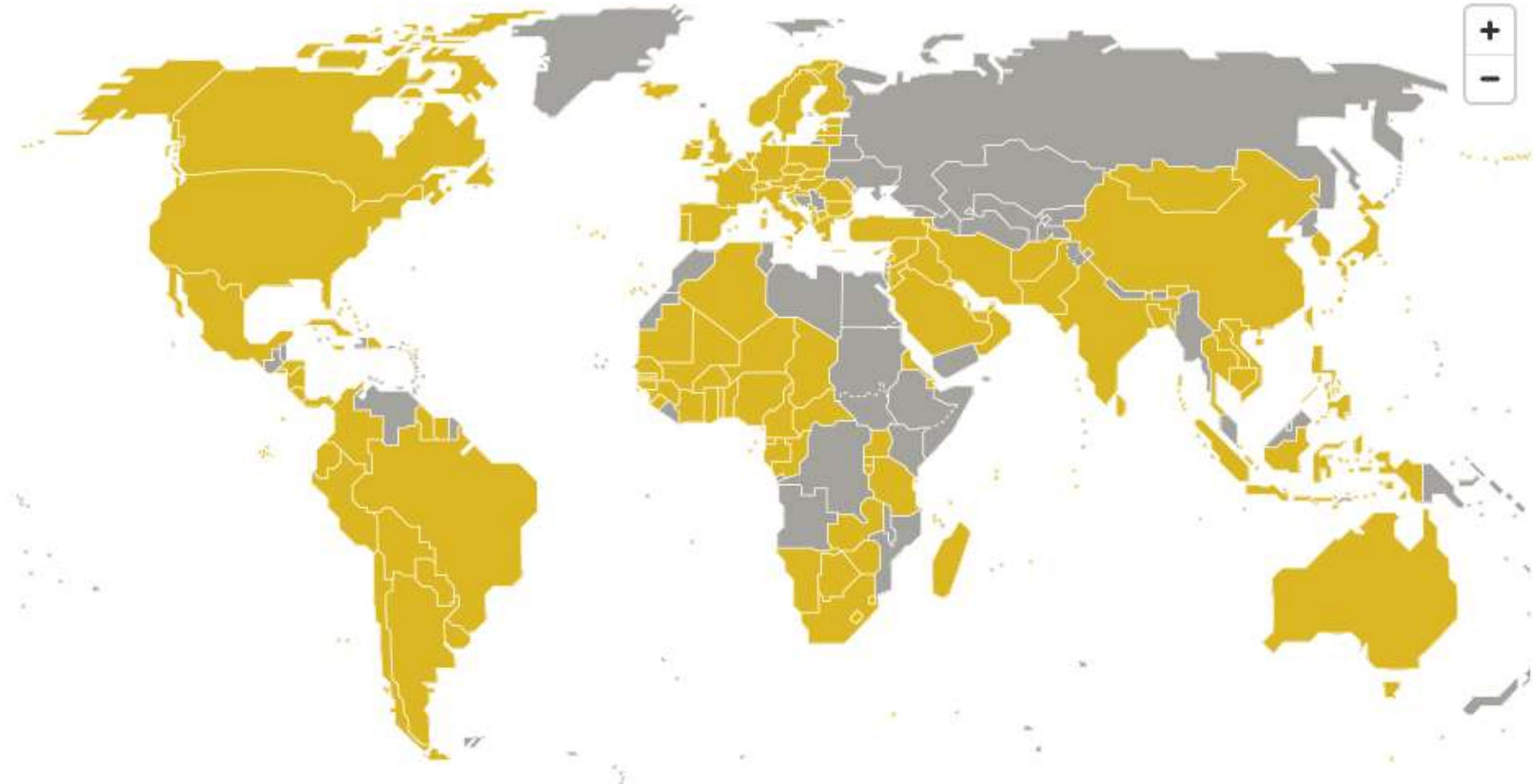
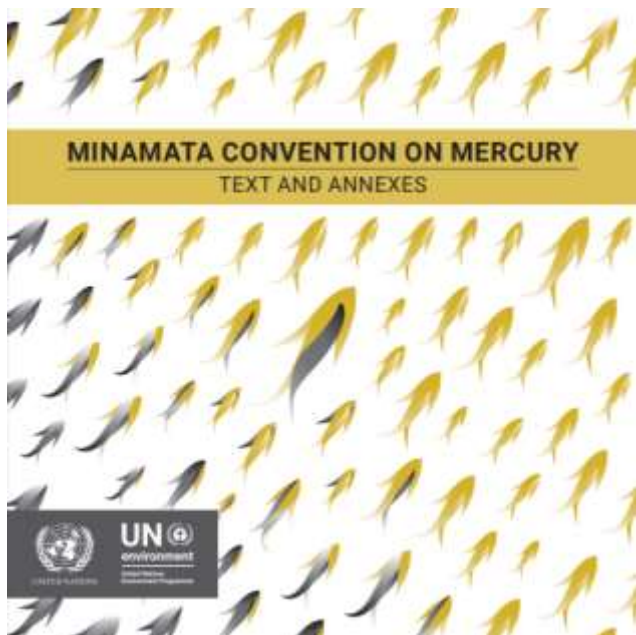
Geneva, 28 April 2023

Secretariat of the Minamata Convention

Minamata Convention of Mercury



- Objective: to **protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.**
- Adopted in October 2013, entered into force in August 2017.
- 141 parties, as of April 2023
- Addresses the whole life cycle of mercury from supply and trade to use, emissions releases and disposal.



Article 1 Objective

The objective of this Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.

Article 16 Health aspects

1. Parties are encouraged to:
 - (a) Promote the development and implementation of strategies and programmes to identify and protect populations at risk, particularly vulnerable populations, and which may include adopting science-based health guidelines relating to the exposure to mercury and mercury compounds, setting targets for mercury exposure reduction, where appropriate, and public education, with the participation of public health and other involved sectors;
 - (b) Promote the development and implementation of science-based educational and preventive programmes on occupational exposure to mercury and mercury compounds;
 - (c) Promote appropriate health-care services for prevention, treatment and care for populations affected by the exposure to mercury or mercury compounds; and
 - (d) Establish and strengthen, as appropriate, the institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to the exposure to mercury and mercury compounds.
2. The Conference of the Parties, in considering health-related issues or activities, should:
 - (a) Consult and collaborate with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate; and
 - (b) Promote cooperation and exchange of information with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, as appropriate.

Phasing out mercury-added products

- Article 4 of the Minamata Convention provides that parties **shall not allow the manufacture, import or export of mercury-added products** listed in Annex A Part I after the specified phase-out date.
- Annex A part I includes **cosmetics, biocides, topical antiseptics, thermometers and sphygmomanometers** with a phase-out date of 2020.
- The fourth meeting of the Conference of the Parties in March 2022 amended Annex A, adding eight product categories.



Mercury-added products	Phase-out date
Batteries, except for button zinc silver oxide batteries with a mercury content < 2% and button zinc air batteries with a mercury content < 2%	2020
Switches and relays, except very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg per bridge, switch or relay	2020
Compact fluorescent lamps (CFLs) for general lighting purposes that are ≤ 30 watts with a mercury content exceeding 5 mg per lamp burner	2020
Compact fluorescent lamps with an integrated ballast (CFL.i) for general lighting purposes that are ≤ 30 watts with a mercury content not exceeding 5 mg per lamp burner	2025
Linear fluorescent lamps (LFLs) for general lighting purposes: (a) Triband phosphor < 60 watts with a mercury content exceeding 5 mg per lamp; (b) Halophosphate phosphor ≤ 40 watts with a mercury content exceeding 10 mg per lamp	2020
High pressure mercury vapour lamps (HPMV) for general lighting purposes	2020
Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays: (a) short length (≤ 500 mm) with mercury content exceeding 3.5 mg per lamp (b) medium length (> 500 mm and ≤ 1 500 mm) with mercury content exceeding 5 mg per lamp (c) long length (> 1 500 mm) with mercury content exceeding 13 mg per lamp	2020
Cold cathode fluorescent lamps (CCFL) and external electrode fluorescent lamps (EEFL) of all lengths for electronic displays, not included in the listing directly above	2025

Mercury-added products	Phase-out date
Cosmetics (with mercury content above 1ppm), including skin lightening soaps and creams, and not including eye area cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available	2020
Pesticides, biocides and topical antiseptics	2020
The following non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available: (a) barometers; (b) hygrometers; (c) manometers; (d) thermometers; (e) sphygmomanometers.	2020
Strain gauges to be used in plethysmographs	2025
The following electrical and electronic measuring devices except those installed in large-scale equipment or those used for high precision measurement, where no suitable mercury free alternative is available: (a) melt pressure transducers, melt pressure transmitters and melt pressure sensors	2025
Mercury vacuum pumps	2025
Tire balancers and wheel weights	2025
Photographic film and paper	2025
Propellant for satellites and spacecraft	2025

Phasing down dental amalgam

- Annex A Part II listed nine measures of which parties were to take two or more.
- Two mandatory measures were added on the use of amalgam in **bulk form** and its use for **children and pregnant/breastfeeding women**.



Mercury-added products	Provisions	Dental amalgam	
Dental amalgam	<p>Measures to be taken by a Party to phase down the use of dental amalgam shall take into account the Party's domestic circumstances and relevant international guidance and shall include two or more of the measures from the following list:</p> <ul style="list-style-type: none"> (i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration; (ii) Setting national objectives aiming at minimizing its use; (iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration; (iv) Promoting research and development of quality mercury-free materials for dental restoration; (v) Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices; 		<ul style="list-style-type: none"> (vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration; (vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration; (viii) Restricting the use of dental amalgam to its encapsulated form; (ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land. <p>In addition, Parties shall:</p> <ul style="list-style-type: none"> (i) Exclude or not allow, by taking measures as appropriate, the use of mercury in bulk form by dental practitioners; (ii) Exclude or not allow, by taking measures as appropriate, or recommend against the use of dental amalgam for the dental treatment of deciduous teeth, of patients under 15 years and of pregnant and breastfeeding women, except when considered necessary by the dental practitioner based on the needs of the patient.

COP-3: Consideration on dental amalgam

COP-3 in November 2019 considered a proposal by a number of parties in Africa to amend annex A, providing for the phase-out of the manufacture, import and export of dental amalgam. As a result of its deliberation, COP adopted decision [MC-3/2](#) on dental amalgam:

- Encourage parties to **take more than the two required measures** to phase down the use of dental amalgam
- Request the **secretariat to collect information on the implementation** of any such additional measures taken by parties
- Requested the **secretariat to collect information related to the availability, technical and economic feasibility and environmental and health risks and benefits of the non-mercury alternatives** to dental amalgam



COP-4: Amendment of Annex A Part II

COP-4 in March 2022 considered proposals by European Union and Africa region amend Annex A Part II, and **adopted decision [MC-4.3](#) to amend Annex A**. to add the following mandatory measures:

- Exclude or not allow, by taking measures as appropriate, the use of mercury in bulk form by dental practitioners;
- Exclude or not allow, by taking measures as appropriate, or recommend against the use of dental amalgam for the dental treatment of deciduous teeth, of patients under 15 years and of pregnant and breastfeeding women, except when considered necessary by the dental practitioner based on the needs of the patient.

The amendment will **enter into force on 28 September 2023** (one year after the communication by the Depositary), unless a party has other provisions on entry into force.



Measures reported by parties to COP-4



Measure listed in part II of annex A	Parties and non-parties that have taken or plan to take the measure
(i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration	Brazil, Canada, Japan, Philippines, United States
(ii) Setting national objectives aiming at minimizing use of dental amalgam	Brazil, Cameroon, Congo, European Union, Italy, Thailand, Viet Nam
(iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration	Brazil, Japan, Thailand, Viet Nam
(iv) Promoting research and development of quality mercury-free materials for dental restoration	Brazil, Japan, United States
(v) Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices	Japan, Nepal, Philippines, Thailand, United States
(vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration	Japan
(vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration	Japan
(viii) Restricting the use of dental amalgam to its encapsulated form	Brazil, Canada, European Union, Thailand
(ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land	Brazil, Canada, European Union, Japan, Mozambique, Philippines, Thailand, United States

Other measures taken by parties and non-parties include the following:

- Legislation prohibiting the use of dental amalgam for children and pregnant or breastfeeding women (European Union, Nepal)
- Recommendation that certain high-risk groups use non-mercury alternatives for dental fillings (United States)
- Technology-based pre-treatment standard for discharges from dental offices (United States)
- Awareness-raising activities (Congo, Côte d'Ivoire, Jordan, Mozambique)

See document [UNEP/MC/COP.4/5](#)

National reporting under Minamata Convention



- Article 21 of the Convention provides that parties shall report to the Conference of the Parties (COP) on the measures it has taken to implement the Convention.
 - The first full national report was due by 31 December 2021 (after the first short report in 2019). The submitted reports are available on the Convention [website](#).
- The national reports include response to a question *“Has the party taken two or more measures for the mercury-added products listed in part II of annex A in accordance with the provisions set out therein?”*
 - 28 out of 113 parties responded “No”.
 - The Secretariat analyzed the responses and reported to the Implementation and Compliance Committee at its meeting in March 2023. Out of 86 parties that responded “yes”, 29 parties only reported on one measure. Further analysis will be presented to COP-5.

Measures reported in national reporting

Measure listed in part II of annex A	Number of Parties reporting to have taken measures
(i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration	25
(ii) Setting national objectives aiming at minimizing use of dental amalgam	13
(iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration	18
(iv) Promoting research and development of quality mercury-free materials for dental restoration	5
(v) Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices	24
(vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration	8
(vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration	5
(viii) Restricting the use of dental amalgam to its encapsulated form	27
(ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land	37

Other measures reported by parties include the following:

- Banning the use of dental amalgam for persons under 15 years of age, pregnant and breastfeeding women (14 parties).
- Restricting the construction, renovation, and expansion of dental amalgam material production devices (1 party).
- Banning the use of dental amalgam (5 parties).
- Setting a national deadline for phasing out the use of dental amalgam (7 parties).
- Phasing out dental amalgam in the public sector (8 parties)

Global Workshop: Implementing the Minamata Convention obligations on mercury-added products



- ▶ Out of 113 Parties that submitted national reports under Article 21, 33 Parties responded that they have not taken measures for phase-out.
- ▶ The Implementation and Compliance Committee of the Minamata Convention reviewed the implementation status of the 2020 deadline, and invited relevant Parties to inform of a strategy on how they plan to address challenges they face, and a proposed time schedule with milestones to implement relevant paragraphs of Article 4.
- ▶ In order to support the Parties to catch-up with the 2020 deadline and to address the new 2025 deadline, as well as to phase down dental amalgam, the Minamata Convention Secretariat is organizing a global three-day workshop with financial support from the European Commission.
 - **Venue: International Environment House I, Geneva**
 - **Date: 21-23 June 2023**
- ▶ Parties that reported on challenges in implementing 2020 deadline are invited to develop:
 - Elements of **national strategy, time schedule and needs for support** to implement Article 4 of the Convention.
 - Plans for **regional support activities** to support the development of national strategies to implement Article 4.



MINAMATA
CONVENTION
ON MERCURY

Thank you for your attention

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[#MakeMercuryHistory](https://twitter.com/minamataMEA)

GEF7 PHASING DOWN DENTAL AMALGAM PROJECT

PROJECT OVERVIEW - TECHNICAL

Benoit Varenne

WHO Oral Health Programme, NCD Department

GEF7 Phasing Down Dental Amalgam - Global Project Kick-off meeting, 28 April 2023



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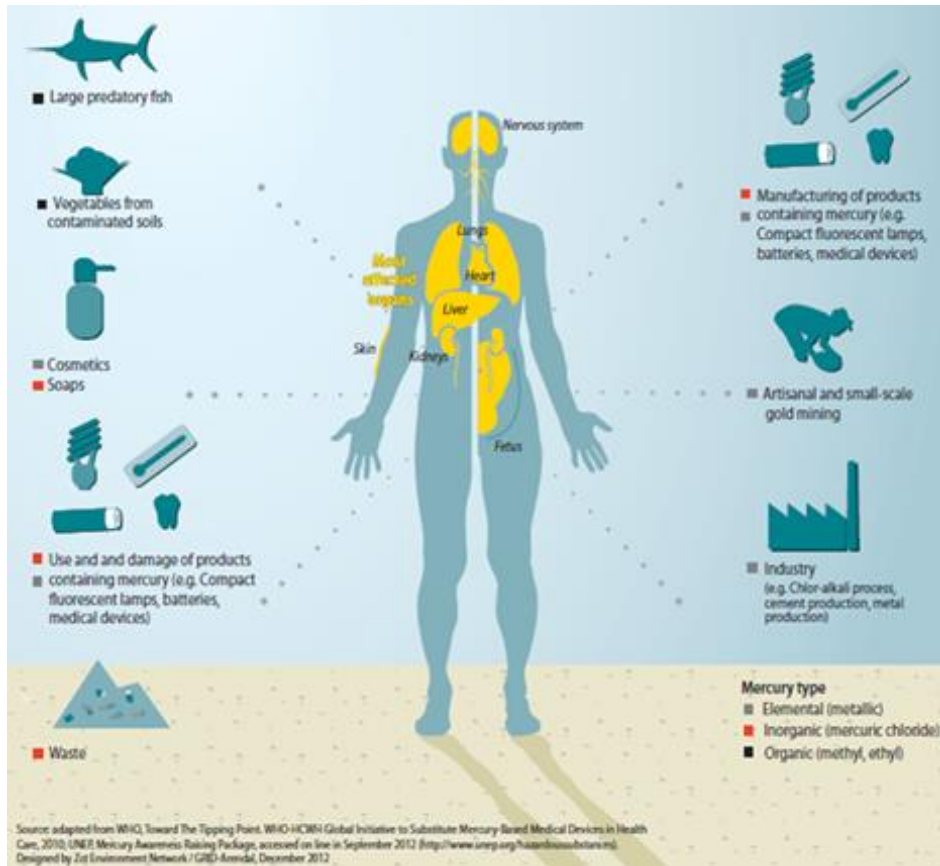


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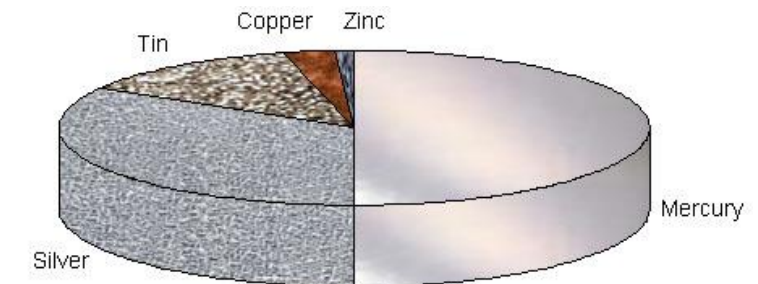
OUTLINE

- Brief background, including amended annex A Part II of the convention
- Alignment of project and WHO's mandate
- Key project details
- Project objective and scope (components, outcomes, outputs and main activities)
- Project timeline
- Project key milestones in 2023
- Project stakeholders

BACKGROUND



- Mercury (Hg) is a toxic substance and a global pollutant that poses adverse effects to human health and the environment.
- Dental amalgam is a dental filling material used to fill cavities caused by tooth decay, and it is a significant source of mercury pollution.
- Dental amalgam is a mixture of metals, consisting of elemental mercury (~50%) and a powdered alloy composed of silver, tin, and copper.



BACKGROUND

Part II: Products subject to Article 4, paragraph 3

Mercury-added products	Provisions
Dental amalgam	<p>Measures to be taken by a Party to phase down the use of dental amalgam shall take into account the Party's domestic circumstances and relevant international guidance and shall include two or more of the measures from the following list:</p> <ul style="list-style-type: none"> (i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration; (ii) Setting national objectives aiming at minimizing its use; (iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration; (iv) Promoting research and development of quality mercury-free materials for dental restoration; (v) Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices; (vi) Discouraging insurance policies, and programmes that favour dental amalgam use over mercury-free dental restoration; (vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration; (viii) Restricting the use of dental amalgam to its encapsulated form; (ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land. <p>In addition, Parties shall:</p> <ul style="list-style-type: none"> (i) Exclude or not allow, by taking measures as appropriate, the use of mercury in bulk form by dental practitioners; (ii) Exclude or not allow, by taking measures as appropriate, or recommend against the use of dental amalgam for the dental treatment of deciduous teeth, of patients under 15 years and of pregnant and breastfeeding women, except when considered necessary by the dental practitioner based on the needs of the patient.



The Minamata Convention on Mercury is a global treaty that aims to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.



- Article 4 of the Minamata Convention addresses mercury-added products, including dental amalgam
- Annex A, Part II provides:
 - nine measures to phase down the use of dental amalgam, taking into account domestic circumstances and international guidance
 - two additional mandatory measures to be implemented (as amended by COP4)

ALIGNMENT OF PROJECT AND WHO'S MANDATE

Resolution WHA67.11 (2014)

SIXTY-SEVENTH WORLD HEALTH ASSEMBLY WHA67.11
Agenda item 14.5 24 May 2014

Public health impacts of exposure to mercury and mercury compounds: the role of WHO and ministries of public health in the implementation of the Minamata Convention

The Sixty-seventh World Health Assembly,

Having considered the report on public health impacts of exposure to mercury and mercury compounds: the role of WHO and ministries of public health in the implementation of the Minamata Convention;

Recalling World Health Assembly resolutions WHA60.17 on oral health: action plan for promotion and integrated disease prevention, WHA63.25 on the improvement of health through safe and environmentally sound waste management, and WHA59.15 on the Strategic Approach to International Chemicals Management, as well as the strategy for strengthening the engagement of the health sector in the implementation of the strategic approach adopted by the International Conference on Chemicals Management at its third session;

Recognizing the importance of dealing effectively with the health aspects of the challenges that chemicals and wastes, including mercury, may pose, particularly to vulnerable populations, especially women, children, and, through them, future generations;

Recalling the renewed commitments on sustainable development set out in the United Nations Conference on Sustainable Development Rio+20 outcome document "The future we want", of June 2012, as well as the Adelaide Statement on Health in All Policies of 2010, and the 8th Global Conference on Health Promotion, held in Helsinki in 2013, which promoted intersectoral collaboration across all sectors to achieve healthy populations;

Taking note that negotiations on the text of a new multilateral environmental agreement on mercury were concluded in October 2013 with the adoption of the Minamata Convention on Mercury, being the first time that a multilateral environmental agreement includes a specific article on health, as well as other relevant provisions, and that the Convention places certain obligations on Parties that will require action, as applicable, by the health sector, together with other competent sectors, including the progressive phase-out, resulting from banning the manufacture, import or export by 2020 of mercury thermometers and sphygmomanometers, of mercury-containing cosmetics, including skin-lightening soaps and creams, and mercury-containing topical antiseptics, measures to be taken to

¹ Document A67/24.

Resolution WHA74.5 (2021)

SEVENTY-FOURTH WORLD HEALTH ASSEMBLY WHA74.5
Agenda item 13.2 31 May 2021

Oral health

The Seventy-fourth World Health Assembly,

Having considered the consolidated report by the Director-General;¹

Recalling resolutions WHA60.17 (2007) on oral health: action plan for promotion and integrated disease prevention, WHA69.3 (2016) on the global strategy and action plan on ageing and health 2016-2020: towards a world in which everyone can live a long and healthy life, WHA72.2 (2019) on primary health care; and decisions WHA72(11) (2019) on the follow-up to the political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases and WHA73(12) (2020) on the Decade of Healthy Ageing 2020-2030;

Mindful of the 2030 Agenda for Sustainable Development, in particular Sustainable Development Goal 3 (Ensure healthy lives and promote well-being for all at all ages), and recognizing the important intersections between oral health and other Sustainable Development Goals, including Goal 1 (End poverty in all its forms and everywhere), Goal 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture), Goal 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) and Goal 12 (Ensure sustainable consumption and production patterns);

Recalling the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases (2011), recognizing that oral diseases pose a major challenge and could benefit from common responses to noncommunicable diseases;

Recalling also the political declaration of the high-level meeting on universal health coverage (2019), including the commitment therein to strengthen efforts to address oral health as part of universal health coverage;

Mindful of the Minamata Convention on Mercury (2013), a global treaty to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds, calling for phase-down of the use of dental amalgam taking into account domestic circumstances and relevant international guidance; and recognizing that a viable replacement material should be developed through focused research;

Recognizing that oral diseases are highly prevalent, with more than 3.5 billion people suffering from them, and that oral diseases are closely linked to noncommunicable diseases, leading to a

¹ Document A74/10 Rev.1.

KEY PROJECT DETAILS

Project title	'Accelerate implementation of dental amalgam provisions and strengthen country capacities in the environmental sound management of associated wastes under the Minamata Convention' (GEF 7 Phasing Down Dental Amalgam Project)
Funded by	Global Environment Facility (GEF)
GEF Project ID	19036
Implementing agency	United Nations Environment Programme (UNEP)
Executing agency	World Health Organization (WHO)
Project duration	3 years (1 March 2023 – 28 February 2026)
Project area	<ul style="list-style-type: none">• Senegal, Thailand, Uruguay• Global



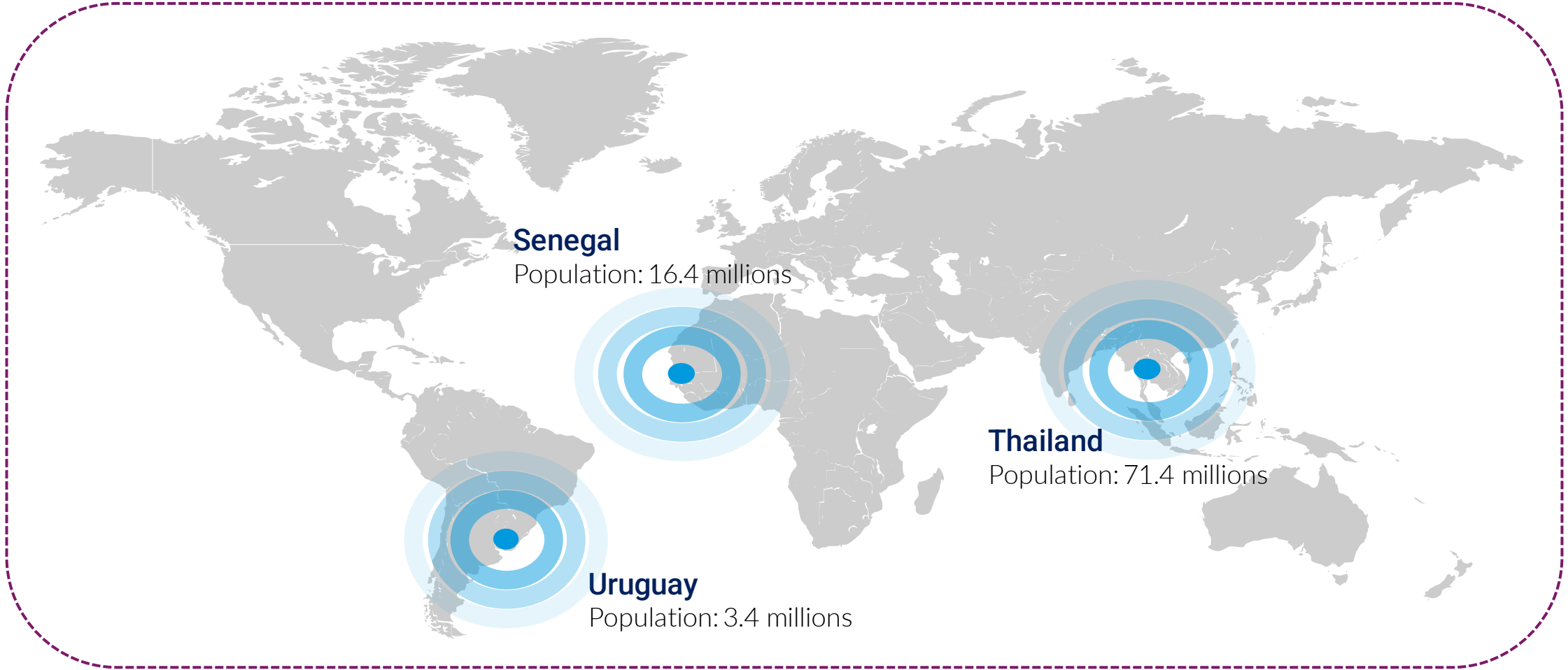
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PROJECT AREA

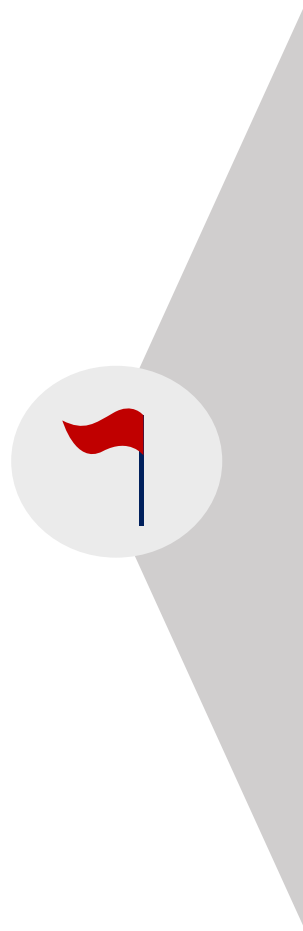
Knowledge management and global awareness



PROJECT SCOPE: OBJECTIVE, COMPONENTS AND OUTCOMES

Project objective

To protect human health and the environment from harmful effects of mercury through implementation of policies and improved practices to phase down the use of dental amalgams



- 1** Phase down of dental amalgam use through improved policies and technical capacity
- 2** Improve management of mercury and hazardous waste from dental use
- 3** Knowledge management and global awareness

PROJECT OVERALL TARGETS

1. **Reduction and avoidance of approximately 11.6 tons** (Approximately 0.3 tons of mercury to be reduced and 11.3 tons to be avoided)
2. **Three sets of national policies** developed and implemented to minimize the use of dental amalgam in line with related provisions of the Minamata Convention
3. **One global guidance developed** on how to effectively manage **dental amalgam and associates wastes**
4. **Expected total beneficiaries** from the project in three target countries include: **Men: 14,750,043; Women: 14,750,043**
5. **At least 3 additional countries demonstrate implementation of Annex A Part II** of the Minamata Convention through project dissemination



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GEF 7 Phasing Down Dental Amalgam Project

1. Phase down dental amalgam use through improved policies and technical capacity

1.1.1. Project countries strengthened their regulatory and technical capacities to accelerate the implementation of the provisions for dental amalgam in line with the Minamata Convention

1.1.1.1. Produce a global technical report drawing upon national assessments in project countries, on the inventory of trade (including possible diversion to non-dental use), supply, stockpiles, mercury releases, and of quality mercury free materials

1.1.1.2. Develop case studies and awareness raising materials, to include lessons learned and best practices, for the dental amalgam phase down and environmentally sound management of dental amalgam waste and other types of hazardous wastes

1.1.1.3. Assess insurance policies and programmes (both public and private) of the three project countries and provide recommendations to encourage insurance policies and programme that favour the use of quality alternatives to dental amalgam

1.1.1.4. Facilitate and support the process of establishing or improving regulations/policies in project countries, including recommendations to improve dental materials/devices management and supply chain management, and restricting the use of dental amalgam to its encapsulated form and ensure its environmentally sound management as waste

1.1.1.5. Organize and provide country specific assistance to reorient health workforce education and training in support of population health needs approach and use of quality mercury free alternatives to dental amalgam

2. Improve management of mercury and hazardous waste from dental use

2.1.1. Feasibility on the application of sound management and disposal schemes for dental amalgam are tested and dental wastes transported and disposed

2.1.1.1. Develop process and criteria for the selection and installation of dental amalgam separators (match separator suppliers with dental facilities in Senegal and Thailand)

2.1.1.2. Install dental amalgam separators and provide appropriate training

2.1.1.3. Manage and dispose of dental amalgam waste collected through the project in an environmentally friendly manner (evaluation of health system wide approach on mercury waste management will be conducted)

2.1.1.4. Produce a technical report, including lessons learned, identified waste management options, financial and sustainable considerations, on best environmental practices of alternative materials used in dental restoration

3. Knowledge management and global awareness

3.1.1. Guidance materials updated on future use of dental restoration materials and global database established to inform project outputs, COP and reporting

3.1.1.1. Update and enhance an existing WHO/UNEP guidance (Future Use of Materials for Dental Restoration, 2009) through an expert group and subsequent virtual consultations

3.1.1.2. Establish a global database to inform project outputs/results, relevant decisions of Conference of the Parties and reporting (Art.21)

3.1.2. Lessons learned collected, systematized and distributed by the knowledge hub through Global Mercury Partnership

3.1.2.1. Conduct national and sub-regional meetings (inception, midterm, and final meetings)

3.1.2.1. Establish a knowledge hub within the Global Mercury Partnership and through the GGKP platform for dissemination and exchange of information and expertise at the global level

3.1.2.3. Conduct national awareness raising events to disseminate project results

3.1.2.4. Present project findings at relevant international and regional meetings

Project components

Project outputs

Project activities

PROJECT SCOPE: OUTPUTS AND MAIN ACTIVITIES

PROJECT TIMELINE

GEF 7 Project activities	2023				2024				2025				2026			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
COMPONENT 1, OUTPUT 1.1.1.			[Gantt bar spanning Q3 2023 to Q4 2025]													
1.1.1.1. Produce a global technical report drawing upon national assessments in project countries, on the inventory of trade (including possible diversion to non-dental use), supply, stockpiles, mercury releases, and of quality mercury free materials			[Gantt bar spanning Q3 2023 to Q3 2024]													
1.1.1.2. Develop case studies and awareness raising materials, to include lessons learned and best practices, for the dental amalgam phase down and environmentally sound management of dental amalgam waste and other types of hazardous wastes				[Gantt bar spanning Q1 2024 to Q2 2025]												
1.1.1.3. Assess insurance policies and programmes (both public and private) of the three project countries and provide recommendations to encourage insurance policies and programme that favour the use of quality alternatives to dental amalgam			[Gantt bar spanning Q3 2023 to Q2 2024]													
1.1.1.4. Facilitate and support the process of establishing or improving regulations/policies in project countries, including recommendations to improve dental materials/devices management and supply chain management, and restricting the use of dental amalgam to its encapsulated form and ensure its environmentally sound management as waste			[Gantt bar spanning Q3 2023 to Q4 2025]													
1.1.1.5. Organize and provide country specific assistance to reorient health workforce education and training in support of population health needs approach and use of quality mercury free alternatives to dental amalgam			[Gantt bar spanning Q3 2023 to Q2 2025]													
COMPONENT 2, OUTPUT 2.1.1.				[Gantt bar spanning Q1 2024 to Q4 2025]												
2.1.1.1. Develop process and criteria for the selection and installation of dental amalgam separators (match separator suppliers with dental facilities in Senegal and Thailand)				[Gantt bar spanning Q1 2024 to Q2 2024]												
2.1.1.2. Install dental amalgam separators and provide appropriate training				[Gantt bar spanning Q2 2024 to Q3 2025]												
2.1.1.3. Manage and dispose of dental amalgam waste collected through the project in an environmentally friendly manner (evaluation of health system wide approach on mercury waste management will be conducted)								[Gantt bar spanning Q1 2025 to Q4 2025]								
2.1.1.4. Produce a technical report, including lessons learned, identified waste management options, financial and sustainable considerations, on best environmental practices of alternative materials used in dental restoration								[Gantt bar spanning Q1 2025 to Q4 2025]								
COMPONENT 3, OUTPUT 3.1.1.			[Gantt bar spanning Q3 2023 to Q4 2025]													
3.1.1.1. Update and enhance an existing WHO/UNEP guidance (Future Use of Materials for Dental Restoration, 2009) through an expert group and subsequent virtual consultations				[Gantt bar spanning Q1 2024 to Q4 2025]												
3.1.1.2. Establish a global database to inform project outputs/results, relevant decisions of Conference of the Parties and reporting (Art.21)			[Gantt bar spanning Q3 2023 to Q4 2025]													
COMPONENT 3, OUTPUT 3.1.2.		[Gantt bar spanning Q2 2023 to Q4 2025]														
3.1.2.1. Conduct national and sub-regional meetings (inception, midterm, and final meetings)		[Gantt bar spanning Q2 2023 to Q4 2025]														
3.1.2.1. Establish a knowledge hub within the Global Mercury Partnership and through the GGKP platform for dissemination and exchange of information and expertise at the global level						[Gantt bar spanning Q2 2024 to Q4 2025]										
3.1.2.3. Conduct national awareness raising events to disseminate project results									[Gantt bar spanning Q2 2025 to Q4 2025]							
3.1.2.4. Present project findings at relevant international and regional meetings									[Gantt bar spanning Q2 2025 to Q4 2025]							

PROJECT STAKEHOLDERS



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10936 Phasing Down Dental Amalgam and Improve Management of Associated Wastes

Implementation Arrangements



GRACE HALLA
Task Manager
26-27 April 2023





1000 Projects



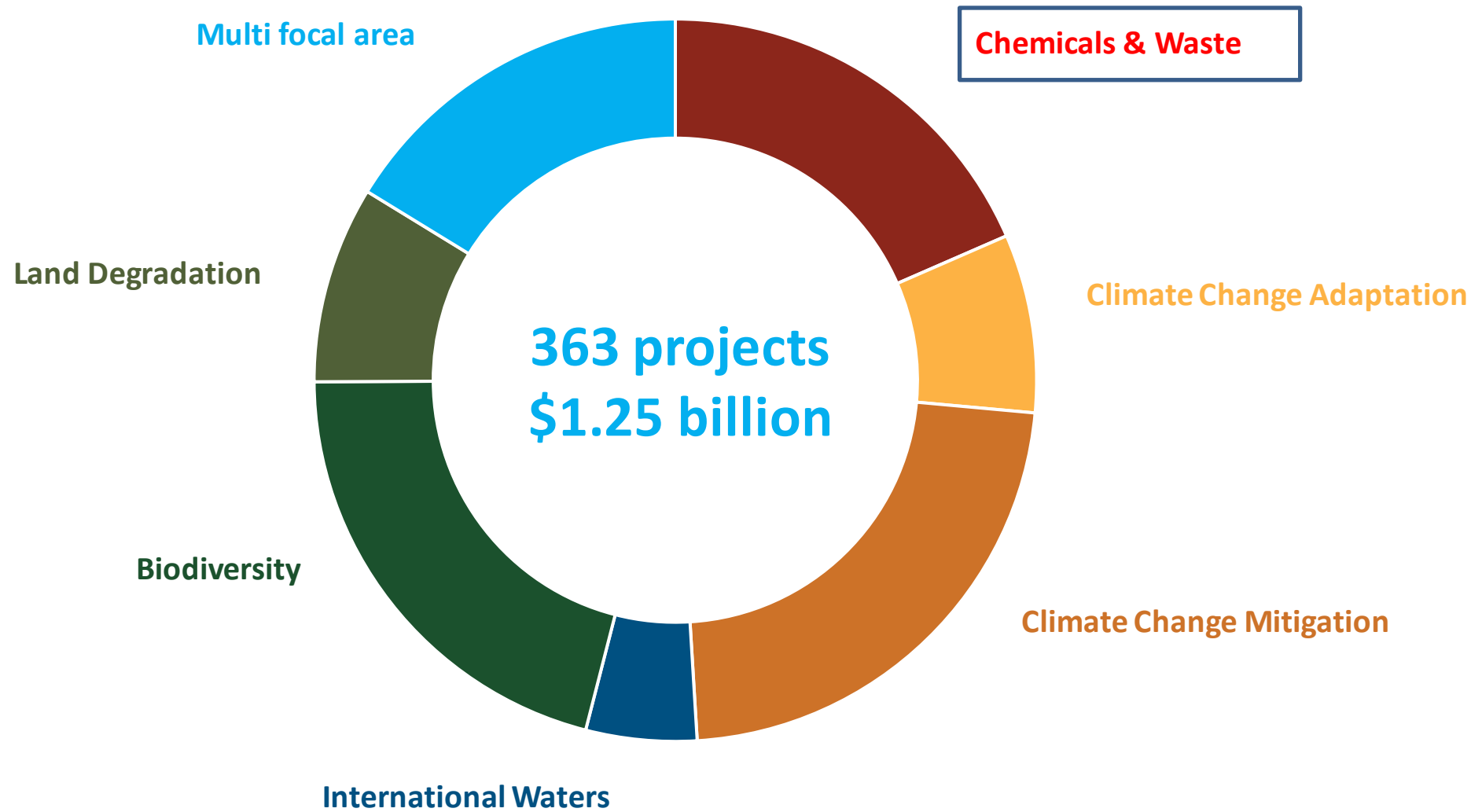
Collaborated on over 1000 projects in more than 160 countries

30 Years



As founder of the GEF, UNEP has been a key implementor since 1991

UNEP's GEF Portfolio



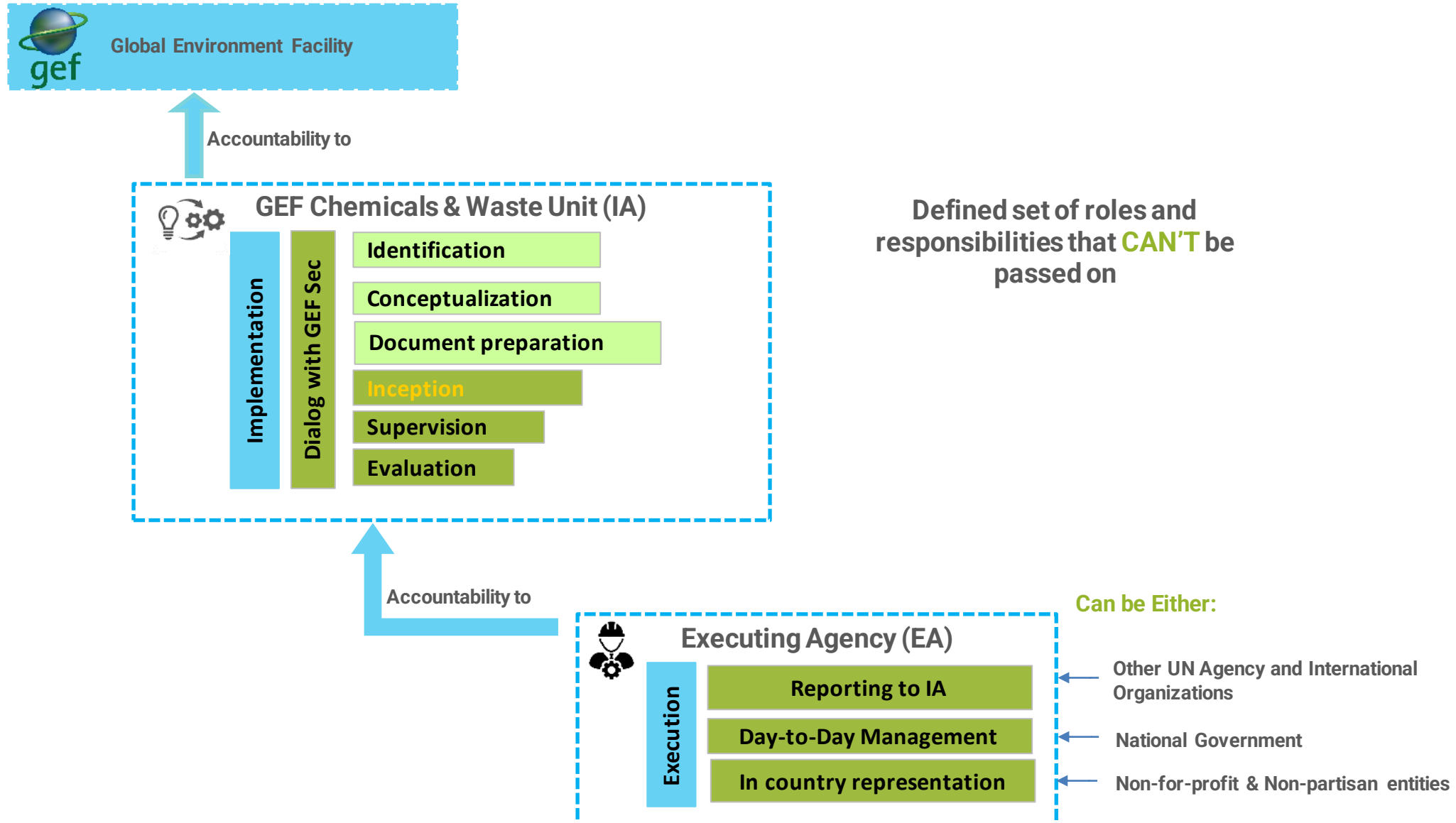
Mercury Portfolio

- Programme: 1 active (UNEP is the lead)
- FSP: 10 active, 2 in preparatory phase, 4 in pipeline
- MSP: 3 active, 2 in pipeline
- Enabling Activity: 21 active, 3 in pipeline

- Approx. total value = \$84.3M (active)
 - \$76.3M (FSPs and MSPs)
 - \$8M (enabling activity)



Implementation vs. Execution



Implementation role - UNEP

- Contracting of executing agencies (WHO) and targeted technical assistance (Global Mercury Partnership)
- Supervision
 - Compliance with project framework strategies (procurement plan, risk management plan, stakeholder engagement plan, gender and communication plan)
 - Clear quarterly progress and expenditure reports
 - Submit annual PIR to GEF Secretariat
 - Supervision missions (coincide with annual PSC meeting)
- Technical and administrative guidance as needed & quality assurance
- Terminal Evaluation
- Coordination and consultation
(e.g. GEF Sec, Minamata Sec & GEF operational focal points)

Execution roles

WHO – Executing Agency

- Execution on day-to-day basis - overall project management and HR
- Agreements with project countries
- Responsible to IA and Global PSC for achievement of outputs and activities
- Secretary of PSC and support National PSCs
- Reports to IA on quarterly basis (expenditure and consolidated progress report) and annual (annual workplan & forecast, PIR)

Global Mercury Partnership – Targeted Technical Assistance

- Support and document the environment sound management of dental waste in each target country
- Knowledge generation, curation and dissemination
- Global communication, advocacy, and campaigns
- Data and trend analysis

Project Steering Committees (Global and National)



Global Project Steering Committee (G-PSC)

- Established at inception | Meet annually | Review and approve workplans and budgets
- Overall supervision implementation | corrective actions | coordination | synergies related activities in region
- Members: WHO (Secretary), GEF (1), UNEP (1), National Focal Points (MoE & MoH)
- ToRs developed at inception by WHO (**shared and to be finalized before summer**)

National Project Steering Committee (N-PSC)

- Alignment with national priorities, stakeholders and activities
- Meet every 6 months or as needed
- Members: at least 1 representative from different national entities (e.g., MoE, MoH, Civil Society Organizations, Academics, Private Sector)
- MoE and MoH as Co-Chairs and WHO Regional and National Offices: day-to-day management/Secretary
- ToRs to be developed by WHO (**to be developed and finalized in second half of 2023**)

WHO (HQ, Regional and Country Offices)



Project Management

1. Selection and recruitment of global and national consultants/manage country contracts
2. Consultations and preparation of global and national annual budget, workplan and procurement plan
3. Reporting of progress and barriers
4. Quarterly expenditure and progress reports
5. Annual PIR and co-finance report
6. Secretariat to and participation in the global and national PSCs

Technical Components

7. Supervision and management of global and national consultants/contracts including review of outputs and deliverables
8. Organization of global and national meetings, consultations and events including national workshops and trainings
9. Contracting of global and national and/or community-based organizations for awareness raising campaigns

Role of Co-Financing Partners

Definition

1. Financing that is additional to GEF project financing, and supports the implementation of GEF financed projects and achievement of its objectives
2. Parallel and ongoing initiatives that contribute to effectiveness, impacts and sustainability, **particularly by enabling the GEF to achieve** longer-lasting and larger-scale global environmental benefits (synergies, co-benefits and complementarity)
3. After co-financing is secured (through an official letter) and project is approved, they are monitored and reported on the actual amounts, sources and types (goods, services, resources).
4. No financial transaction is expected between the project and co-financing partners
5. Additional co-financing can be secured during project implementation

Expectations and Reporting

1. Support and participate in country level activities through consultations with WHO, Global Mercury Partnership and national counterparts (no decision-making role on project activities)
2. Assess and provide co-financing figures on an annual basis (July) to WHO and/or Global Mercury Partnership (reminder will be sent)

Co-Financing Partners

- Association for Dental Education, Asia Pacific
- Aide Odontologique International
- Batrech Industrie AG
- Charité University
- Dental Recycling International (DRI)
- Ecocycle Pty Ltd
- Enretec
- FDI World Dental Federation
- International Association for Dental Research
- Kings College London
- Metasys
- Ministries of Health (Senegal, Thailand, Uruguay)
- SDI limited
- Separatory Amalgamatu
- Solmetex
- UNEP (Global Mercury Partnership)
- University of Sheffield
- WHO

Activities eligible for using GEF funds



As per GEF Policy and Programme Document 2020, following activities are eligible for GEF project funding

Staffing costs, including:

- ✓ Project manager;
- ✓ Project assistant and technical specialist(s);
- ✓ Procurement specialist; and/or Financial specialist.

Project-related activities of Executing Entity, including:

- ✓ Preparation of procurement plans;
- ✓ Terms of reference and procurement packages;
- ✓ Management of consultant activities;
- ✓ Management of output deliverables;
- ✓ Maintenance of records of all project-related documentation
- ✓ Management and administration of the Knowledge Management Plan;
- ✓ Preparation of progress reports and financial reports for the project;
- ✓ Consultation with project stakeholders;
- ✓ Financial auditing for the project (under PMC)

Activities ineligible for using GEF funds

- As per GEF Policy and Programme Document 2020, following activities are not eligible for GEF project funding
 - ✗ Government staff salaries, benefits, bonuses or other emoluments (not eligible for any GEF project funding);
 - ✗ Purchase of vehicles;
 - ✗ Monitoring of project indicators and periodic monitoring report are not eligible for Project Management Cost (this should be budgeted under the M&E Budget);
 - ✗ Salaries and fees for GEF Implementing Agency staff or consultants;



Contact Us

For any questions or clarifications

Name

Grace Halla

Title

Programme Officer

Unit

GEF Chemicals and Waste

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Grace.halla@un.org



**World Health
Organization**

Project Component 1 session: Phase down of dental amalgam use through improved policies and technical capacity

Session moderator: Sushera Bunluesin, WHO Thailand



PROJECT COMPONENT 1 SCOPE: OUTCOMES, TARGETS, DELIVERABLES

BRIEF OVERVIEW

Gabriela Sardon

WHO Oral Health Programme, NCD Department

GEF7 Phasing Down Dental Amalgam - Global Project Kick-off meeting, 28 April 2023



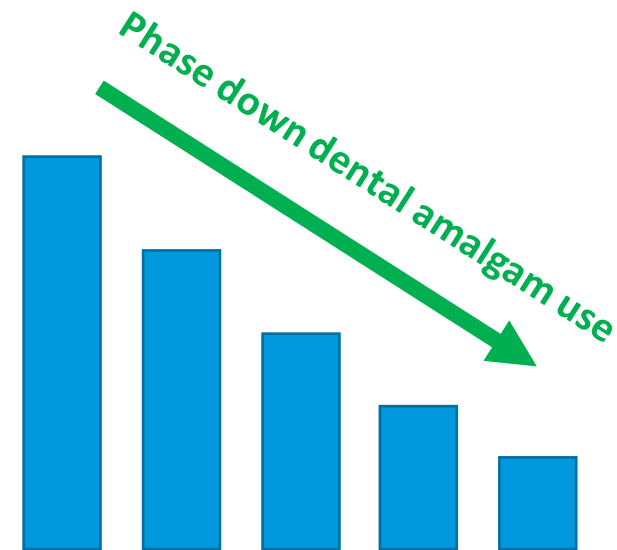
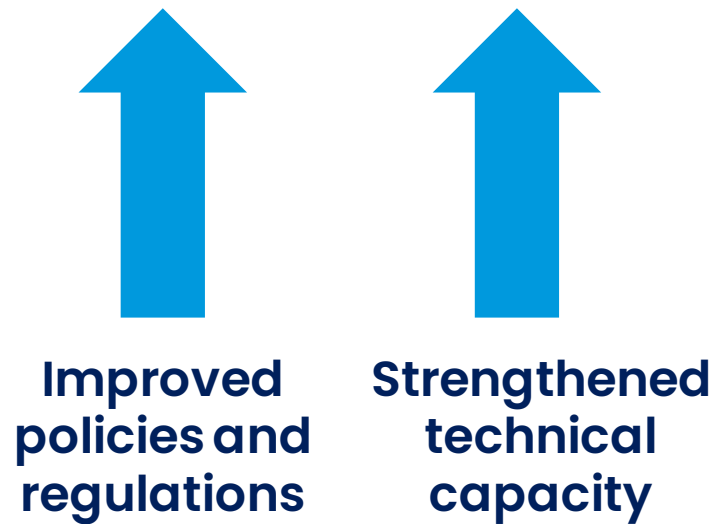
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COMPONENT 1: PHASE DOWN OF DENTAL AMALGAM USE THROUGH IMPROVED POLICIES AND TECHNICAL CAPACITY

Output 1.1.1. Project countries strengthened their regulatory and technical capacities to accelerate the implementation of the provisions for dental amalgam in line with the Minamata Convention



COMPONENT 1: TARGETS



3 sets of national policies developed and implemented (one per country) to minimize the use of dental amalgam in line with related provisions of the Minamata Convention



10% increase in dental facilities in each target country switching to mercury free alternatives



10% increase in population in each target country with dental health insurance which excludes application of dental amalgam (50% men and 50% women)

COMPONENT 1: MAIN ACTIVITIES AND DELIVERABLES

Main activities

Deliverables

1.1.1.1. Produce a global technical report drawing upon national assessments in project countries, on the inventory of trade (including possible diversion to non-dental use), supply, stockpiles, mercury releases, and of quality mercury free materials



National assessments and inventory

1 Global technical report

1.1.1.2. Develop case studies and awareness raising materials, to include lessons learned and best practices, for the dental amalgam phase down and environmentally sound management of dental amalgam waste and other types of hazardous wastes



3 case studies (1 per country)

1.1.1.3. Assess insurance policies and programmes (both public and private) of the three project countries and provide recommendations to encourage insurance policies and programme that favour the use of quality alternatives to dental amalgam



3 assessment reports (1 per country)

1.1.1.4. Facilitate and support the process of establishing or improving regulations/policies in project countries, including recommendations to improve dental materials/devices management and supply chain management, and restricting the use of dental amalgam to its encapsulated form and ensure its environmentally sound management as waste



3 sets of national policies (1 per country)

1.1.1.5. Organize and provide country specific assistance to reorient health workforce education and training in support of population health needs approach and use of quality mercury free alternatives to dental amalgam



3 trainings provided to oral health workforce (1 per country)



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**CONTEXTE NATIONAL, DÉFIS ET POSSIBILITÉS D'AMÉLIORER LES
POLITIQUES ET LA CAPACITÉ TECHNIQUE AFIN DE RÉDUIRE
PROGRESSIVEMENT L'UTILISATION DES AMALGAMES DENTAIRES AU
SENEGAL**



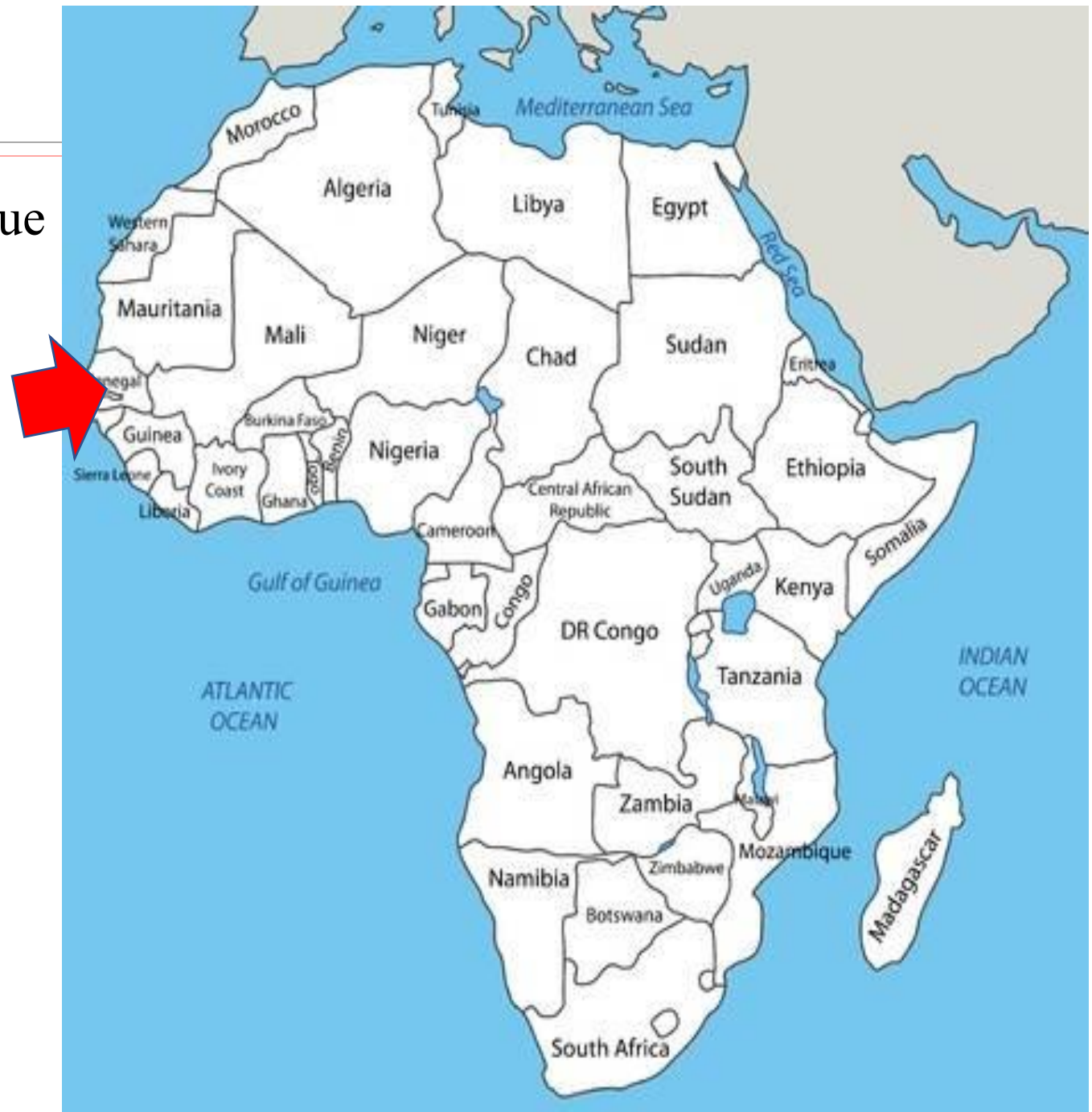
GEF7 Phasing Down Dental Amalgam project, 28 April 2023, Geneva

Dr Codou Badiane Mané, Ministère de la Santé et de l'Action sociale _ SENEGAL

Présentation du Sénégal

Situé à Extrême Ouest de l'Océan Atlantique

- 196.722 km², **700 km de cotes**
- **18 213 358 Hbts** dont + 23% Dakar
- Tx urbanisation 46,5%
- 14 régions administratives
- PIB / hbt: 1 606 \$ USD
- 47% pop sous seuil pauvreté



Systeme de sante au Senegal

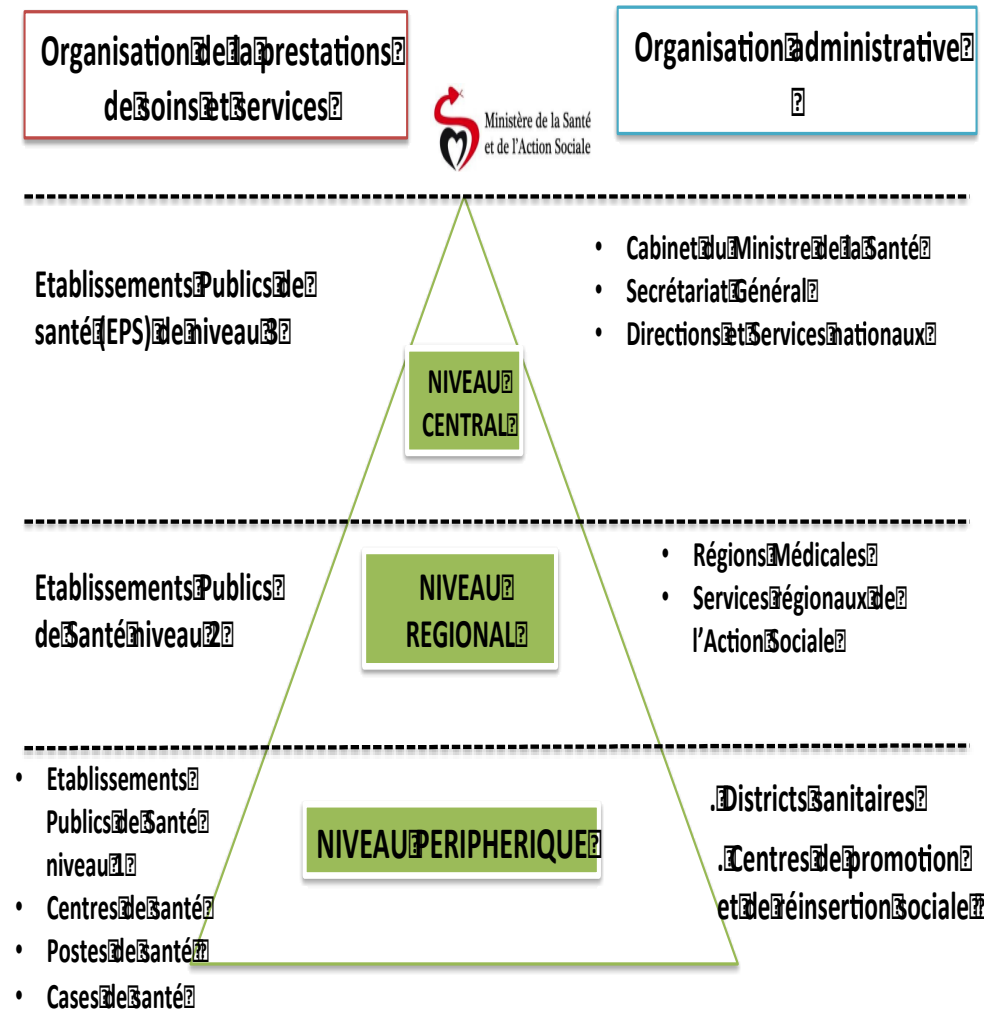
Organisation du SS: Structure pyramidale à 3 niveaux avec: (source cellule carte sanitaire)

Secteur public

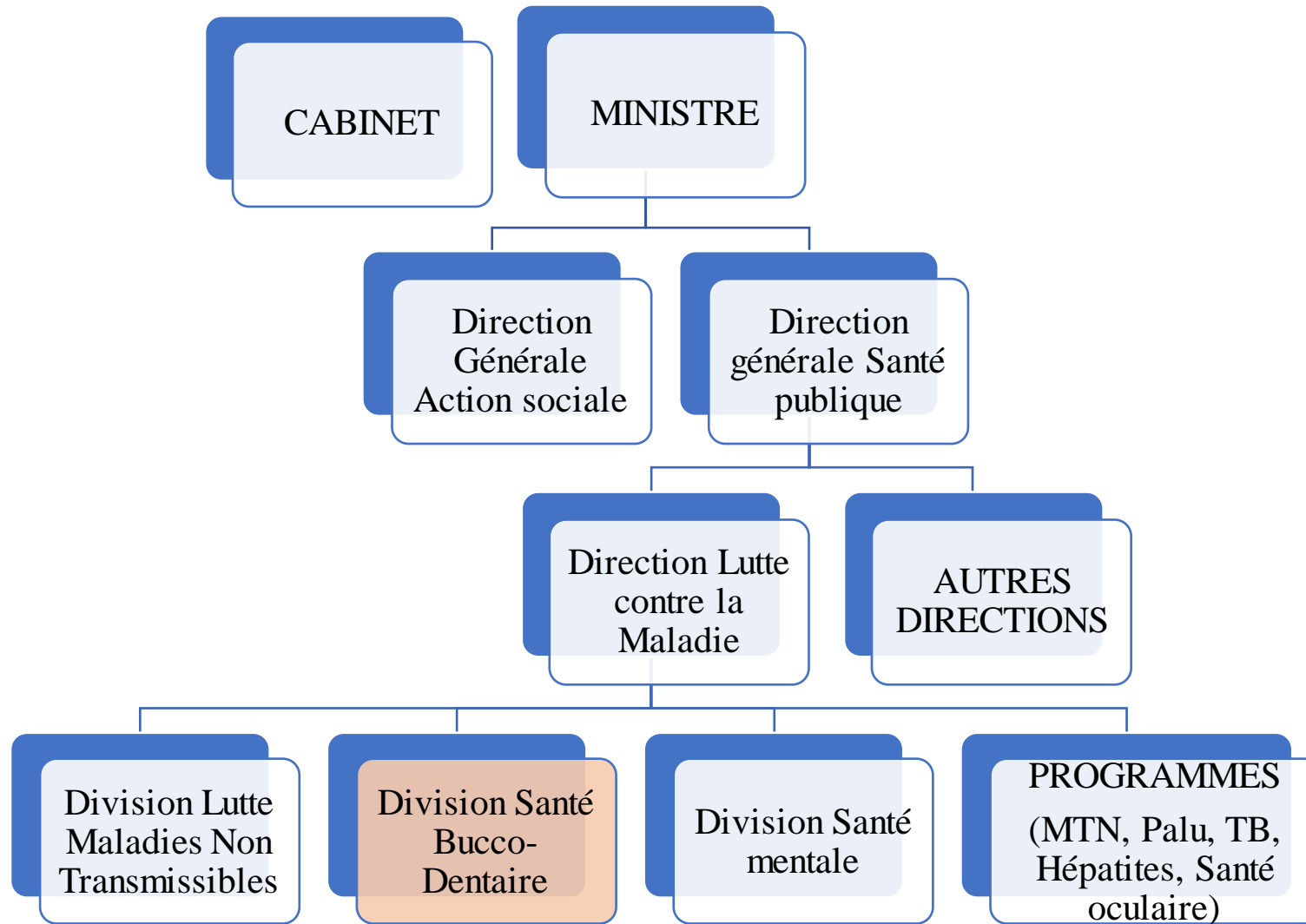
- 14 Régions médicales,
- 40 hôpitaux
- 79 districts sanitaires
- 107 centres de santé
- 163 services dentaires

Secteur privé

- 102 Hôpitaux et cliniques
- 570 cabinets paramédicaux
- 321 cabinets dentaires



Place de la santé buccodentaire au sein du Ministère

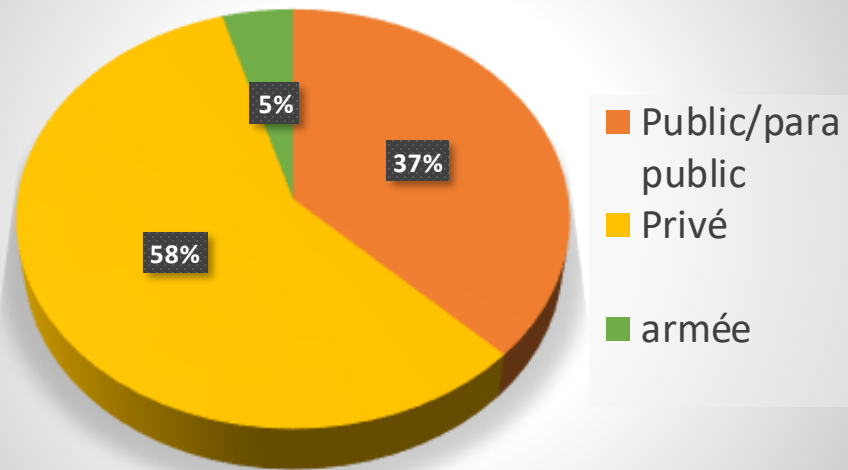


Systeme de sante buccodentaire au Senegal

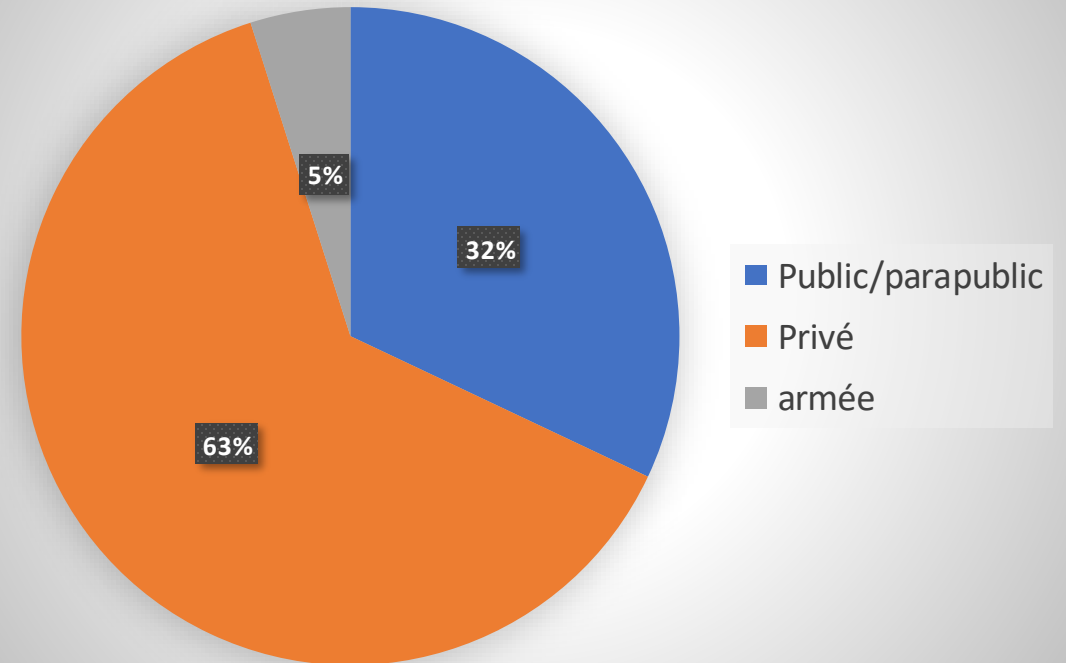
- Dans les normes de la carte sanitaire, les cabinets dentaires sont installés dans les centres de sante et au niveau des hopitaux publics avec une couverture de 90%.
- Les cabinets prives representent 63% de l'ensemble de l'offre de soins dentaires
- Il existe aussi des centres dentaires para publics a but non lucratif, confessionnels au niveau des centres municipaux, garnison ...
- En 2022, il y a au Senegal environ 552 chirurgiens-dentistes actifs officiellement dont **58%** (321) exerce dans le secteur prive
- **60,3%** de l'ensemble des dentistes exerce dans la region de Dakar
- Plan strategique national de sante buccodentaire 2022- 2026 .

Répartition nationale du personnel et des établissements dentaires

Répartition du personnel dentaire



Répartition des services dentaires



Demande # offre de soins dentaires

La carie dentaire touche 76.3% de la population adulte (step 2015), et cette prévalence est plus élevée chez les enfants d'âge scolaire (selon les études universitaires)

- 62.5% de la population n'utilise pas les services de soins dentaires pour diverses raisons
- Inégalités de SBD: Les dépenses pour les soins bucco-dentaires peuvent constituer des obstacles majeurs à l'accès aux soins.
- Inégale répartition des établissements et des professionnels dentaires à travers le pays
- Perception des soins dentaires par les populations (préjugés, croyances, habitudes ...)
- Le taux de couverture maladie universelle (CMU) du Sénégal y compris le paquet de soins buccodentaires est passé de 20% en 2013 à 53% en 2022 (mutualisation, gratuité, régime sécurité sociale)
- Les restaurations à l'amalgame sont couvertes par les assurances
- Insuffisance des stratégies de prévention de la carie dentaire
- Disponibilité soins conservateurs, chirurgicaux, restaurations prothétiques.

Utilisation des amalgames dentaires au Sénégal

Selon les résultats du Minamata Initial Assessment (MIA):

- Les informations et les données sur les amalgames dentaires au mercure sont presque inexistantes au Sénégal.
- Cette difficulté a été notée au cours de l'inventaire national sur le mercure où pratiquement aucune donnée vérifiable n'est disponible et accessible.
- L'amalgame dentaire reste un matériau de choix dans la restauration des cavités de carie utilisé surtout dans la pratique publique et enseigné dans les écoles dentaires;
- Cependant certains praticiens utilisent de plus en plus des matériaux alternatifs au mercure et des produits de substitution, mais ceux-ci sont jugés coûteux par les patients.
- Le Sénégal ne dispose pas, à ce jour, de dispositif juridique et réglementaire spécifique au domaine des amalgames dentaires.
- Aucune loi n'est actuellement en vigueur pour le contrôle de l'usage du mercure dans les amalgames.
- Dans les cabinets dentaires, il n'existe pratiquement pas de mécanisme d'élimination et de gestion écologiquement rationnelle des déchets contenant du mercure.

Progrès nationaux dans la réduction progressive de l'utilisation des amalgames dentaires

Mesures préconisées	Progrès accomplis
1. Établir des objectifs nationaux visant la prévention de la carie dentaire et la promotion de la santé, réduisant ainsi au minimum la nécessité d'une restauration dentaire ;	Document stratégique national
2. Fixer des objectifs nationaux visant à minimiser l'utilisation des amalgames dentaires au mercure ;	Non
3. Promouvoir l'utilisation de solutions de rechange sans mercure rentables et cliniquement efficaces pour les soins dentaires de restauration ;	Non
4. Promouvoir la recherche et le développement de matériaux sans mercure de qualité pour la restauration dentaire ;	Non
5. Encourager les organisations professionnelles représentatives et les facultés de médecine dentaire à éduquer et à former les professionnels dentaires et les étudiants sur l'utilisation de solutions de rechange à la restauration dentaire sans mercure et sur la promotion des meilleures pratiques de gestion des déchets d'amalgame ;	Non
6. Décourager les politiques et les programmes d'assurance qui favorisent l'utilisation d'amalgames dentaires plutôt que l'utilisation sans mercure pour les restaurations dentaires ;	Non
7. Encourager les politiques et les programmes d'assurance qui favorisent l'utilisation de matériaux de rechange de qualité pour la restauration dentaire	Non
8. Limiter l'utilisation de l'amalgame dentaire à sa forme encapsulée ;	Oui
9. Promouvoir l'utilisation des meilleures pratiques environnementales dans les installations dentaires pour réduire les rejets de mercure et les composés du mercure dans l'eau et dans le sol.	Oui
10. Mise en œuvre amendements ajoutés dans la convention (interdiction au moyen de mesures appropriées, l'utilisation du mercure en vrac par les praticiens et celle d'amalgames dentaires pour le traitement des dents de lait, des patients de moins de 15 ans et des femmes enceintes et allaitantes, sauf lorsque le praticien le juge nécessaire au regard des besoins du patient)	Non

Défis à relever pour améliorer les politiques et les capacités techniques afin de réduire progressivement l'utilisation des amalgames dentaires

- Réguler le secteur de l'importation et de la distribution des amalgames dentaires au mercure
- Sensibilisation du personnel, des polices d'assurance et des distributeurs de matériaux dentaires pour l'utilisation des matériaux alternatifs aux amalgames dentaires
- Renforcer la législation contre l'importation et la distribution frauduleuse des produits contenant du mercure.

Opportunités d'améliorer les politiques et la capacité technique afin de réduire progressivement l'utilisation des amalgames dentaires

- La souplesse des polices d'assurance en matière de remboursement de soins
- La disponibilité des matériaux alternatifs au niveau du Sénégal (ciment verre ionomère, composite...) ainsi que le niveau de formation continue du personnel dentaire surtout privé par rapport aux innovations technologiques
- ONG et engagements nationaux en matière de mise en œuvre des dispositions de la convention de Minamata
- Révision du plan de gestion des déchets biomédicaux avec prise en compte des déchets liquides y compris le mercure
- Préférence +++ pour les praticiens des matériaux composites à la place des amalgames surtout dans le secteur public.

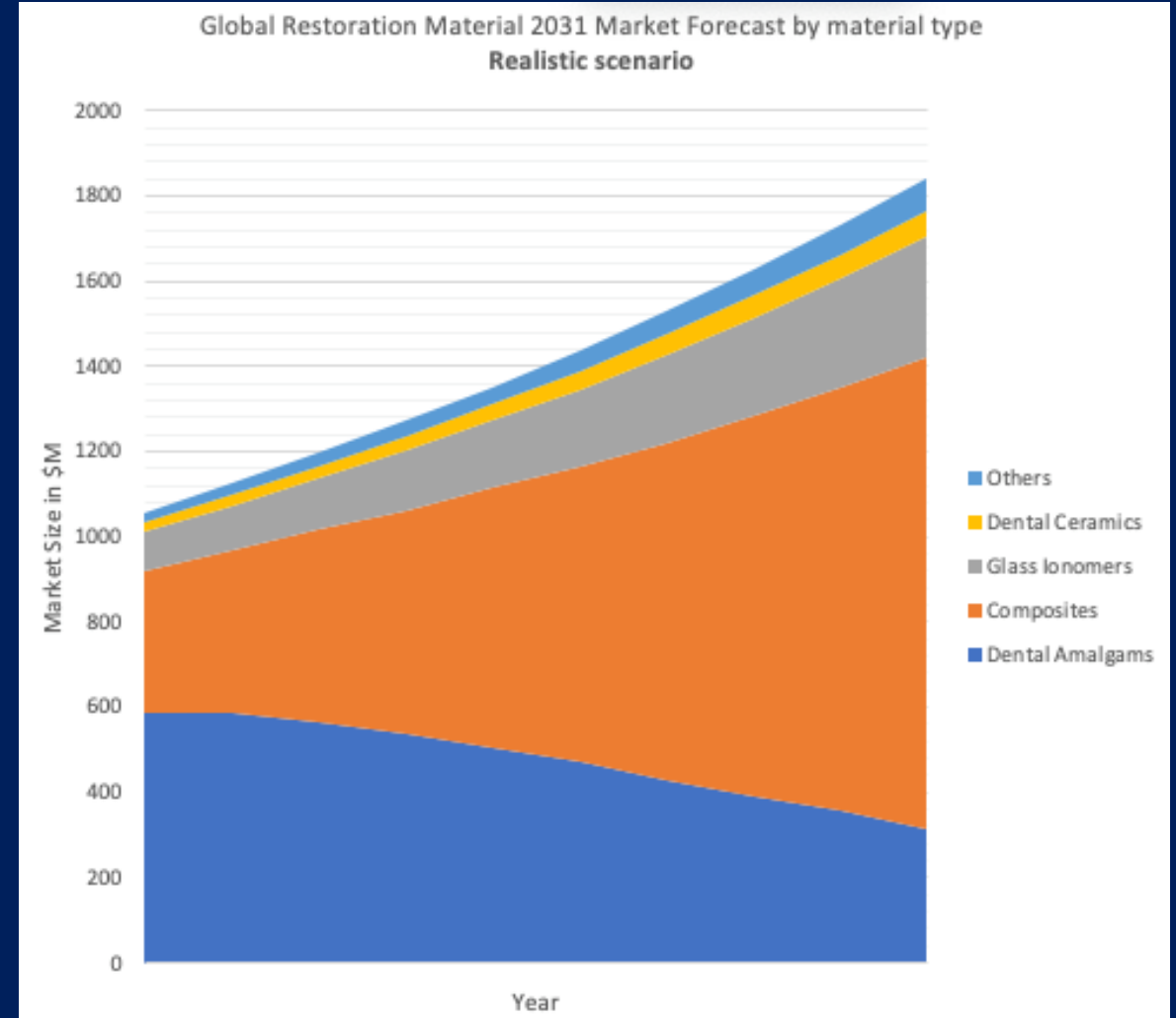
*Merci pour
votre
attention !*



STOP

BRIEF INTRODUCTION

An Innovative Approach to Model Dental Restorative Materials Global Consumption Preliminary Results



BACKGROUND

Global Oral Health Action Plan

Global target 1.2: Environmentally sound oral health care

By 2030, 90% of countries have implemented measures to phase down the use of dental amalgam as stipulated in the Minamata Convention on Mercury or have phased it out

Core indicator	1.2. Proportion of countries that have implemented measures to phase down the use of dental amalgam as stipulated in the Minamata Convention on Mercury or have phased it out
-----------------------	---

Due to the lack of available data and monitoring models on dental amalgam consumption, the targets from WHO and health authorities can only be on “actions” and not “consumptions”



Major gap to properly assess the status quo, trends, efficacy of measures, consumption shifts toward alternative



Need for a dental restorative materials market model to support the WHO strategic objectives

Model Dental Restorative Materials Global Consumption

Activity 1-Modelling the Dental Restorative Market

STEP 1: Determine the market size per restorative material per region as defined in the industry



STEP 2: Determine the market size per restorative material per the WHO region



STEP 3: Determine the number of teeth filled by the different restorative materials per the WHO regions

Activity 2-Forecasting the Dental Restorative Market

STEP 1: Build a baseline scenario



STEP 2: Build predictive market models with different phase down assumptions

Activity 1-Modelling the Dental Restorative Market

STEP 1: Determine the market size per restorative material per region as defined in the industry

- Contacted multiple dental industry experts to obtain non-confidential information on the size of the dental restorative market and the share of each restorative material
- Estimated the dental restorative market size by region and the share of dental restorative materials in each region
- Asked experts to share the historical growth of each restorative material

Dental restorative materials market size (USD millions), historical compound annual growth rate (CAGR) (%) by regions

Materials	Historical CAGR%	2022 (USD millions)
Total Market	6,2%	1465
Total Dental Amalgams	5,7%	639
North America (NA)	5,0%	243
Europe (EU)	5,5%	178
Asia Pacific (APAC)	6,8%	162
Latin America, Middle East and Africa (LAMEA)	6,0%	56
Total Resin-based composites	7,3%	437
NA	6,6%	168
EU	7,1%	132
APAC	8,5%	102
LAMEA	7,6%	34
Total Glass Ionomers	6,9%	128
NA	6,1%	50
EU	6,5%	37
APAC	8,4%	30
LAMEA	6,9%	11
Total Dental Ceramics	3,6%	180
NA	3,0%	68
EU	3,5%	53
APAC	4,5%	45
LAMEA	3,7%	15
Others (cast-gold alloys, porcelain fused to metal, and resin-modified glass ionomers)	6,0%	81
NA	5,6%	29
EU	5,7%	31
APAC	7,0%	17
LAMEA	6,6%	4

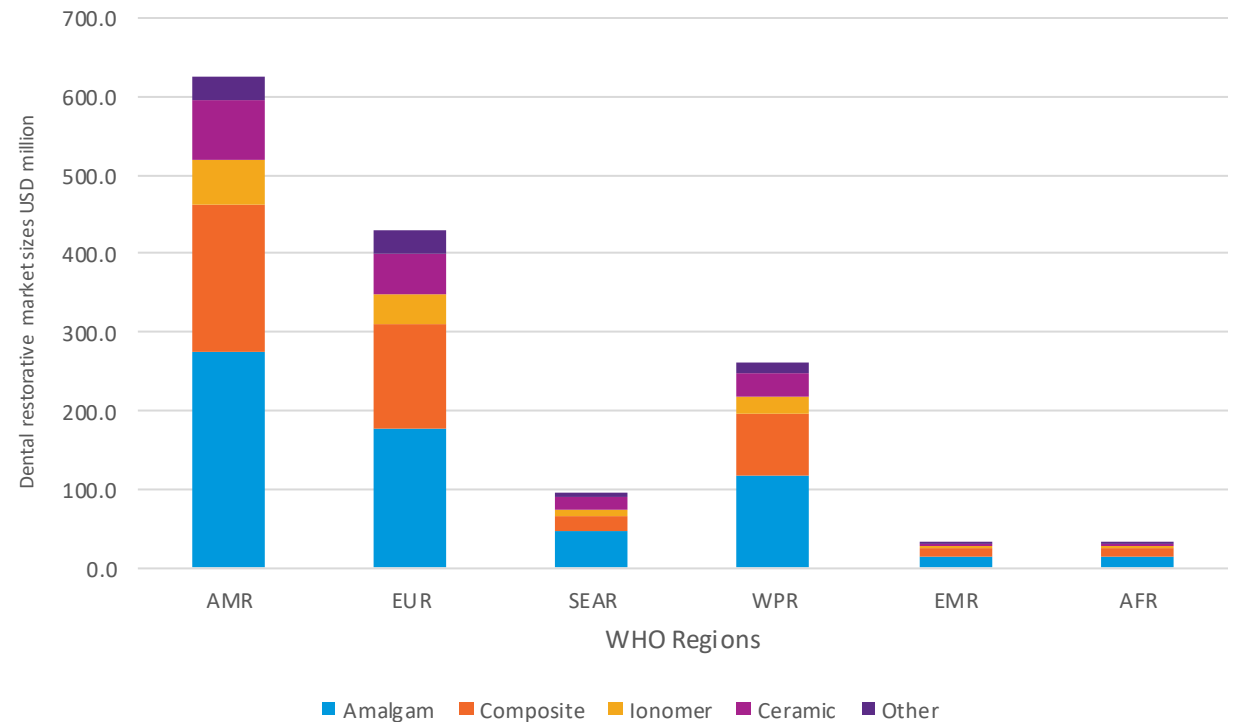
Activity 1-Modelling the Dental Restorative Market

STEP 2: Determine the market size per restorative material and per the WHO region

The regional split used by industry experts (STEP 1) did not match the WHO regions....

- Used data from industry experts on key markets to calculate their relative weight within the region or compared with other markets
- Transferred the market size of specific countries or bucket of countries from the industry expert regions to the WHO regions

Dental restorative market sizes in USD millions per restorative material type and regions

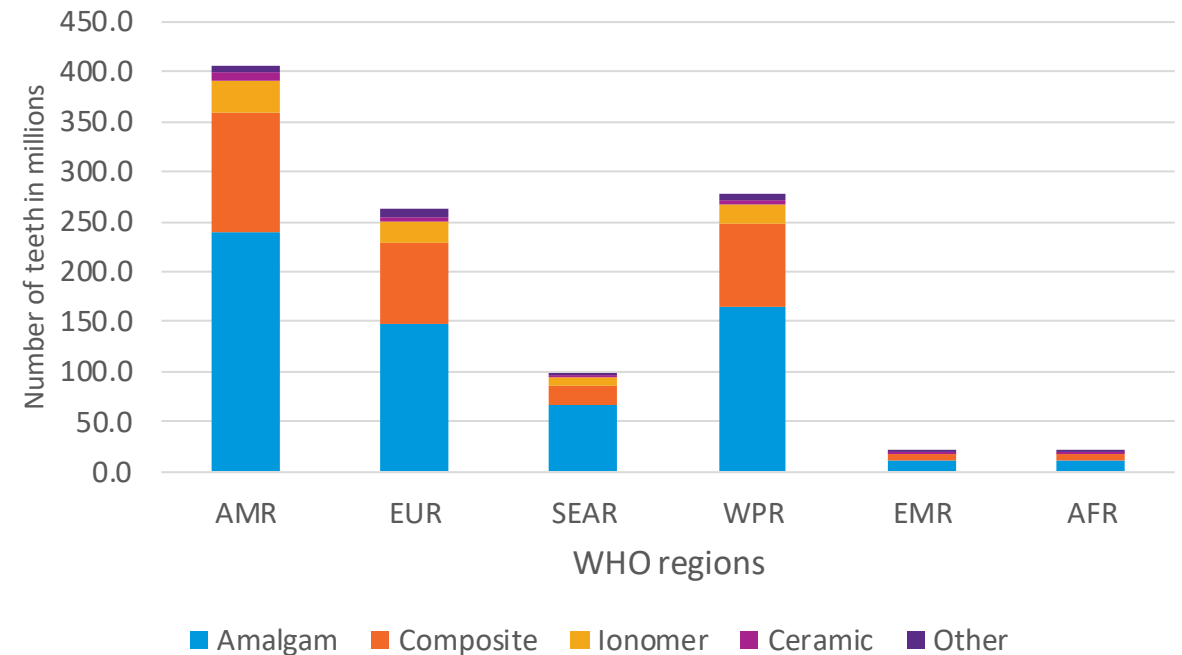


Activity 1-Modelling the Dental Restorative Market

STEP 3: Determine the number of teeth filled by the different restorative materials per WHO regions

- Surveyed industry experts and dentists to learn about the cost of filling a Class II caries for each material type
- Converted dental restorative material market sizes per material into the number of teeth

Number of teeth in millions filled per restorative materials and per region

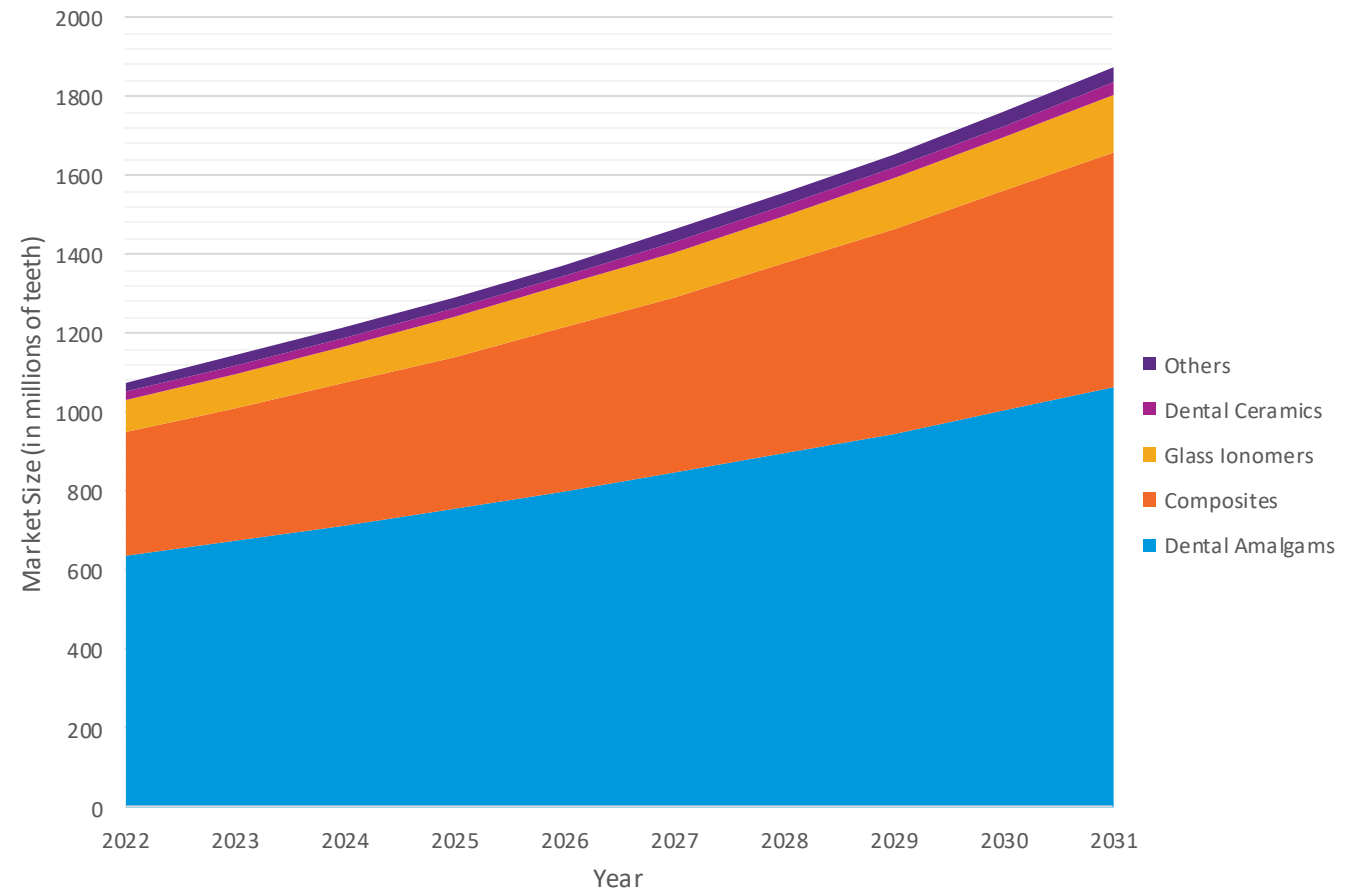


Activity 2-Forecasting the Dental Restorative Market

STEP 1: Build a baseline scenario

- Available - the restorative material market by the WHO regions in the number of teeth filled (Activity 1)
- Constructed baseline scenarios to predict the future and the challenges ahead using historical compound annual growth rate (CAGR) - **with no phase-down**

Global Restoration Material Market Forecast by Material Type
Baseline scenario using historical and predictive market CAGR
with no phase-down in millions of teeth



Activity 2-Forecasting the Dental Restorative Market

STEP 2: Build predictive market models with different phase down assumptions

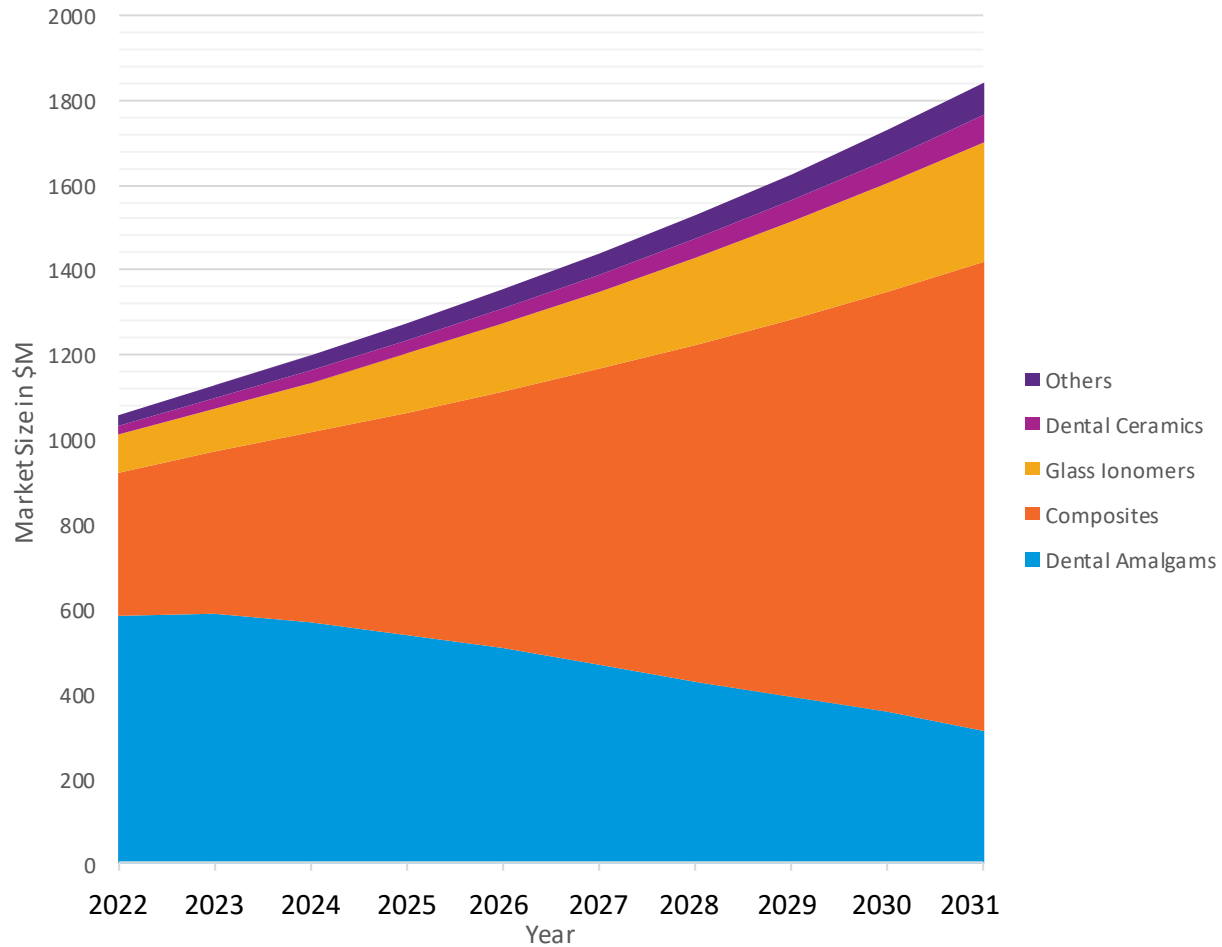
Build a predictive model based on current status, trends, relative market sizes within the WHO regions, and phase-down timelines

- Understood the phase-down plan and timeline per region, ideally per markets
- Developed a predictive model
 - Realistic model: if markets were using amalgam at a high proportion today and had very vague planned to phase down
 - Optimistic model: if markets had very low use of Amalgam today, and if they all had a clear plan to phase out

2-Forecasting the Dental Restorative Market

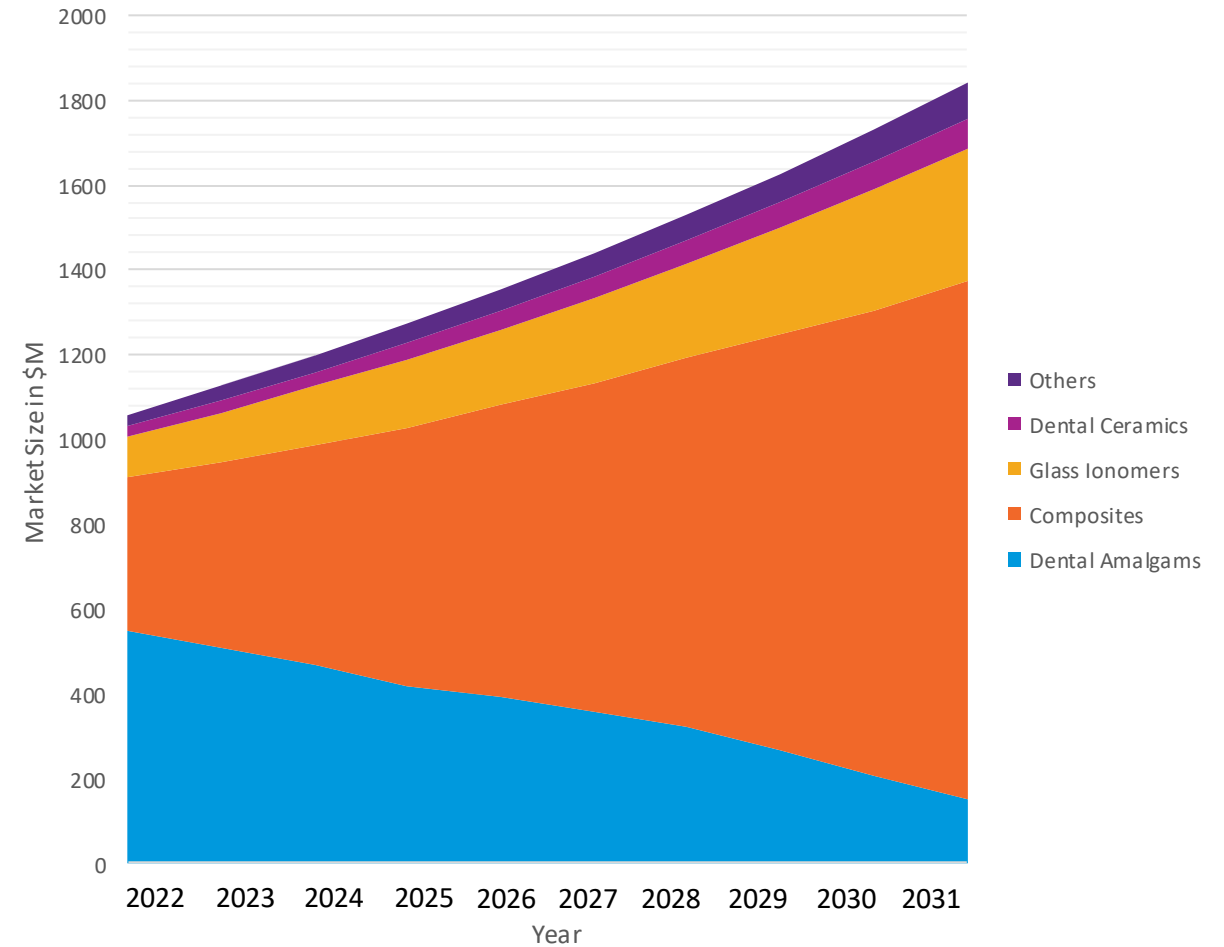
Global Restoration Material 2031 Market Forecast by Material type

Realistic scenario



Global Restoration Material 2031 Market Forecast by Material type

Optimistic scenario



LIMITATION

- The reliability of data, including market size in monetary value, is different across the WHO region due to the lack of availability of data

NEXT STEPS

- Need to refine the model to increase the confidence level - Primary market research would increase the confidence level
 - Primary research across SEAR, WPR AFR, and EMR regions would increase the confidence level
 - Deeper studies of prices by region could provide some finer results as well for those regions

Thank you



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Thailand Context :

Challenges and Opportunities to
improve policies and technical capacity
in order to phase down dental amalgam use

GEF7 Phasing Down Dental Amalgam project

Surat Mongkolnchaiarunya
Department of Health,
MOPH, Thailand

28 April 2023, Geneva



Thailand Profile



Located in : South-East Asia

Capital : Bangkok

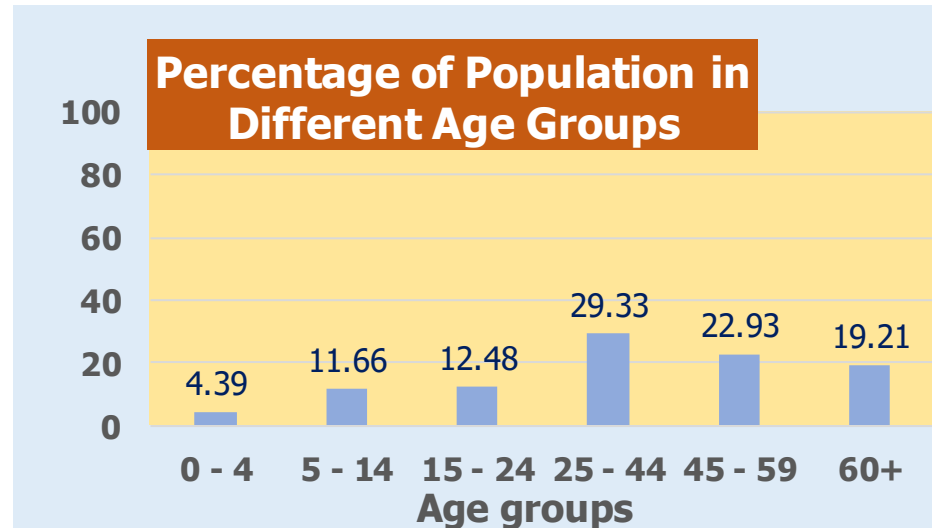
GDP per capita : US 7089.7

Total expenditure on health as % of GDP (2020): 4.6 %

Total expenditure on health per capita (Intl \$, 2020): 658/yr

Population (2022) 66.09 million

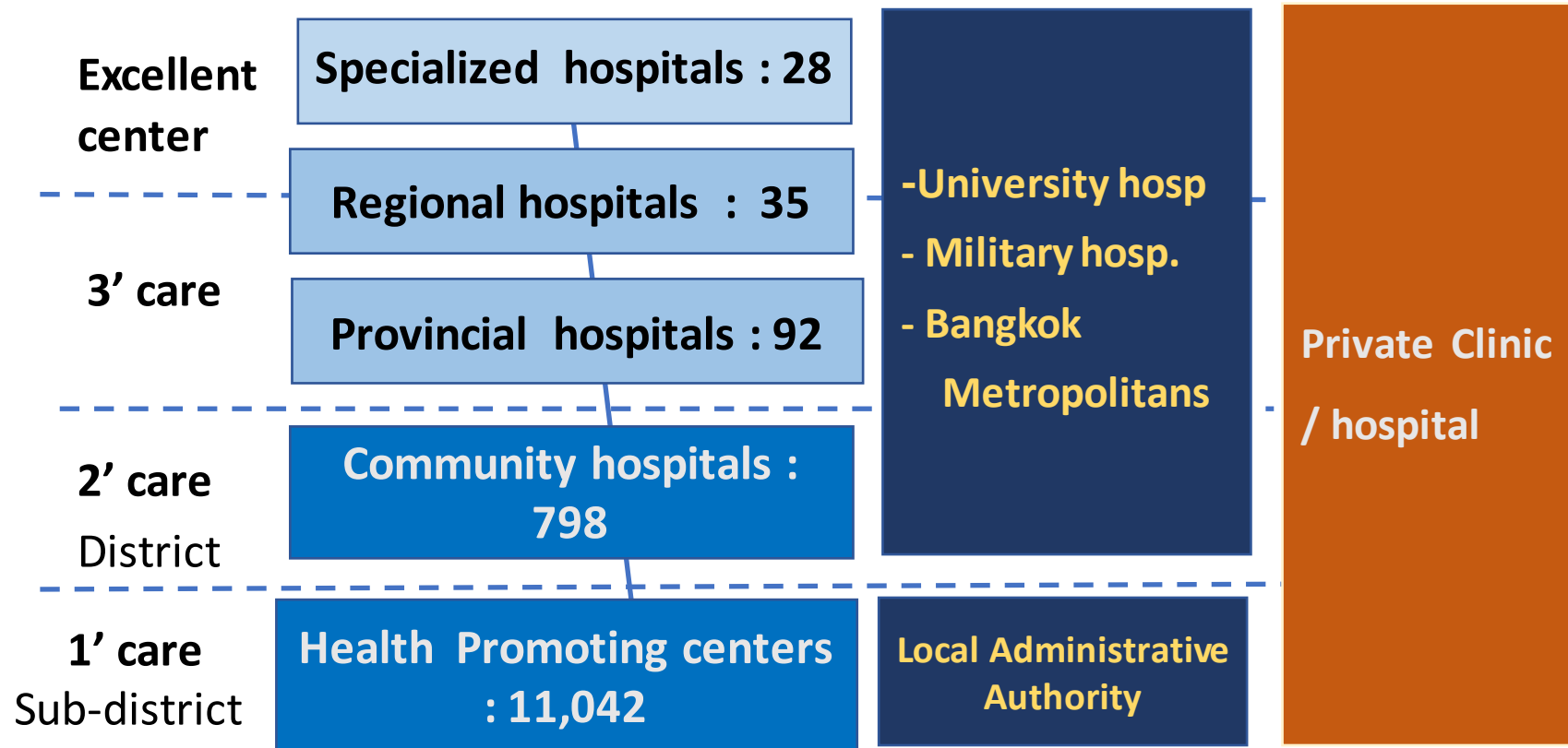
Life Expectancy at birth **Male 74.92 yr Female 81.05 yr**



Source: Department of Provincial Administration, Population since 31 Dec 2022



Health Service Delivery System in Thailand



Dentists are working in every level of Health services delivery system except at sub district level. Approximately 40 % of Health promoting Centers has Dental Nurses.



Health Insurance in Thailand

Public Health Insurance Schemes

- Civil Servant Medical Benefit Scheme for civil servants and their dependents (6.7%)
- **Social Security Scheme** for private sector employees / factories (17.2%)
- **Universal Coverage Scheme** for the rest of Thai population (76.1%)

Private Health Insurance

Healthcare Providers

- **Public / Governmental Health Facilities**

Health delivery systems are dominated by the public sector

Public hospitals account for 75% and 79% of total hospitals and beds.

(MOPH, BKK Metropolitans, University hospital, Local Administrative Authority)

- **Private Health Facilities**
- **Non-profit organization**



Oral Health Situation

Prevalence of Dental Caries

Age group	%
3 year-old	52.9
5 year-old	75.6
12 year-old	52.0
15 year-old	40.1
35 – 44 year-old	43.3
60 – 74 year-old	52.6
80 - 85 year-old	43.5

Source: 8th National Oral Health Survey, 2017



Dental restoration is an item of Oral Health

Benefit under 3 public health insurance schemes

- Universal Coverage scheme
- Social Security Scheme
- Civil Service Welfare Scheme

Dental Health Manpower

Dentist age ≤ 60 yrs old 16,697 persons

Dentist in MOPH (5,797) 44%

Other public sector 4%

Private sector 52%

Ratio of Dentist : Population 1 : 3,964

Ratio of MOPH Dentist: pop 1 : 10,673

Dental nurse = 6,739 persons

>> 1' care 4,345

>> MOPH 2,394



Minamata Convention's Measures to Reduce the Use of Amalgam

2018

- 1 Setting **National Objectives** aiming at Caries Prevention & Health Promotion
- 8 Restricting the use of dental amalgam to its **encapsulated form**

2019

- 3 Promoting the use of cost-effective and clinically effective **mercury-free alternatives** for restoration
- 5 Encouraging representative professional organizations and dental schools to **educate and train** dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices

2020

- 9 Promoting the use of **best environmental practices** in dental facilities to reduce releases of mercury and mercury compounds to water and land

- 2 Setting national objectives aiming at minimizing its use
- 4 Promoting R & D of quality mercury-free materials for dental restoration
- 6 Discouraging insurance policies, and programs that favor amalgam use over mercury-free dental restoration
- 7 Encouraging insurance policies and programs that favor the use of quality alternatives to amalgam for dental restoration

Amended

- (i) Exclude or not allow, by taking measures as appropriate, **the use of mercury in bulk form** by dental practitioners
- (ii) Exclude or not allow, by taking measures as appropriate, or **recommend against** the use of dental amalgam for the **dental treatment of deciduous teeth**, of patients **under 15 years** and of **pregnant and breastfeeding women**, except when considered necessary by the dental practitioner based on the needs of the patient.



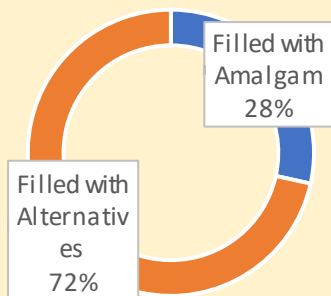
What Have Been Done in Thailand?

- 2017 DoH Communicated Minamata convention to dental personnel
- 2018 DoH declared 2 selected Minamata convention's measures
 - promoted health promotion and caries prevention activities
 - collaborated with FDA the import of dental amalgam in capsule form
 - conducted the survey on situation of amalgam use in the MOPH facilities
 - studied the amount of mercury released in waste water from dental facilities
- 2019 The Dental Association of Thailand conducted a seminar on Dental amalgam and its effect on health (systematic review) in the Annually Scientific meeting
 - distributed the conclusion on their websiteDoH developed guideline "Dental amalgam use and friendly to environment"
- 2020 DoH piloted the waste management in dental facilities
DoH started to collect data preparing for amended measures



The Situation of Dental Amalgam Usage in the MOPH Facilities

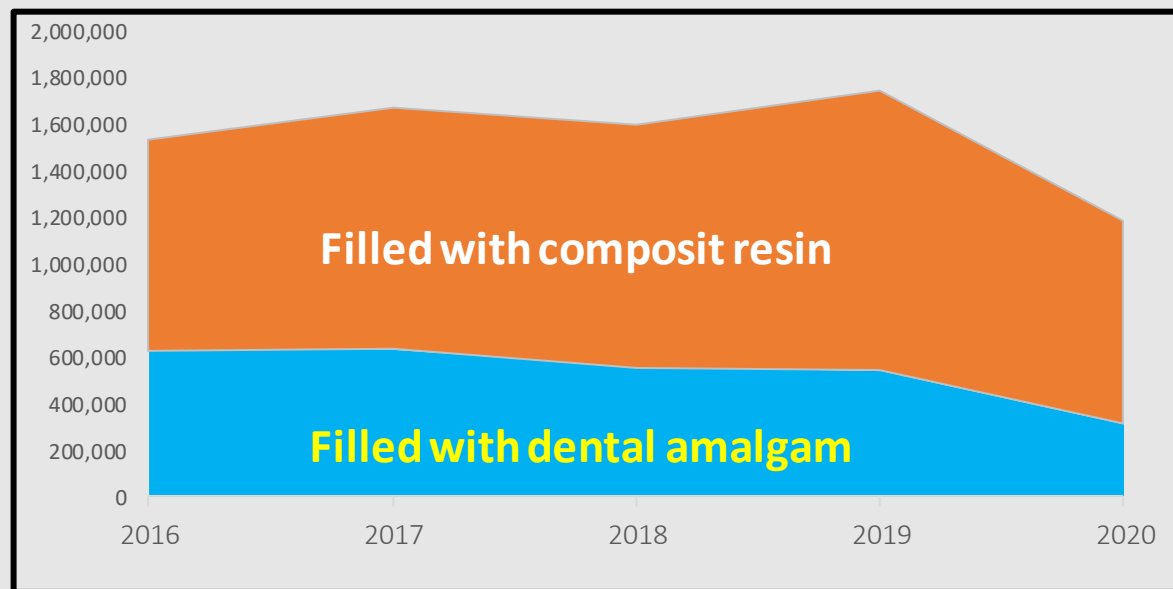
- ❖ Usage of filling materials in 277 hospitals
 - 96.0 % used amalgam & alternatives materials
 - 3.6 % used only alternative materials
 - 0.4 % used only amalgam
 - 0 % used tablet amalgam (+Mercury in bulk form)
- ❖ Dental Services provided in 2018
 - There were 11,745.68 dental patients/hospital
 - 24.7 % were filling services
 - Average numbers of filled tooth were 3,354 tooth



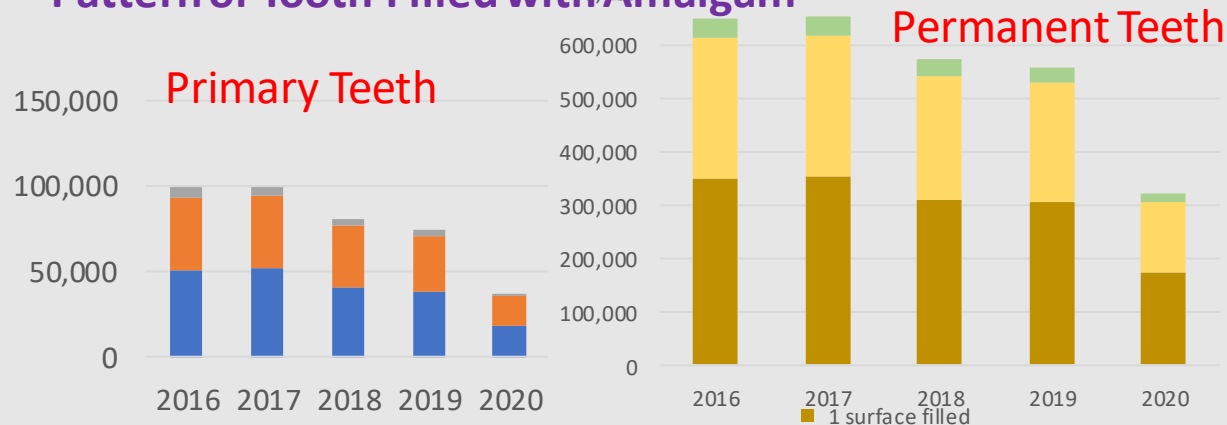
Restorative material of choice for primary tooth in children aged < 15 years old was Composit resin

Source: Dental Amalgam Usage in MOPH Facilities Survey 2018-2019

Numbers of patients received dental restoration in 2016-2020



Pattern of Tooth Filled with Amalgam



Source: Health Data Center , MOPH Thailand



Ongoing Implemented Measures and Some Success

Setting national objectives aiming at dental caries prevention and health promotion

- Set up National Oral Health Goals, National Strategic Plan
- Promote oral health self care in every age group (school /daycares/elderly club)
- Reduce consuming sweetened food and beverages
- Encourage insurance policy for topical fluoride application and fissure sealant application in permanent molar for children



Restricting the use of dental amalgam to its encapsulated form

- Most of MOPH dental facilities use encapsulated amalgam
- Draft the proposal to prohibit the import of dental amalgam to its encapsulated form only (propose to FDA)



Promoting the use of cost-effective and clinically effective mercury-free alternatives for restoration

- Promote “SMART” technique for dental restoration in young children
- Promote the use of alternative restoration materials in children population



Encouraging professional organizations and dental schools to educate and train on the use of mercury-free dental restoration alternatives and on promoting best management practices

- The professional registration exam in operative dentistry, practicing class II amalgam restoration was abolished.
- The professional exam for Pediatric Dentistry, practicing amalgam restoration in children was abolished.



Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land

- Revise environmentally amalgam waste management guideline
- Strictly mercury hygiene practice in patients and dental personnel





To improve Policies and Technical Capacity in order to Phase Down Dental Amalgam Use

➔ **Exclude or not allow/ recommend against** the use of dental amalgam for the **dental treatment of deciduous teeth**, of patients **under 15 years** and of **pregnant and breastfeeding women**

Opportunity :

- Continuity of national policies on Health Promotion
- Dental caries prevention services are covered by UCS (oral exam, topical fluoride application, sealant in permanent molars for children)
- Measures to control determinants in order to prevent dental caries are implementing
- Dental restorations (use of amalgam or other material) are covered by 3 public health insurance schemes
- Dental professional organizations and dental schools are aware of the Minamata Convention



Challenges :

- According to the Decentralization Act 1999, the Health Promotion Centers are devolved to Local Administrative Authorities. They can set their policies.
- Low coverage of pregnant women register antenatal clinics of the public hospitals
- Price of amalgam restoration in private sector is cheaper compared to alternatives dental restoration.





Thank You for
Your Attention

GEF7 Phasing down dental amalgam project

Global kick-off meeting – April 28, 2023

**Overview of dental caries management:
dental amalgam vs.
quality mercury-free dental materials**

Edward Lo (Professor, Chair of Dental Public Health)



Use of mercury in caries management - amalgam dental filling



Decayed molar



Treated with
amalgam filling

Amalgam is an alloy formed by mixing mercury with other metals (mainly silver).

- placement of amalgam filling after cavity preparation (removal of dental tissues) is simple
- insert the amalgam into the cavity while it is soft and it sets (hardens) chemically by itself

Dental caries management

- ways to reduce amalgam dental filling

1) Prevention of dental caries

- Fluoride toothpaste (self-care)
- Fluoride varnish (professional-applied)
- Dental (pit and fissure) sealant



can reduce
caries by 25%



can reduce
caries by 40%



can reduce
caries by 70%

How to reduce use of amalgam filling when there is decayed cavity?



Decayed
primary tooth



Decayed
permanent tooth

Dental caries management

- ways to reduce amalgam dental filling

2) Non-restorative treatment of decayed teeth

- Caries arrest treatment by silver diamine fluoride
- No placement of filling

Dental caries management

- ways to reduce amalgam dental filling

2) Non-restorative treatment of decayed teeth

- Caries arrest treatment by silver diamine fluoride



Primary teeth
in children



Permanent teeth
in adults

- around 80% of the treated active carious lesions will become arrested, hard and symptomless

Dental caries management

- ways to reduce amalgam dental filling

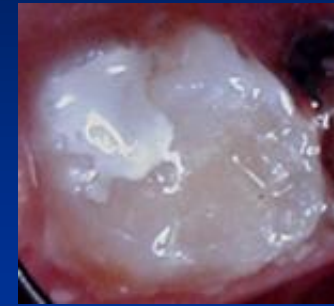
3) Use alternative materials in dental fillings

- Glass ionomer cement (GIC)
- Composite resin

Glass ionomer cement for dental filling



Decayed molar with
cavity cleaned

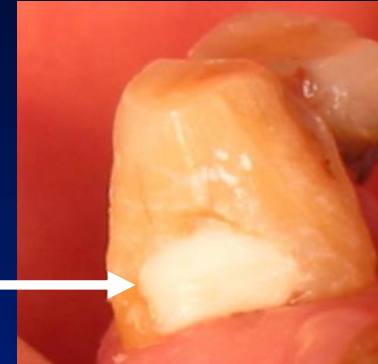
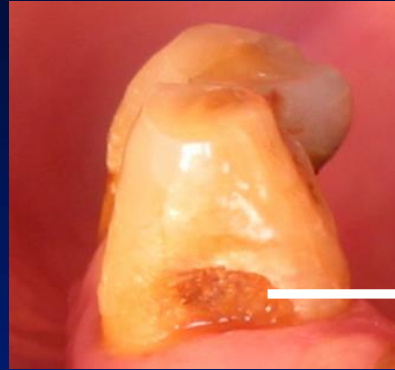


Cavity filled with glass
ionomer cement

Glass ionomer cement (GIC) for dental filling

- chemical- cure and bonds to dental tissues
- can use in minimal intervention (tooth tissue removal) and atraumatic restorative treatment
- can be easy to apply using hand instruments only

Restore decayed tooth root with GIC



Dental root caries (cavity)

Restored with glass ionomer cement

Composite resin for dental filling



Decayed cavity



Cavity filled with composite resin

Composite resin as dental restorative material

- a mixture of resin, fillers (such as silica) and other components
- good physical properties (such as strength and wear-resistance) and tooth-colored
- adhere to tooth through chemical etching and bonding

Composite resin for dental filling



Small decay
in premolars



Minimal
intervention

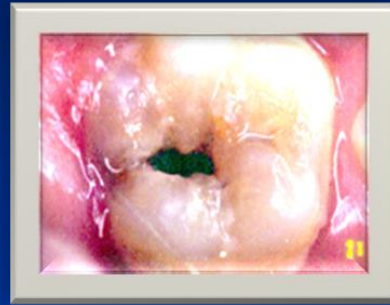


Cavity filled with
composite resin

Composite resin for dental filling

- can be placed with minimal invasion (tooth tissue removal)
- good alternative for amalgam filling
- the treatment involves a series of carefully administered steps and training for the dental operators is needed

Mercury-free dental materials vs. amalgam



Decayed molar



Filled with glass ionomer cement

Systematic reviews show:

- survival/success rate of high-viscous GIC fillings in primary teeth is similar to those of composite resin or amalgam fillings
- high restoration survival rate in permanent teeth (around 80% after 5 years)
- GIC filling has a better preventive effect on new caries than other restorations

Mercury-free dental materials vs. amalgam



Decayed molar



Filled with
composite resin

Systematic reviews show:

- annual failure rate of composite resin fillings in primary molars is low (2% to 13%)
- composite resin fillings may have a higher failure rate than amalgam fillings in permanent posterior teeth. There is a higher risk of developing secondary caries.

Thanks for your attention



Welcome to visit Hong Kong



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República Oriental del Uruguay

Ministerio de Salud Pública

Programa de Salud Bucal

DIGESA



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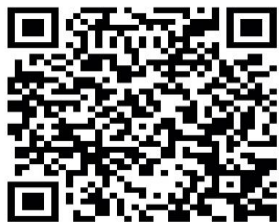




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**Nombre Oficial: República Oriental del Uruguay.
Superficie: 176.215 km².**

Límites: Situado en la zona subtropical austral del continente sudamericano, limita al Norte y al Noreste con Brasil, al Oeste y al Sureste con Argentina, y al Este con el Océano Atlántico.



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**Población: 3.485.152 habitantes
(Datos Macro 2021).**

**Capital: Montevideo 1.319.108
(Datos INE censo 2011).**

**Otros departamentos: Salto
(124.878), Maldonado (164.300)
Paysandú (113.124), Rivera
(103.493), Tacuarembó (90.053)**



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SISTEMA DE SALUD

Ley N° 18.211

Creación del Sistema Nacional Integrado en Salud

<https://www.impo.com.uy/bases/leyes/18211-2007>



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Sistema Nacional Integrado de Salud

”...reglamenta el derecho a la protección de salud de todos los habitantes del país, a través de un Seguro Nacional de Salud (SNS), financiado por el Fondo Nacional de Salud (FONASA), extendiendo obligatoriamente la cobertura médica de los trabajadores a su núcleo familiar:

- Hijos a cargo menores de 18 años o mayores con discapacidad, propios así como los del cónyuge o concubino cuando no estén amparados por sus padres biológicos o adoptivos.
- Cónyuge o concubino que no posea por sí mismo la cobertura médica del Seguro Nacional de Salud (SNS).”

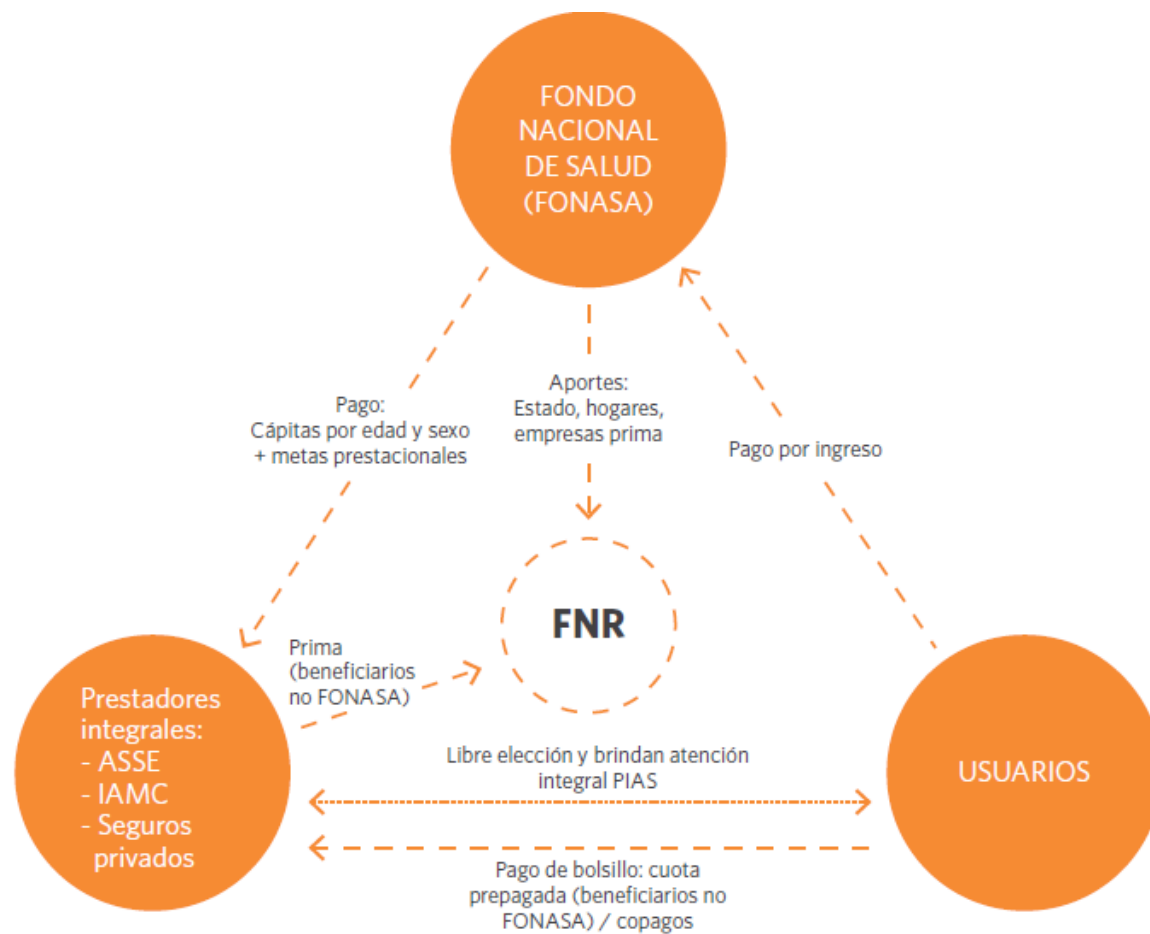
<https://www.bps.gub.uy/10310/fondo-nacional-de-salud-fonasa.html>



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Fuente: Adaptado a partir de datos del Ministerio de Salud Pública.



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SISTEMA NACIONAL INTEGRADO DE SALUD- SNIS

2 FUENTES GRANDES DE FINANCIAMIENTO

FUENTE PÚBLICA

- Contribuciones obligatorias de los trabajadores y empresas del sector formal de la economía
- Contribuciones obligatorias de los trabajadores del sector público
- Impuestos generales

Todos estos recursos se reúnen en:

FONASA- Fondo Nacional de Salud

FNR- Fondo Nacional de Recursos.

Asegura la cobertura financiando las intervenciones de alta complejidad tecnológica y altos costos.

OTROS FONDOS- Cubren a grupos de funcionarios : Militar, Policial.

Incluye red de hospitales agrupados en:

ASSE (Administración de servicios de salud del estado), Hospital Universitario, unidades de atención de las FFAA,, Policial., unidades de atención primaria de los municipios.

ASSE y Hospital Universitario cubren al 37 % de la población

Unidades de las FFAA (Ministerio de Defensa), el Policial (Ministerio del Interior) cubren el 5 % de la población.

BPS- Regula la afiliación mutua de jubilados y pensionistas, afiliación mutua de los trabajadores, cambio de prestador.

BSE- Asistencia a personas que sufren accidentes laborales por medio de central de servicios médicos en MVD y convenio con las IAMC en el interior.

FUENTE PRIVADA

- Gasto del bolsillo de los hogares
- Seguros privado. La atención por pago de primas según el nivel de riesgo de la aseguradora cubren 2% de la población
- **IAMC (Instituciones de Asistencia Médica Colectiva)**
Principal proveedor 56 % de los uruguayos, en clínicas y hospitales privados
- Emergencias móviles, son seguros de servicio parcial de salud incluye asistencia de médico de emergencia y servicios de baja complejidad que se prestan en domicilio, policlínicas o consultas telefónicas. **Asistencia odontológica.**

Reciben del FONASA pagos per cápita de acuerdo con la población cubierta y las Metas asistenciales establecidas por el MSP a cambio de esto se comprometen a ofrecer atención integral a los usuarios.

Los otros prestadores públicos reciben recursos de leyes específicas.

MSP órgano rector de la política de salud asegura con recursos del estado la salud de la población indigente.



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PROGRAMA DE SALUD BUCAL. Ministerio de Salud Pública

“Contribuir al logro del más alto grado posible de salud bucal de la población uruguaya,

. impulsando, promoviendo y articulando las adecuadas acciones

promocionales, preventivas y asistenciales integradas en un Sistema de Salud y

que correspondan a las necesidades de cada individuo.”

2008



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El Programa Nacional de Salud Bucal en el contexto del Sistema Nacional Integrado de Salud

Cambios

- 1) Modelo de Atención: estrategia de Atención Primaria en Salud.
- 2) Modelo de Financiamiento
- 3) Modelo de Gestión



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Plan Integral de Atención a la Salud (PIAS)

Un plan de beneficios en salud con garantías explícitas (lista positiva), que describe de manera clara y precisa las prestaciones de salud a las que tiene derecho la población.



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Plan Integral de Asistencia en Salud PIAS

Anexo II, Odontología. Sección 5.e

AMALGAMA



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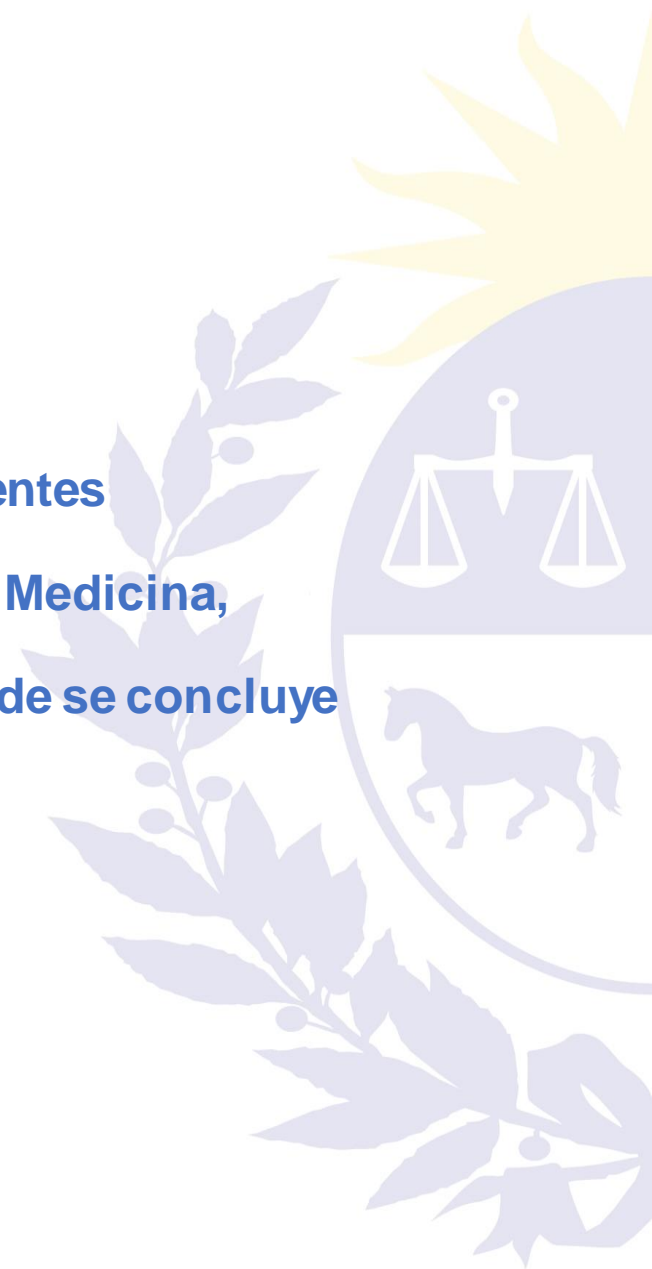
ANTECEDENTES

Anexo 1, II)- 3º del DECRETO Nª 465/008-

Hace referencia al análisis de un grupo de expertos pertenecientes a diferentes Cátedras y/o Departamentos de las Facultades de Medicina, Odontología y Química de la Universidad de la República, donde se concluye que las amalgamas dentales son obsoletas.



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Convenio de Minamata.

Suscrito en Kumamoto, Japón, el 10 de octubre del año 2013, en la reunión de las Naciones Unidas.

Uruguay lo ratificó, bajo la Ley 19.267, en setiembre de 2014. Estando dentro de los primeros 6 países.

Y entró en vigor el 16 de agosto de 2017.



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DECRETO N° 53/018 del PODER EJECUTIVO.

Se elimina como prestación a la amalgama dental considerado material obsoleto. Capítulo 5. Salud Bucal, sección 5. e

NOTA N° 76/2022 se comunica a todos los prestadores del SNIS:

**Administración de Servicios de Salud del Estado y
Prestadores Privados**



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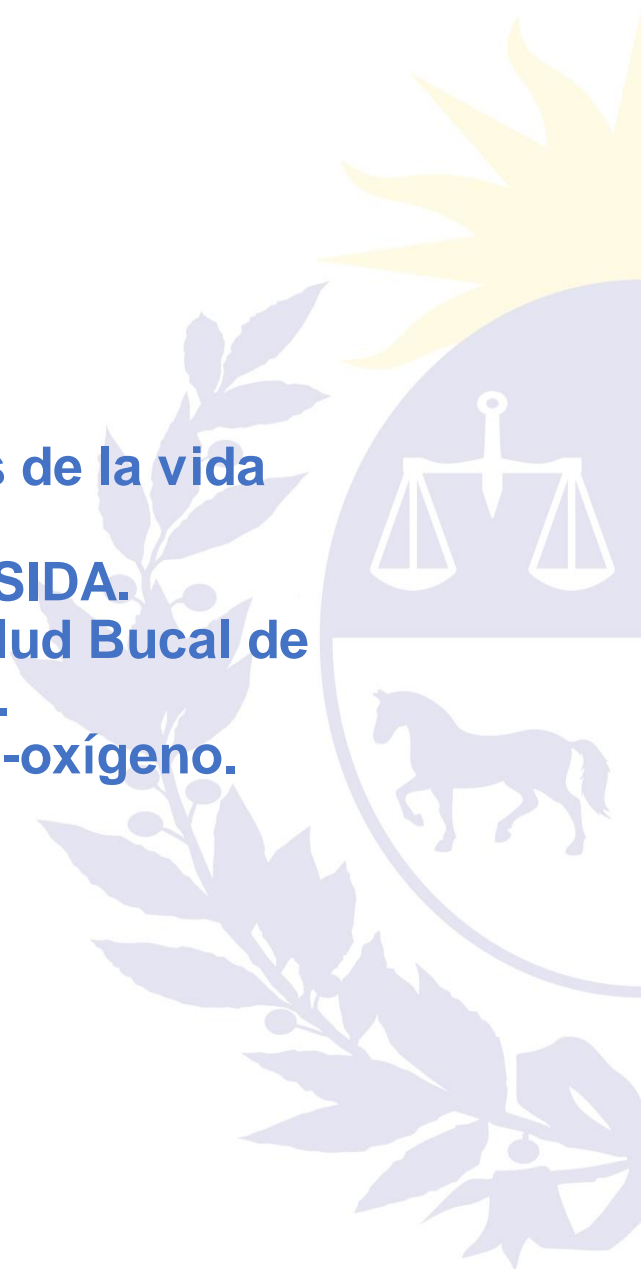
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Fortalezas a nivel nacional MSP

- .Carné de control pediátrico de 0 a 12 años.2022.
- .Carné de control del adolescente.
- .Integración de la Salud Bucal en las diferentes etapas de la vida y del sexo. Mediante guías y manuales.
- .Integración de la Salud Bucal en el Programa de VIH-SIDA.
- .Creación de Guías y Manuales de atención para la Salud Bucal de personas dentro del TEA y discapacidades cognitivas.
- .Sedoanalgesia y sedación inhalada con óxido nitroso-oxígeno.
- Aval del MSP, en gestiones preliminares.
- .Guías de atención para la persona mayor.



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Fortalezas del SNIS

Metas Asistenciales vinculadas con Odontología

- Niños de 4 años
- Gestantes primíparas
- Puérperas primíparas



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Fortalezas a nivel de Sociedad Civil

Asociación Odontológica Uruguaya

**A solicitud expresa del Programa de Salud Bucal
en 2021 retira del arancel los ítems
correspondientes a la amalgama dental.**



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Prevención

En odontología, prevención implica, evitar que la estructura dentaria pierda su integridad natural.

La carga de morbilidad por enfermedades bucodentales y otras enfermedades no transmisibles puede reducirse mediante intervenciones de salud pública dirigidas a los factores de riesgo más comunes.

Entre esas intervenciones cabe citar:

El fomento de una dieta equilibrada baja en azúcares libres y que incluya muchas frutas y hortalizas, y en la que la bebida principal sea el agua.

La interrupción del consumo de tabaco en todas sus formas.

La reducción del consumo de alcohol.



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Fortalezas Académicas

Facultad de Odontología de la Universidad de la República

2007- “Perspectivas futuras de la amalgama.”

2008 – 2011- “Restricciones en su enseñanza práctica.”

2013 – Se considera la “Eliminación de la enseñanza práctica, preclínica y clínica.”

CONVENIO DE MINAMATA

2016 – la Cátedra de Farmacología y Terapéutica, constituyen dentro del Nodo de fármaco vigilancia y materio vigilancia: Proyecto URU/13/G 32: “Gestión adecuada del ciclo de vida de los productos que contienen mercurio y sus desechos”.

2017- Amalgama dental. Facultad de Odontología, Ministerio de Vivienda, Ordenamiento Territorial y Medio Ambiente.

2021- Modificación de los Programas de Currícula por parte del Consejo de la Facultad de Odontología.

Se elimina de la enseñanza de amalgama de técnica, clínica y odontotécnica.



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Carrera de Odontología de la Facultad de Ciencias de la Salud de la Universidad Católica del Uruguay

La amalgama dental no forma parte de la currícula.

Facultad de Medicina de la Universidad de la República

Participación Dra. Méndez Gura – Depto. de Toxicología



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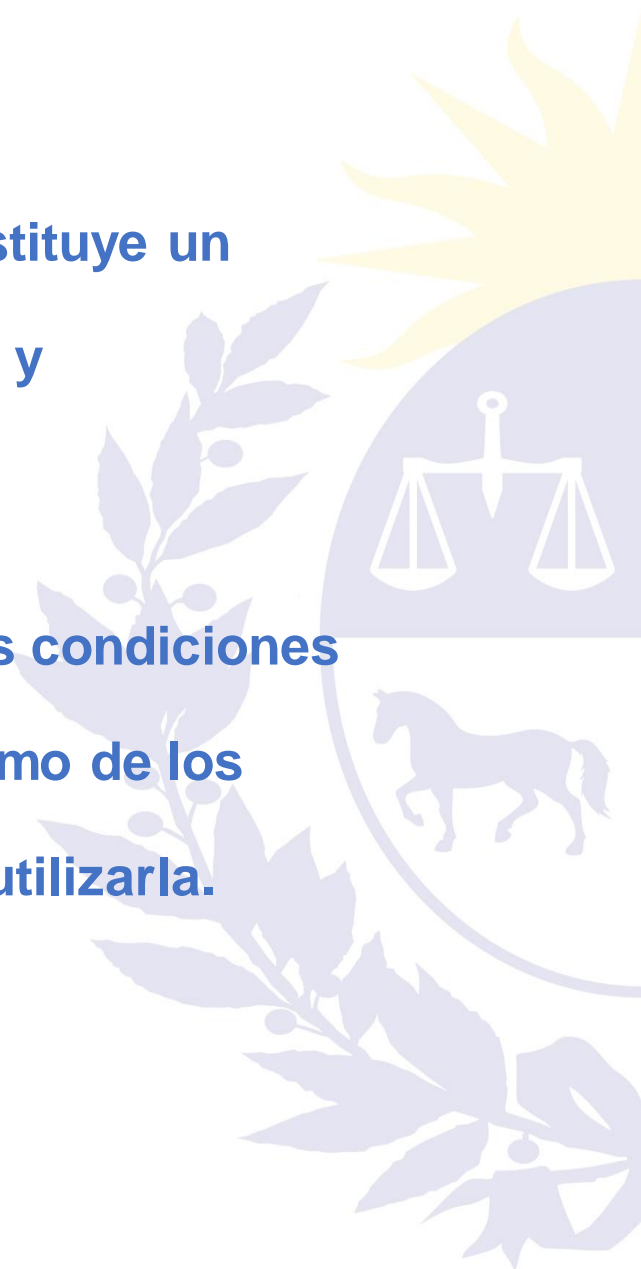
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La restauración de una pieza dental con amalgama no constituye un riesgo para la salud del paciente, salvo en casos de alergia y enfermedad renal grave.

No existe prohibición de su utilización, sin embargo, sin las condiciones adecuadas de manipulación, descarte y procesamiento último de los desechos conteniendo Mercurio, la recomendación es no utilizarla.



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CONTINUAREMOS

GENERANDO LA TOMADE CONCIENCIA

- .INFORMANDO AL COLECTIVO ODONTOLÓGICO EN EJERCICIO LIBRE DE LA PROFESIÓN.
- .ENFATIZANDO LA ATENCIÓN PRIMARIA DE SALUD,EL PRIMER NIVEL DE ATENCIÓN SNIS.
- . CONTANDO CON ALIADOS: LAS NUEVAS GENERACIONES DE ODONTÓLOGOS QUE NO RECIBEN FORMACIÓN CURRICULAR SERÁN LOS PRINCIPALES ALIADOS PARA QUE LA AMALGAMA CAIGA DEFINITIVAMENTE EN DESUSO.
- . FOMENTANDO LA INVESTIGACIÓN DE LOS MATERIALES SUSTITUTOS DE LA AMALGAMA, VINCULADOS CON LOS POSIBLES RIESGOS DE SU UTILIZACIÓN A FUTURO.



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EL CÍRCULO VIRTUOSO
CAPTANDO A LA GESTANTE E INTEGRÁNDOLA EN UN SISTEMA DE
EDUCACIÓN PARA EL CUIDADO DE SU SALUD BUCAL Y LA DE SU BEBÉ,
TAL COMO SE HA PLANTEADO EN LA METAS DEL MSP.



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¡MUCHAS GRACIAS!

MERCI!

THANK YOU!



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Innovative workforce
models and training
to accelerate phasing down
the use of dental amalgam



GEF7 Phasing Down Dental Amalgam Project
Global Kick-off Meeting, 28th April, WHO HQ Geneva

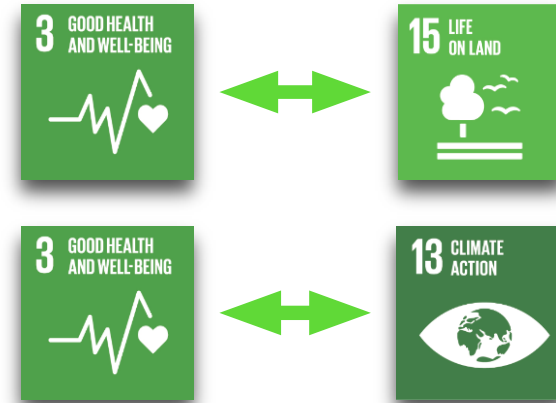
Julian Fisher, Friday 27th April

Planetary Health and Oral Health

Outcome > environmentally friendly and less invasive dentistry to support countries with their implementation of the Minamata Convention on Mercury

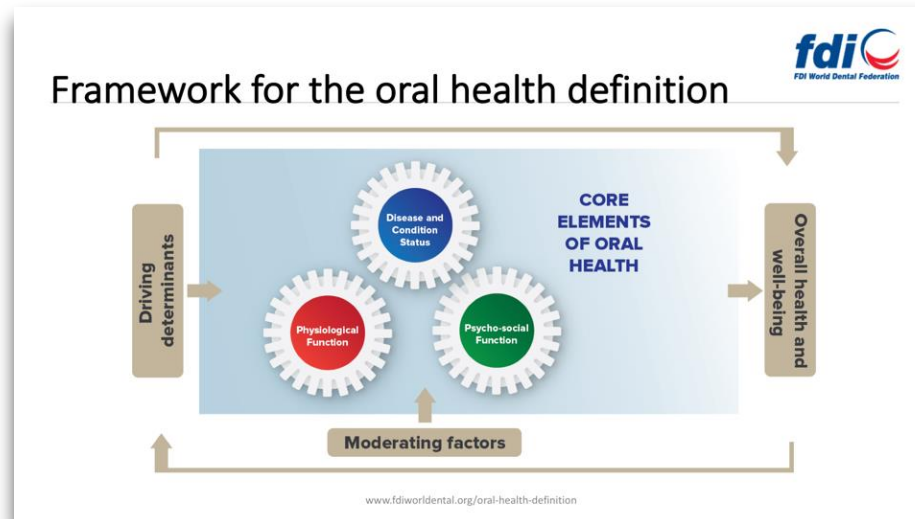
Context >

- Prepare for, adapt and mitigate for the impact of climate change on oral health services and care;
- Planetary Health; use of water and energy, and of planets resources to achieve WHO Global target 1.2: environmentally sound oral health care;
- Environmentally sound lifecycle management.



Oral Health Workforce; form follows function

WHO Definition of Oral Health > places focus on oral health which creates opportunities innovative workforce models and training



BACKGROUND

Setting the scene

1. In the political declaration of the high-level meeting of the General Assembly on the prevention and control of noncommunicable diseases (2011), the United Nations General Assembly recognized that oral diseases are major global health burdens and share common risk factors with other noncommunicable diseases (NCDs). In the political declaration of the high-level meeting on universal health coverage (2019), the Assembly reaffirmed its strong commitment to the prevention and control of NCDs, including strengthening and scaling up efforts to address oral health as part of universal health coverage (UHC).

2. Oral health is the state of the mouth, teeth and orofacial structures that enables individuals to perform essential functions, such as eating, breathing and speaking, and encompasses psychosocial dimensions, such as self-confidence, well-being and the ability to socialize and work without pain, discomfort and embarrassment. Oral health varies over the life course from early life to old age, is integral to general health and supports individuals in participating in society and achieving their potential.

3. Oral health encompasses a range of diseases and conditions that include dental caries, periodontal (gum) disease, tooth loss, oral cancer, oro-dental trauma, noma, birth defects such as cleft lip and palate, and many others, most of which are preventable. The main oral diseases and conditions are estimated to affect close to 3.5 billion people worldwide.¹ These combined conditions have an estimated global prevalence of 45%, which is higher than the prevalence of any other NCD.²

4. The global burden of oral diseases and conditions is an urgent public health challenge with social, economic and environmental impacts.³ Oral diseases and conditions disproportionately affect poor, vulnerable and disadvantaged members of societies. There is a strong and consistent association between socioeconomic status and the prevalence and severity of oral diseases and conditions.⁴ Public and private expenditures for oral health care have reached an estimated US\$ 387 billion globally, with very unequal distribution across regions and countries.⁵

5. Oral diseases and conditions share risk factors common to the leading NCDs, including all forms of tobacco use, harmful alcohol use, high sugars intake and lack of exclusive breastfeeding. Other risk factors include human papillomavirus for oropharyngeal cancers; traffic accidents and sports injuries for traumatic dental injuries; and co-infections, poor hygiene and living conditions and malnutrition for noma.

¹ WHO global oral health status report [in press]

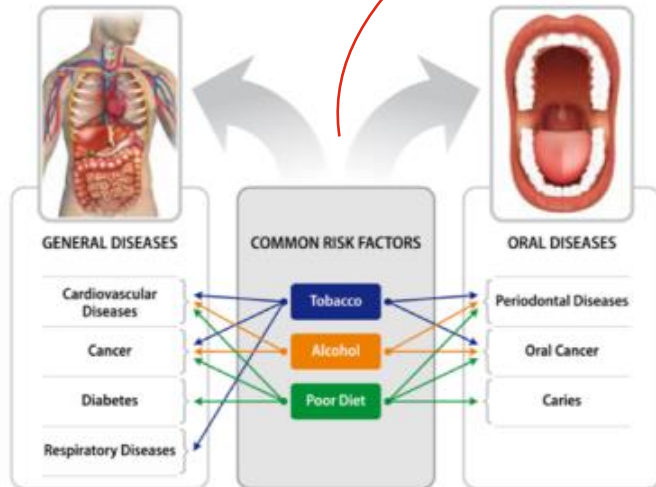
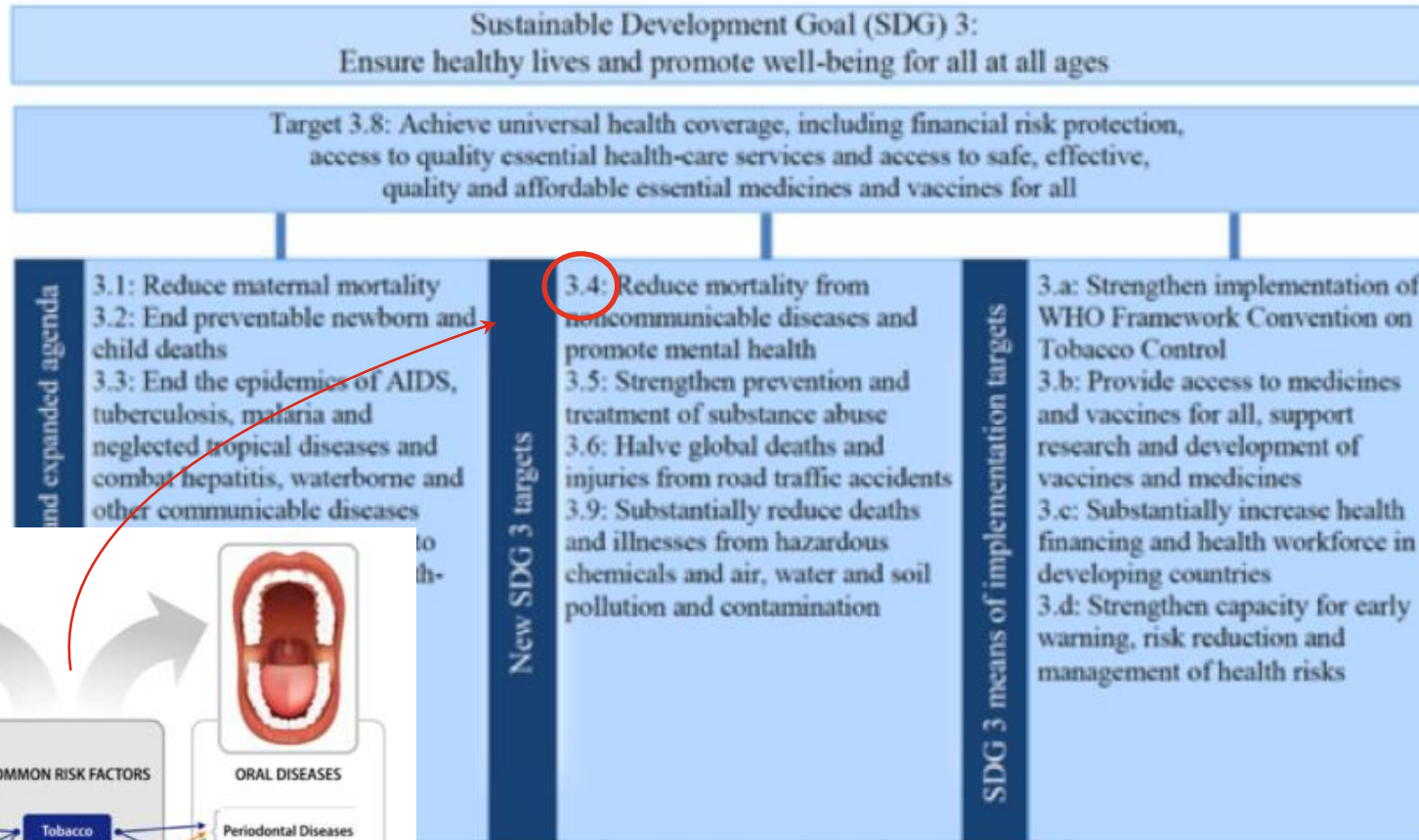
² WHO global oral health status report [in press]

³ https://apps.who.int/iris/bitstream/handle/10665/351041/1/WHO-WHE-25/A75_10Add1-en.pdf

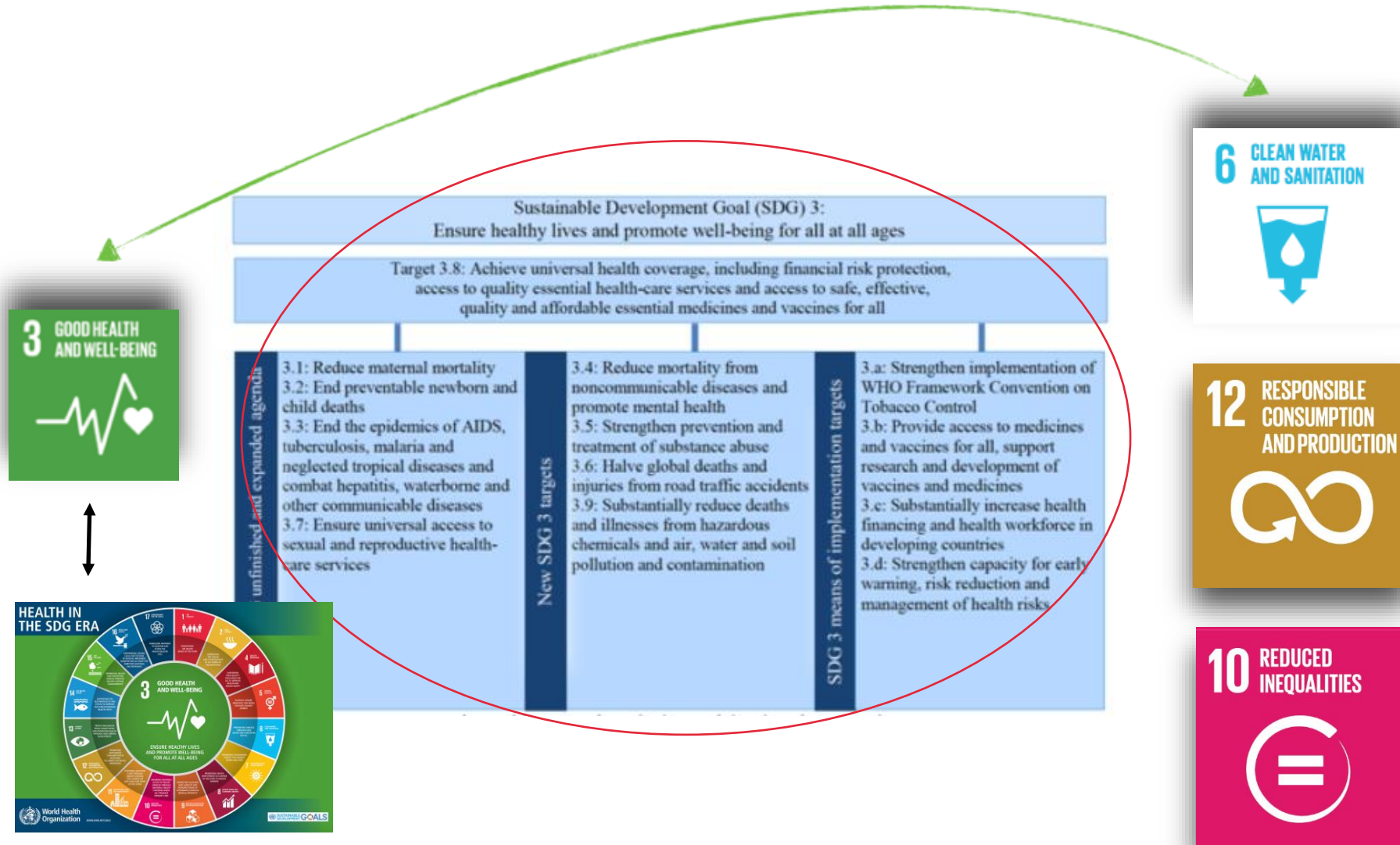
⁴ WHO global oral health status report [in press]

⁵ WHO global oral health status report [in press]

Oral Diseases Framing >>



>> Oral Health Grounded within,
between and across 17 SDGs



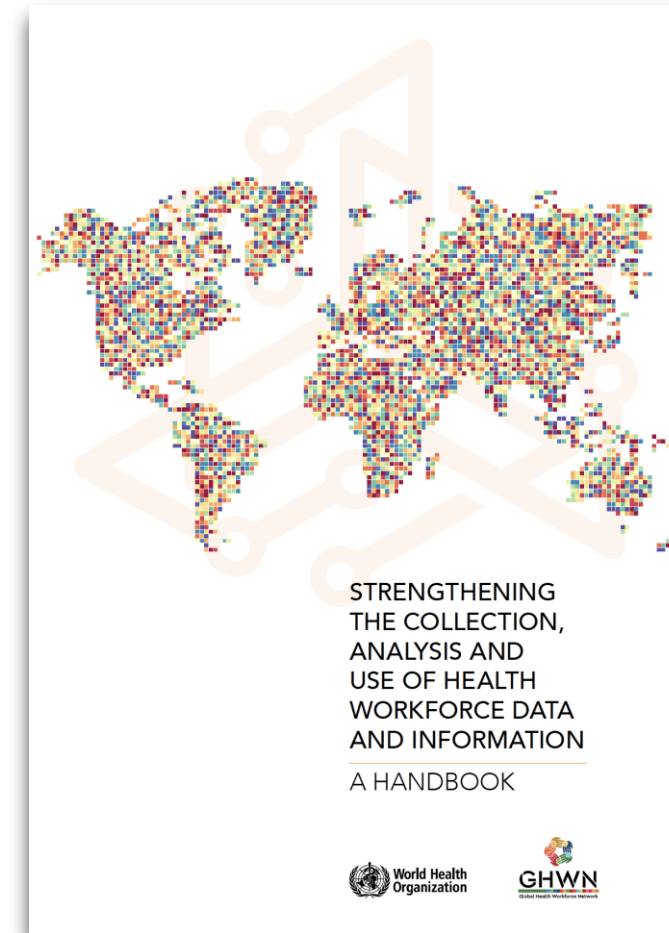
Innovative oral health workforce models

SDG 3c; Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in the least developed countries and small island developing states.

- **Improve and enhance use and networking of existing health workforce to integrate oral health across all health programmes**

Data and evidence for new models:

- Lifelong Learning Systems
- Collaborative Practice Education
- Graduate Tracking



Community-based, engaged and distributed Oral Health Workforce

USA: Oregon, Colorado, Wisconsin;
expanded dental hygienists in primary care settings, mobile
community clinics and in hospitals

- Emergency room & wards rounds > referral to dentists

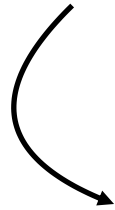
Zimbabwe, Matabeleland;

oral health unit in regional mental health hospital
connected to dental officer network

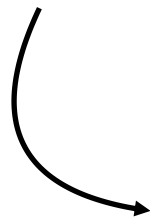
- Oral health training of mental health professionals



Outcome > environmentally friendly and **less invasive** dentistry to support countries with their implementation of the Minamata Convention on Mercury

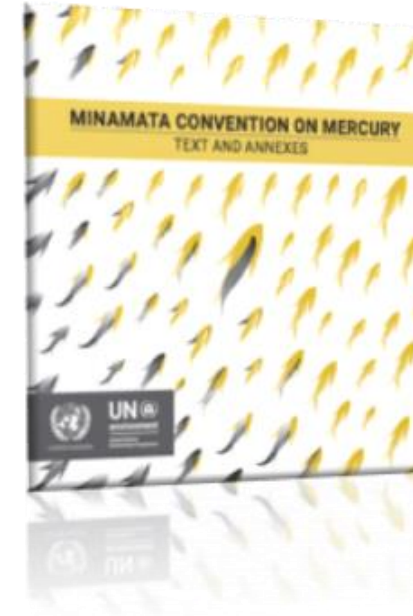


(i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration;



- Non-invasive; fluoride*
- Micro-invasive; silver diamine fluoride*
- Meso-invasive; Minimal Intervention/Glass ionomer cement*
- Macro-invasive

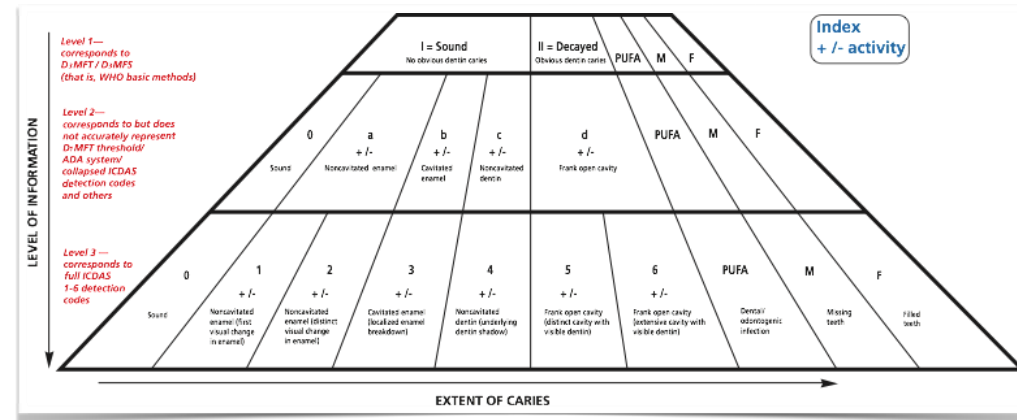
WHO Essential Medicines List *



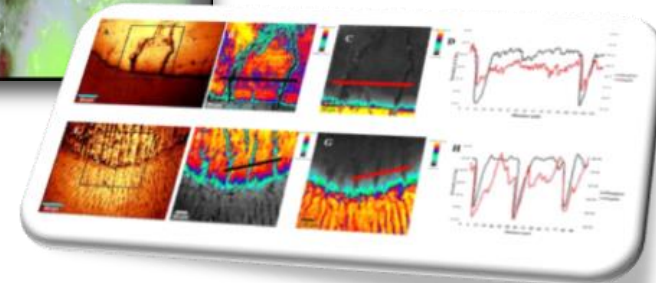
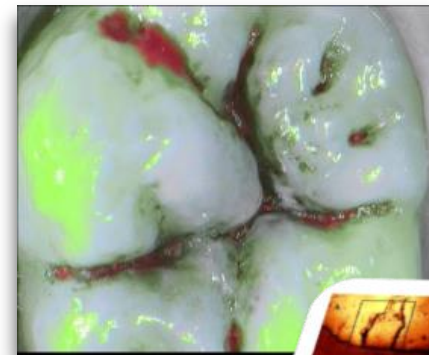
New generation
materials

Oral Health Workforce Training

Disease classification to
classification >>>
one that protects
and promote oral health



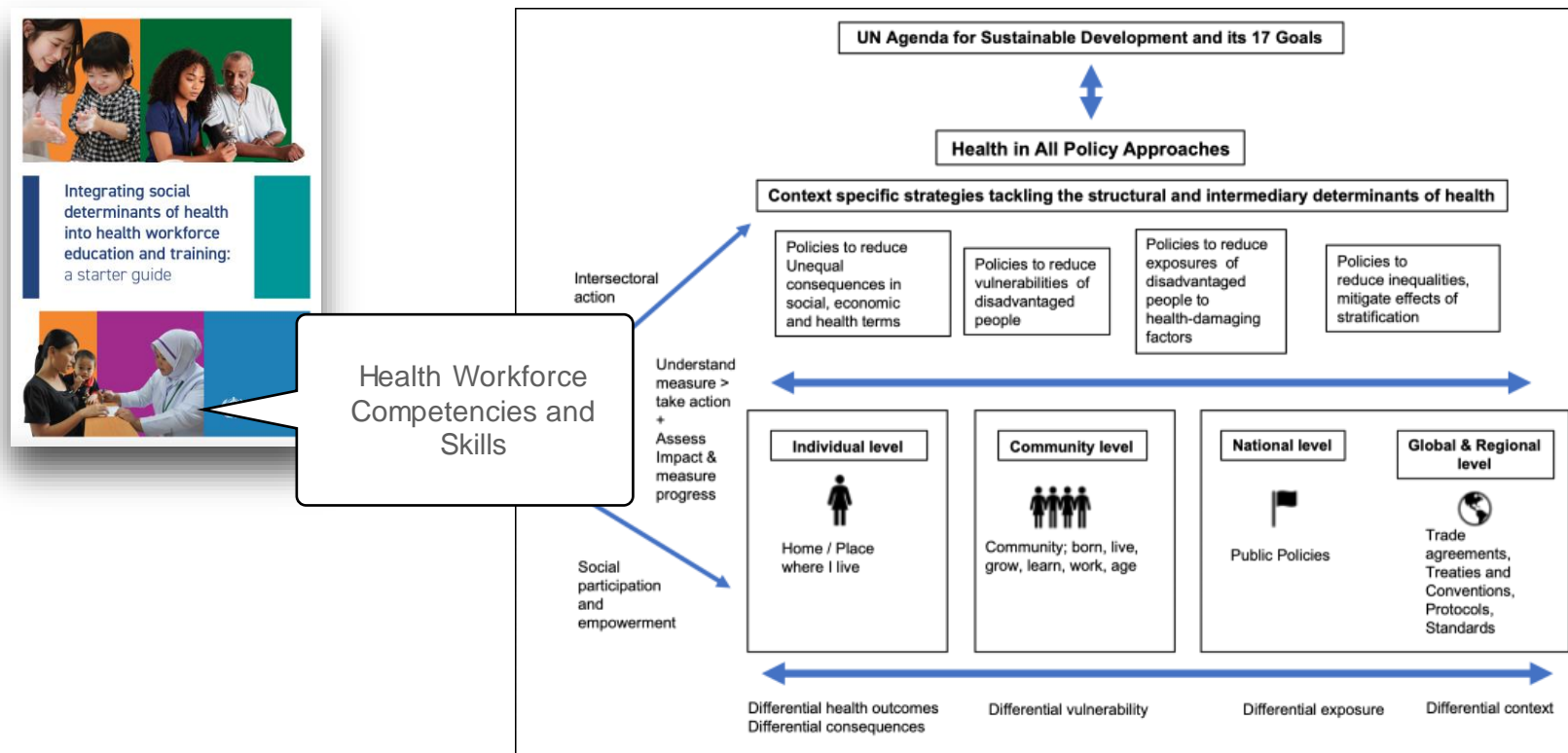
- Robust evidence base
- Consensus on model
- Taught in universities (Measure v)
- Used across domains of research, public health, education and practice



Integrated Oral Health Workforce Training to take action on the social and commercial determinants of health



Integrated Oral Health Workforce Training to take action on the social and commercial determinants of health



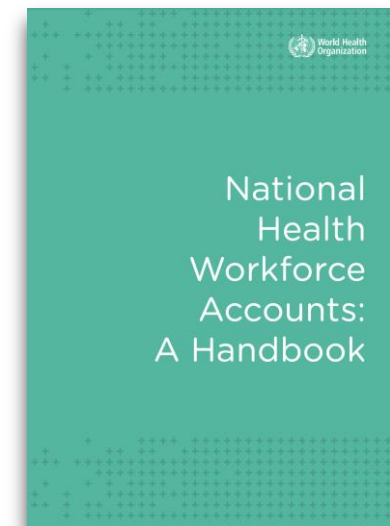
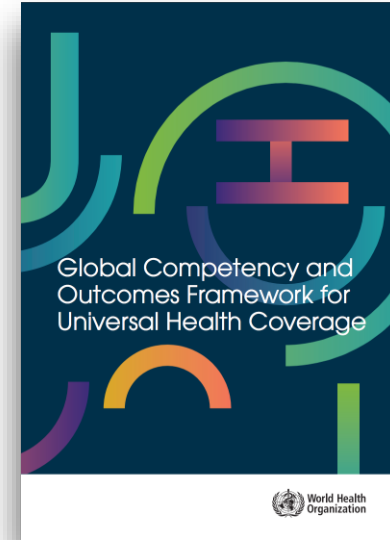
Adapt accreditation mechanisms for oral / health workforce

WHO Global Competency and Outcomes Framework for
Universal Health Coverage

WHO National Health Workforce Accounts

Module 1; mapping of oral health workforce

Modules 2,3,4; education and training, including accreditation



Thank you

- Achieving Oral Health for All through Public Health Approaches, Interprofessional, and Transdisciplinary Education, <https://nam.edu/achieving-oral-health-for-all-through-public-health-approaches-interprofessional-and-transdisciplinary-education/>
- Planetary health benefits from strengthening health workforce education on the social determinants of health, <https://academic.oup.com/heapro/article/37/3/daac086/6651173>
- WHO Strengthening the collection, analysis and use of health workforce data and information: a handbook, <https://www.who.int/publications/i/item/9789240058712>
- WHO National Health Workforce Accounts: A Handbook, <https://apps.who.int/iris/bitstream/handle/10665/259360/9789241513111-eng.pdf>

PROJECT COMPONENT 1 SESSION - GROUP DISCUSSION AND Q&A

- Discussion and opportunities for collaboration at national, regional and global levels
- Q&A session





**World Health
Organization**

Project Component 2 session: Improve management of mercury and hazardous waste from dental use

Session moderator:

Mady Ba, WHO Senegal



**World Health
Organization**



**HEALTH
FOR ALL**

PROJECT COMPONENT 2 SCOPE: OUTCOMES, TARGETS, DELIVERABLES

BRIEF OVERVIEW

Benoit Varenne

WHO Oral Health Programme, NCD Department

GEF7 Phasing Down Dental Amalgam - Global Project Kick-off meeting, 28 April 2023



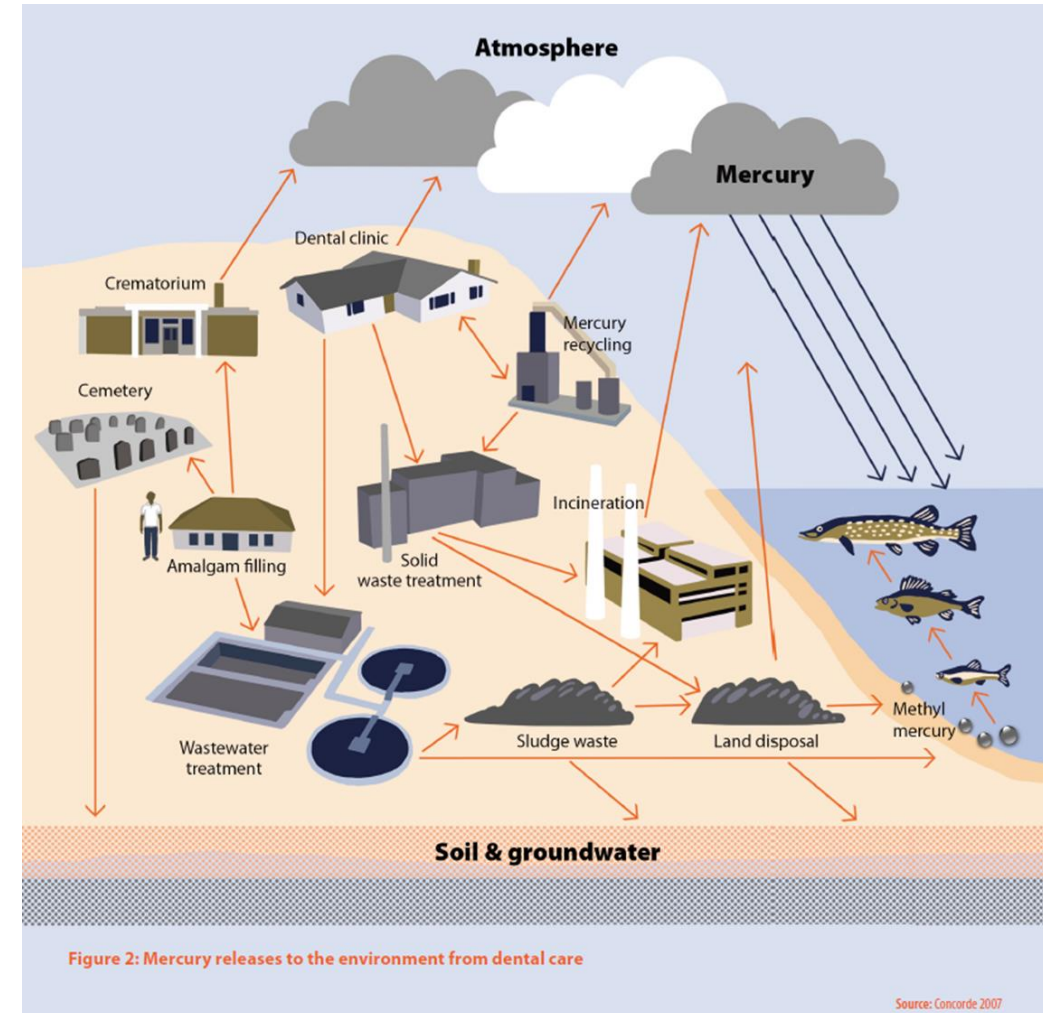
World Health
Organization



HEALTH
FOR ALL

COMPONENT 2: IMPROVE MANAGEMENT OF MERCURY AND HAZARDOUS WASTE FROM DENTAL USE

Output 2.1.1. Feasibility on the application of sound management and disposal schemes for dental amalgam are tested and dental wastes transported and disposed



COMPONENT 2: TARGETS



10% increase of dental facilities with sound dental amalgam management techniques



Identified health facilities acquired new amalgam separators and adopted best management practices to handle dental amalgam wastes



World Health
Organization



HEALTH
FOR ALL

COMPONENT 2: MAIN ACTIVITIES AND DELIVERABLES

Main activities

2.1.1.1. Develop process and criteria for the selection and installation of dental amalgam separators (match separator suppliers with dental facilities in Senegal and Thailand)

2.1.1.2. Install dental amalgam separators and provide appropriate training

2.1.1.3. Manage and dispose of dental amalgam waste collected through the project in an environmentally friendly manner (evaluation of health system wide approach on mercury waste management will be conducted)

2.1.1.4. Produce a technical report, including lessons learned, identified waste management options, financial and sustainable considerations, on best environmental practices of alternative materials used in dental restoration

Deliverables

An assessment tool and protocol developed

Separators installed and training materials developed

Dental amalgam waste collected and appropriately disposed of

National technical reports on best waste management practices of dental amalgam waste (1 per country)

1 global guidance

THANK YOU



World Health
Organization



HEALTH
FOR ALL

République du Sénégal

Un Peuple – Un But – Une Foi



**MINISTRE DE L'ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE
ET DE LA TRANSITION ECOLOGIQUE**

Direction de l'Environnement et des Etablissements Classés

Contexte national, défis et opportunités pour améliorer la gestion du mercure et des déchets dangereux à usage dentaire au Sénégal

Projet GEF7 Phasing Down Dental Amalgam

28 avril 2023, Genève

Présenté par : [Pathé DIEYE], Ministère de l'Environnement, [Sénégal]

Conseiller Technique, Point Focal Convention sur le mercure de Minamata et régional coordinateur du programme Spécifique International SIP/Sénégal, Togo et Burkina Faso. Contact : +221 782632615 padieye2001@yahoo.fr ou

pathe.dieye@environnement.gouv.sn

PLAN DE LA PRESENTATION

- Contexte national et besoins en matière de gestion des déchets de mercure
- Gestion des déchets de mercure du secteur de la santé bucco-dentaire/santé
- Défis et opportunités

Contexte national

LE SÉNÉGAL EN QUELQUES MOTS :

Habitant : 16,88 millions (2021) répartis sur 14 régions;

Superficie : 196712 Km²

Atouts :

Ouverture avec l'océan atlantique (560km de cotes);

Un pays facile d'accès par voie terrestre, aérien et maritime ayant ratifié tous les accords et traités mondiaux;

Une découverte récente d'un potentiel énorme en ressources naturelles; notamment en pétrole et en gaz;

Un pays qui a su maintenir sa stabilité et aucun acte malveillant n'y a été noté

Malgré le contexte régional marqué par le terrorisme (Le Sénégal est appelé pays de la Teranga/pays de l'ouverture et de l'Hospitalité)

Contexte national

D'un point de vue environnemental, le pays a interdit l'entrée du plastique dans le territoire et tous les projets sont dans l'obligation d'intégrer les les préoccupations des différentes conventions internationales notamment celle de Minamata.

Le mercure : 50,620 kg Hg/year a été inventorié dans le cadre du MIA.

Contexte national

La plupart du mercure entre clandestinement dans le pays; ce qui a motivé les formations des services de contrôle douaniers et des services du commerce avec le specific international program sur le mercure et les mercury added product.

Le 13 et le 14 avril à Ouagadougou trois pays (Sénégal, Togo et le Burkina Faso) en présence de tous les représendants des décideurs OuestAfricain notamment la CDEAO, l'UEMOA, le CILSS, les autorités des bassins des fleuves d'eaux séparant les états frontaliers.

Sous la supervision du Secretariat représenté par Marianne Bailey.



Contexte national

Communication des autorités au niveau de la presse sur le commerce illégal du mercure et les mercury added product à l'atelier de sensibilisation des décideurs Ouest Africains



Besoins en matière de gestion des déchets de mercure

Le manque d'information sur la gestion des déchets, notamment parce que même les déchets contenant du mercure sont mélangés aux déchets généraux, ce qui empêche d'identifier les quantités exactes de déchets de mercure circulant dans le pays.

Sur **le plan législatif**, le pays ne dispose que des textes suivants :

- La loi 2001-01 du 15 janvier 2001 portant code de l'environnement qui traite de façon générale tous les types de déchets;
- Le décret n°2008-1007 du 12 août 2008, réglementant la gestion des déchets biomédicaux,
- Le décret n°2010-1281 du 16 septembre 2010 réglementant les conditions d'utilisation du plomb provenant des piles et autres sources usagées et l'utilisation du mercure et de ses composés.

Ces textes ne traitent que de la nature générale des produits chimiques et ne traitent pas spécifiquement de la gestion du mercure conformément à la Convention de Minamata, d'où la nécessité d'élaborer une loi sur le mercure.

Le Sénégal ne dispose pas d'infrastructure de gestion spécifique du mercure et des substances chimiques dangereuses et il est nécessaire d'outiller la Direction de l'Environnement et des établissements classés du pays.

Besoins en matière de gestion des déchets de mercure

Le Sénégal ne dispose pas d'infrastructures publiques de gestion spécifique du mercure et des substances chimiques dangereuses.

Toutefois, la loi du pays prévoit de réquérir aux entreprises privées selon une procédure très particulière par la gestion des substances dangereuses notamment le mercure saisi dans les trafics

MERCURE SAISI AUPRES DES TRAFIQUANT FRONTALIERS QUI LE DISSIMULAIENT DANS DES BOUTEUILLES d'eau



Besoins en matière de gestion des déchets de mercure

Mercure géré par les industriels



Décharges abritant tous les types de déchets mercure y compris



Gestion des déchets de mercure du secteur de la santé bucco-dentaire/santé

Le Sénégal ne dispose pas d'un système d'élimination normalisé des déchets de mercure, qui sont placés dans les déchets généraux ou les déchets biomédicaux.

Les obturations anciennes ou les dents contenant des amalgames qui sont retirées dans les cliniques dentaires sont généralement éliminées le long des flux de déchets généraux.

Synthèse des rejets de mercure dans les déchets

Estimation des différentes catégories de déchets (Kg Hg/an)

Catégorie source :	Sous- produits et impuretés	Déchets	Traitement / élimination des déchets par filière	Commentaire
UTILISATION ET ÉLIMINATION DES PRODUITS AVEC DES TAUX DE MERCURE	2,1 kg	9,8 Kg	9,8 Kg	L'amalgame dentaire contient 50 % de mercure élémentaire qui est rejeté dans les déchets généraux

Défis sur la gestion du mercure et des déchets dangereux à usage dentaire

Les défis sont multiples dans les pays en développement ; elles concernent :

- Absence de soutien politique/changement dans l'agenda politique et les priorités de l'État qui souvent sont orientés vers la construction des grandes infrastructures, le transport et l'exploitation des ressources naturelles;
- Les ministères de l'environnement ne sont pas des ministères de souveraineté et leurs décisions ne peuvent pas passer au dessus de celles des autres ministères
- Manque de ressources financières des partenaires au développement ;
- Manque de réceptivité de la part du public qui ne comprend pas les dangers associés aux amalgames dentaires ;
- Manque d'intérêt des partenaires privés, notamment ceux impliqués dans le commerce des produits contenant du mercure ajouté ;
- Crise politique/économique/de sécurité

Possibilités d'améliorer la gestion du mercure et des déchets dangereux à usage dentaire

- Il est nécessaire d'élever les Ministères de l'environnement en Ministère de souveraineté dont les décisions pourront être rendu obligatoirement applicables à toutes les institutions;
- Le Sénégal dispose de plusieurs structures impliquées dans la gestion des déchets. Il faut juste mettre en place une unité de coordination au niveau des ministères de l'environnement et former les agents chargés de la gestion des produits chimiques dangereux sur les meilleures technologies;
- ; de plus, les déchets d'amalgames dentaires sont très peu pris en compte. La Direction de l'Environnement et des Etablissements Classés, à travers sa division chargée de la prévention et de la maîtrise des pollutions et nuisances, a développé plusieurs démarches de gestion des pollutions qui se sont traduites par la création de plusieurs structures.
- Cependant, l'expérience capitalisée à travers le projet de gestion des dioxines et du mercure (PROGEDIME) a permis de mieux appréhender les enjeux liés à la gestion des produits contenant du mercure ajouté.
- Ce projet est l'occasion de créer un centre spécialisé dans la gestion des déchets dangereux contenant du mercure.

Possibilités d'améliorer la gestion du mercure et des déchets dangereux à usage dentaire

Les déchets d'amalgames dentaires sont très peu pris en compte. La Direction de l'Environnement et des Etablissements Classés, à travers sa division chargée de la prévention et de la maîtrise des pollutions et nuisances, a développé plusieurs démarches de gestion des pollutions qui se sont traduites par la création de plusieurs centre de gestion des pollutions mais le problème majeur réside dans la perennisation des initiatives, la formation continue des agents chargées de l'utilisation du matériel, le cout élevé de la maintenance des appareils de mesure du mercure et des produits chimiques de façon générale. Le ministère a acquis un laboratoire mobile de mesure de la pollution de proximité. Il suffit de renforcer par l'appui des partenaires par l'acquisition d'appareils complémentaires de mesure du mercure notamment le DMA 80



Possibilités d'améliorer la gestion du mercure et des déchets dangereux à usage dentaire

- Cependant, l'expérience capitalisée à travers le projet de gestion des dioxines et du mercure (PROGEDIME) a permis de mieux appréhender les enjeux liés à la gestion spécifique des produits contenant du mercure ajouté.
- Dans le future, le ministère de l'environnement du Sénégal est en train de développer un indicateur articulé à l'objectif de la convention de Minamata intitulé TAUX DE MERCURE ELIMINE en référence à l'état initial. Ce qui permettrait au Ministère des finances d'allouer spécifiquement des ressources financières qui pourront continuer de supporter l'élimination du mercure après la fin de vie des projet.
- Toutefois l'indicateur nécessite d'être documenté à l'aide d'expériences et d'outils technologique basés sur les résultats des projets. Il faudrait assister le pays dans ce sens.



Produits chimiques saisis gérées après la fermeture par le chef de des sites d'orpaillages en 2014

MERCI A TOUS POUR VOTRE PATIENCE

Policy guidance and lessons learned from phasing-out of mercury thermometers and sphygmomanometers in health care

Maggie Montgomery (montgomerym@who.int)
Water, Sanitation, Hygiene and Health Team
World Health Organization
Geneva

Billions are served by health care facilities without water, sanitation, hygiene, and waste services; undermining mercury efforts

Globally, major coverage gaps persist



1 in 4 HCFs lacks basic water—
facilities serving 1.7 Billion people



1 in 10 has no sanitation—780 million
people use facilities without toilets



1 in 2 lacks basic hand hygiene
(at points of care and toilets)



2 in 5 lack basic waste services
(segregation + treatment)



1 billion served by facilities without reliable energy



Find your country's data:
www.washdata.org/healthcare

Leveraging commitments and a movement on WASH and waste

2019 World Health Assembly Resolution calls for Countries to:

- Establish **national roadmap, targets** and implement WASH in HCF and infection prevention and control (IPC) standards
- Integrate WASH and IPC **standards and indicators** into health programming and monitoring
- **Address inequities**, especially in primary health care facilities and facilities where births occur
- Increase **domestic funding** for WASH in HCF

Learn what countries are doing to address resolution, including strengthening waste at the WHO/UNICEF Global Knowledge Portal (www.washinhcf.org)

Calls for the WHO Director General:

- Provide leadership, technical guidance and regularly report on status
- Mobilize partners and investments

Full text of resolution

http://apps.who.int/gb/ebwha/pdf_files/WHA72/A72_R7-en.pdf



Mercury release from healthcare facilities

The incineration of mercury-containing medical waste is a source of mercury releases into the atmosphere.

Healthcare facilities may also be responsible for mercury pollution taking place in water bodies from the release of untreated wastewater.

Breakage of mercury thermometers and sphygmomanometers, if not dealt with appropriately, can result in occupational (and patient) exposures.



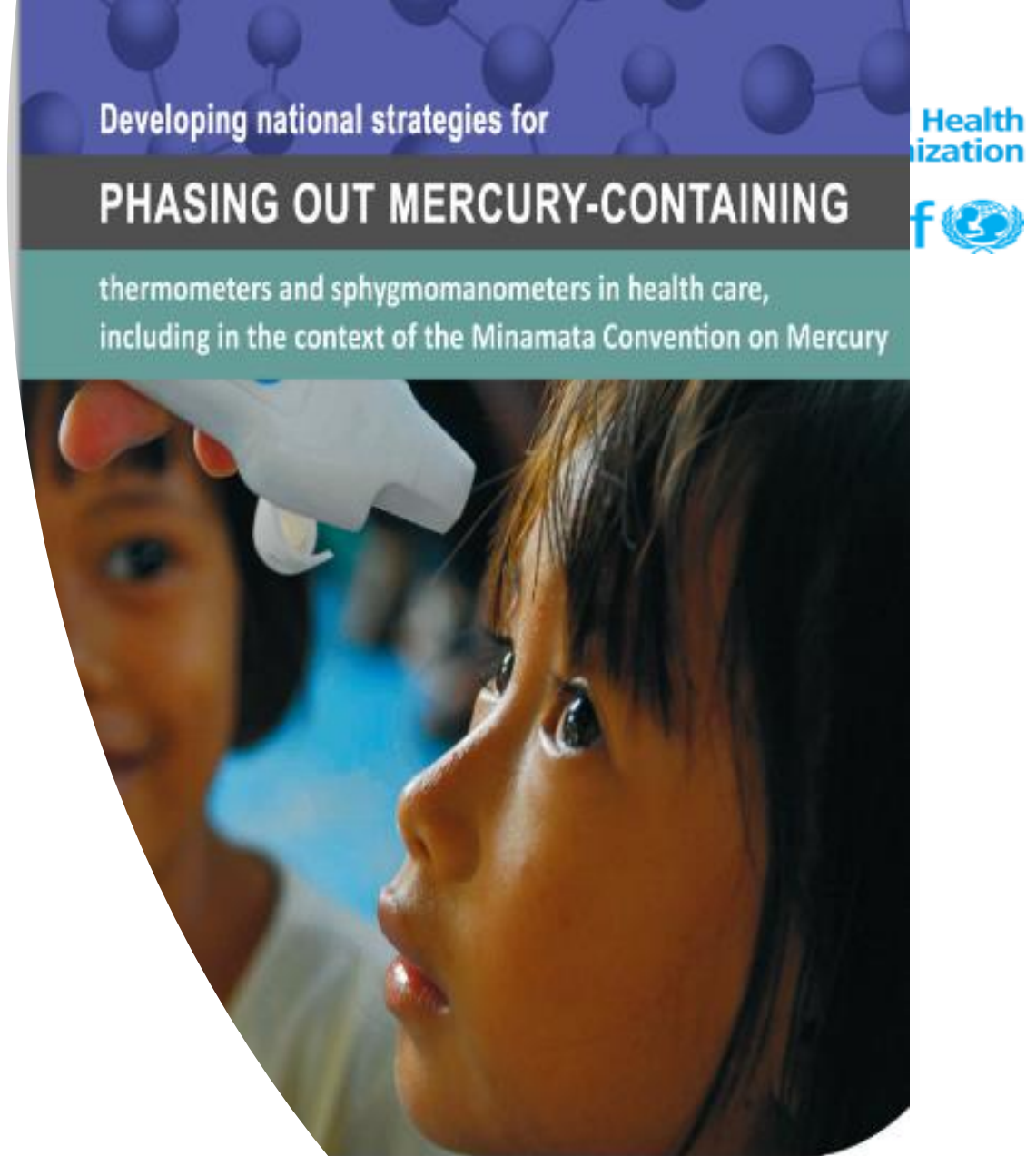
WHO guidance: developing a national strategies to phase out mercury thermometers and sphygmomanometers

Scope and purpose:

Address phasing out of mercury containing thermometers and sphygmomanometers in health care

Facilitate development of health-system-wide approaches, building on successes and good experiences at the level of individual institutions

Provide suggested process, highlighting specific issues that may warrant greater consideration depending on the national context



AND STEP-BY-STEP GUIDANCE

Step 1: Develop a stakeholder engagement strategy

set management and oversight arrangements for development and implementation of the strategy and interventions

identification of stakeholder groups needed to support roll-out

establishment of process for engaging stakeholders (several of whom may not be the same) in strategy development and implementation



Step 2: Situation assessment and inventory



number/quantity of medical devices requiring **replacement** or **substitution**



volume of waste material to be collected, stored and disposed



capacity to support phase-out activities and identification of gaps, including

availability of mercury-free devices and products
availability of supporting services e.g. maintenance, validation, calibration
capacity for safe collection, storage, and environmentally sound disposal

Step 2: Situation assessment and inventory (continued)



identification priority areas (e.g. locations, facilities) to be targeted for initial activities



costs associated with potential phase-out scenarios



recommendations on available options for implementation of phase-out activities

Step 3: Strategy development and implementation

Definition of specific interventions, for example to address/ensure:

- Training and sensitization activities to support the switch to alternative (mercury-free) devices
- Testing of new products to ensure relevant regulatory requirements in place
- Development/updating of technical specifications for essential health commodities lists used for procurement
- Development of operating procedures on safe collection, transport, treatment and environmentally sound disposal of waste



Agreement reached on roles and responsibilities for delivery of phase-out activities



Establishment of monitoring framework for reporting on delivery of interventions and any unforeseen or unexpected issues/impacts

Step 4: Monitoring and reporting

Monitoring of results of interventions and supporting activities

Adjustment of strategic approach as needed, taking into consideration lessons learned

Detection and reporting, of unforeseen issues/impacts related to the implementation of measures under the strategy



Urgent need to strengthen health engagement and leadership in Minamata efforts



- In half of responding countries (61) Ministries of Health were not involved in developing MIAs
- Fewer than 1/3 MIAs indicated measures to address mercury in health care waste
- Need to raise awareness on the broader range of mercury issues as they link to health
- Must have more viable, cost-effective and regulated alternatives + supplies chains in place to maintain functionality
- Infrastructure needed to safely transport, store and dispose of health care waste, including mercury containing waste
- Standardizing procurement in major pandemic and disease programme initiatives



**Insights from strengthening
safe health care waste
management, including
phasing out mercury in
Ghana, Madagascar, Tanzania
and Zambia**

Lesson 1. Understand existing quality standards and processes and work to strengthen them

Challenges

- Weak quality control system for medical devices in the countries
- Low capacity for validation, calibration of medical equipment

Solutions

- Establish quality control system
- Train procurement staff onsite on how to check quality of equipment
- Assess country capacity on validation and calibration
- Provide clear guidance and training on validation and calibration



Lesson 2. Understand who owns thermometers and what needs replacing

Challenges

- Medical devices often owned by patients and doctors; not the health care facility.
- Equipment often lacking and shared and a 1:1 replacement may be insufficient or raise contamination concerns.

Solutions

- For an exchange, final recipients must be clearly identified and if necessary changed.
- Provide mercury free devices in accordance with need; consider higher budget for new devices to enable staff to use safely.



Lesson 3. Train on use of new devices and put in systems to ensure operation and maintenance



Challenges

- Medical staff not convinced new equipment is as accurate as mercury equipment
- Concerns about replacing batteries-including supply chains
- One size arm-cuffs not suitable for children

Solutions

- Final recipients must be clearly identified and if necessary changed; provide mercury free devices in accordance with need; consider higher budget for new devices
- Establish a maintenance system and reliable energy supply (batteries)
- Consider needs of all users (e.g. children)

Taking action to address health care waste as part of a wider agenda on safe and resilient infrastructure services for health care facilities

Aim: Every user is provided safe, quality care-do no harm



New global progress report and global event coming in June 2023

Learn more, find and share resources at www.washinhcf.org



National Context, Challenges and Opportunities to Improve Management of Mercury and Hazardous Waste from Dental Use in Thailand

GEF7 Phasing Down Dental Amalgam project

28 April 2023, Geneva, Switzerland

Presented by: **Dr. Napaporn Tanginthai**

Pollution Control Department (PCD)

Ministry of Natural Resources and Environment (MoNRE), Thailand

Outline

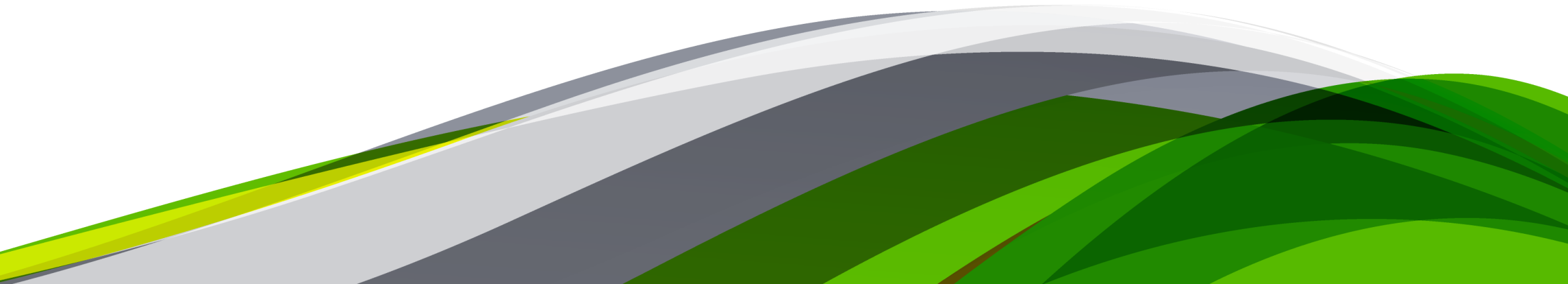
1 | **National context and needs on hazardous waste management (HWM)**
(Including mercury waste)

2 | **Mercury waste management from oral health/ health sector**

3 | **Challenges and opportunities**

01

**National Context and Needs
on Hazardous Waste Management (HWM)
(including Mercury Waste)**



Hazardous Waste Management in Thailand using Decentralized Policy



Ministry of Industry

Factories under **Factory Act B.E. 2562 (2019)**
Machines over **50 horsepower**
& Workers over **50 workers**



Still supporting
using factory facilities



Ministry of Public Health

Small factories
have been switched to use **Public
Health Act B.E. 2535 (1992)**

Preparing subordinate legislation
for HW from small factories & households



Ministry of Interior

Regulatory and Compliance Unit
As HWM is a main responsibility
of local government



**Ministry of Natural Resources
and Environment**

Preparing guideline and technical support

Ministry of Public Health

By Department of Health
Environment bureau

Ministerial Regulation on Management of Toxic and Hazardous Waste from the Community, B.E. 2563 (2020) under Public Health Act B.E. 2535 (1992)

In the Process of Preparing Notifications of Ministry of Public Health, 12 copies

1. Management of Toxic and Hazardous Waste from the Community **Training Courses for Responsible Officers**
2. Management of Toxic and Hazardous Waste from the Community **Training Courses for operators**
3. **Determination of Methods for Managing Toxic and Hazardous Waste** from the Community
4. **Determination of Other Types of Toxic and Hazardous Waste** from the Community
5. **Medicines and Medical Supplies**, are considered **Toxic and Hazardous Waste** from the community
6. **Determination of Seal or Symbol on Containers for Collecting Toxic and Hazardous Waste** from the community
7. **Designation of Symbols on Toxic and Hazardous Waste Containers at Drop-off Points** for Toxic and Hazardous Waste from the Community
8. **Measures to Control Transportation** of Toxic and Hazardous Waste from the Community to Prevent Illegal Dumping, **Breakage and Chemical leakage**
9. **Measures to Prevent Nuisance and Impacts on People's Health and the Environment by Separating of Toxic and Hazardous Waste** from the Community
10. **Disposal Methods** for Toxic and Hazardous Waste from the Community
11. **Criteria for Location and Size of Burning Area of Incinerator, Standards for Lighting and Ventilation** that are Sufficient for Operations
12. Preventive and Remedial **Measures to Prevent Impacts** on People's Health and the Environment **from Secure Landfill**



Ministry of Natural Resources and Environment

By Pollution Control Department

Waste and Hazardous Substances Management Division

**Develop Models/
Guidelines & Give
Technical Advice
on HWM for local
communities**



**Encourage to have
Drop-off Points
Covering Communities
across the country**

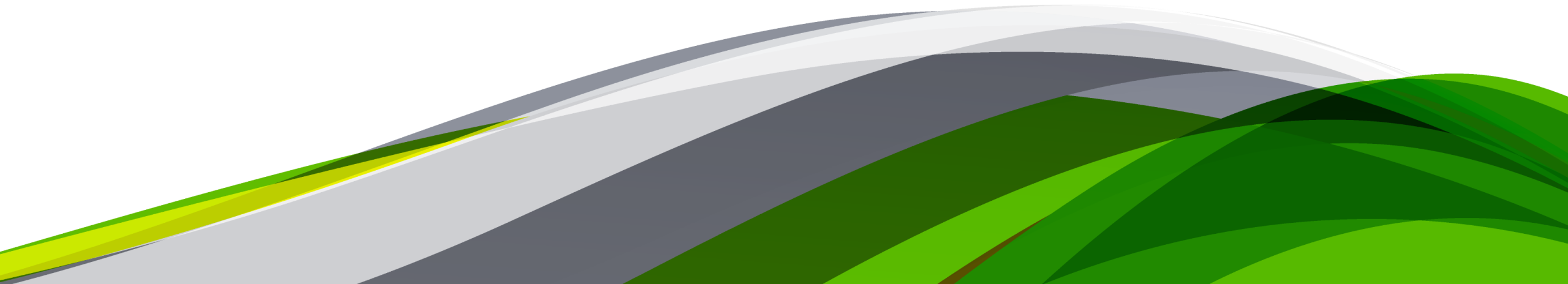


**Cooperate between
Public & Private
Sectors on HWM
for local communities**



02

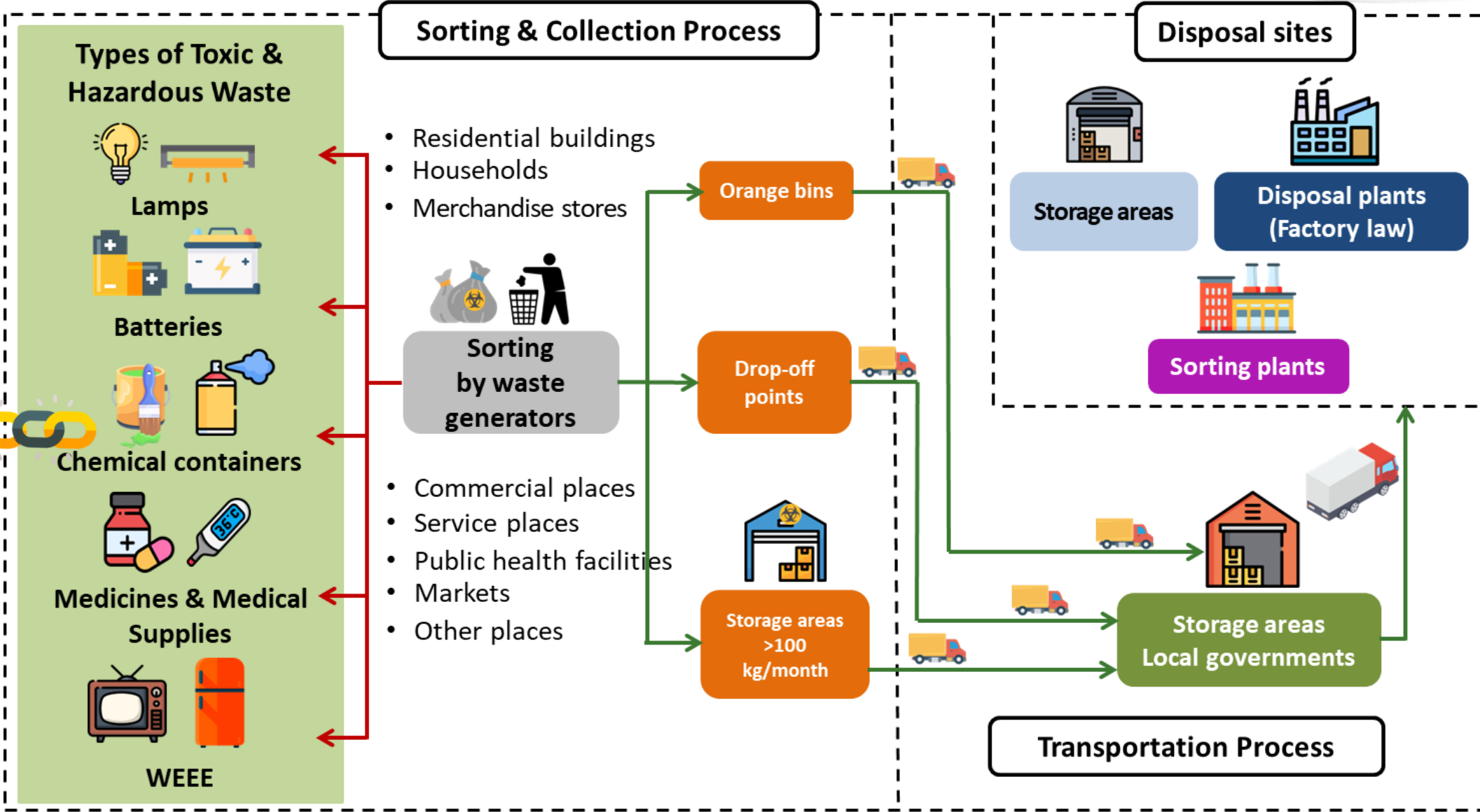
**Mercury Waste Management
from Oral Health/ Health Sector**



Concept on Toxic and Hazardous Waste from the Community to Prepare Notifications of Ministry of Public Health



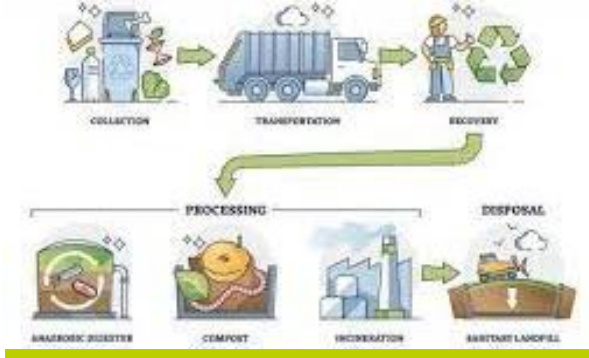
Mercury Waste from Oral Health/ Health Sector



Keys of success

For Mercury Waste Management from Oral Health/ Health Sector
As “a small subset” of Hazardous Waste Management (HWM)

Knowledge & Understanding



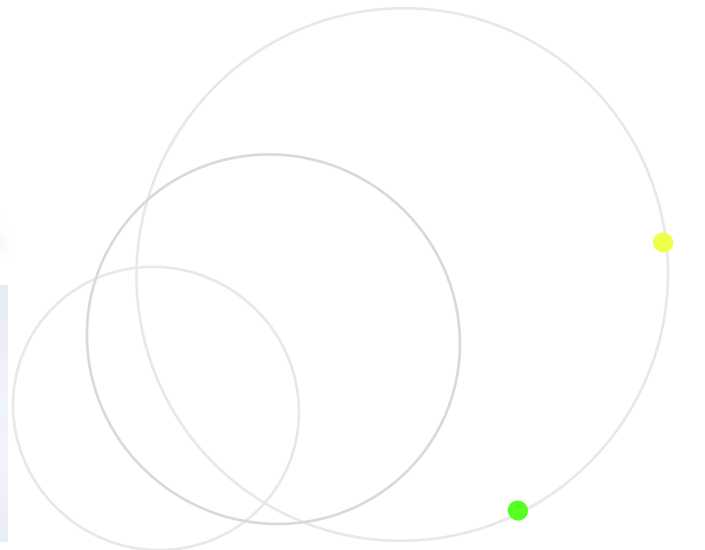
Proper HW Management

Cooperation



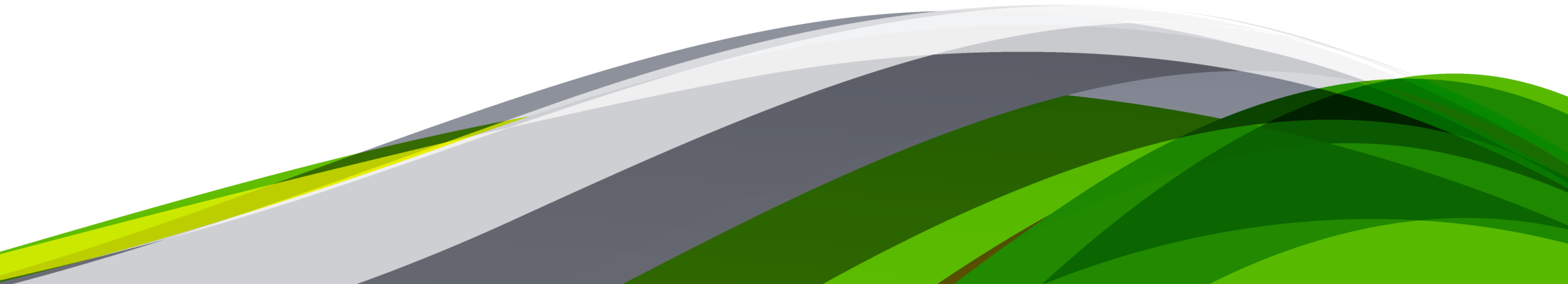
Collective responsibility

Guidelines for Mercury Waste Responsible Officers & Operators



03

Challenges and Opportunities



1. Sub-committee on Minamata Convention on Mercury

Under the supervision of National Environment Board (NEB)
to comply with all obligations of the Minamata Convention on Mercury

DDG = Deputy Director General
DPM = Deputy Prime Minister
PM = Prime Minister

Chaired by Experts/
DDG of PCD

Working groups
are established
by **Sub-committee**

Chaired by Expert
in NEB

**Sub-committee
on Minamata
Convention
on Mercury**

Chaired by
DPM

National
Environment
Board (NEB)

Chaired by
PM

The Cabinet

Approval of decisions
of **Sub-committee**

- COPs Negotiation framework
- **National Hg Inventory & Implementation plan**
- Etc. (International supports)

**Note: PCD acts as National Focal Point of Minamata Convention on Mercury
Secretary of Sub-committee on Minamata Convention on Mercury and working groups**



Example of Approval of decisions
by NEB and the Cabinet

Members of Sub-committee on Minamata Convention on Mercury

- 4 experts
- Office Of Natural Resources and Environmental Policy and Planning
- Department of Environmental Quality Promotion
- Department of Marine and Coastal Resources
- International Cooperation Division
- Department of Foreign Trade
- Department of International Organizations
- Department of Treaties and Legal Affairs
- Thai Customs
- Department of Agriculture
- Thai Industrial Standards Institute
- Department of Industrial Works
- Department of Primary Industries and Mines
- Industrial Estate Authority of Thailand
- The Federation of Thai Industries
- Department of Mineral Fuels
- Petroleum Institute of Thailand
- Marine Department
- Department of Medical Services
- Food and Drug Administration
- Department of Medical Sciences
- **Department of Health**
- Department of disease control

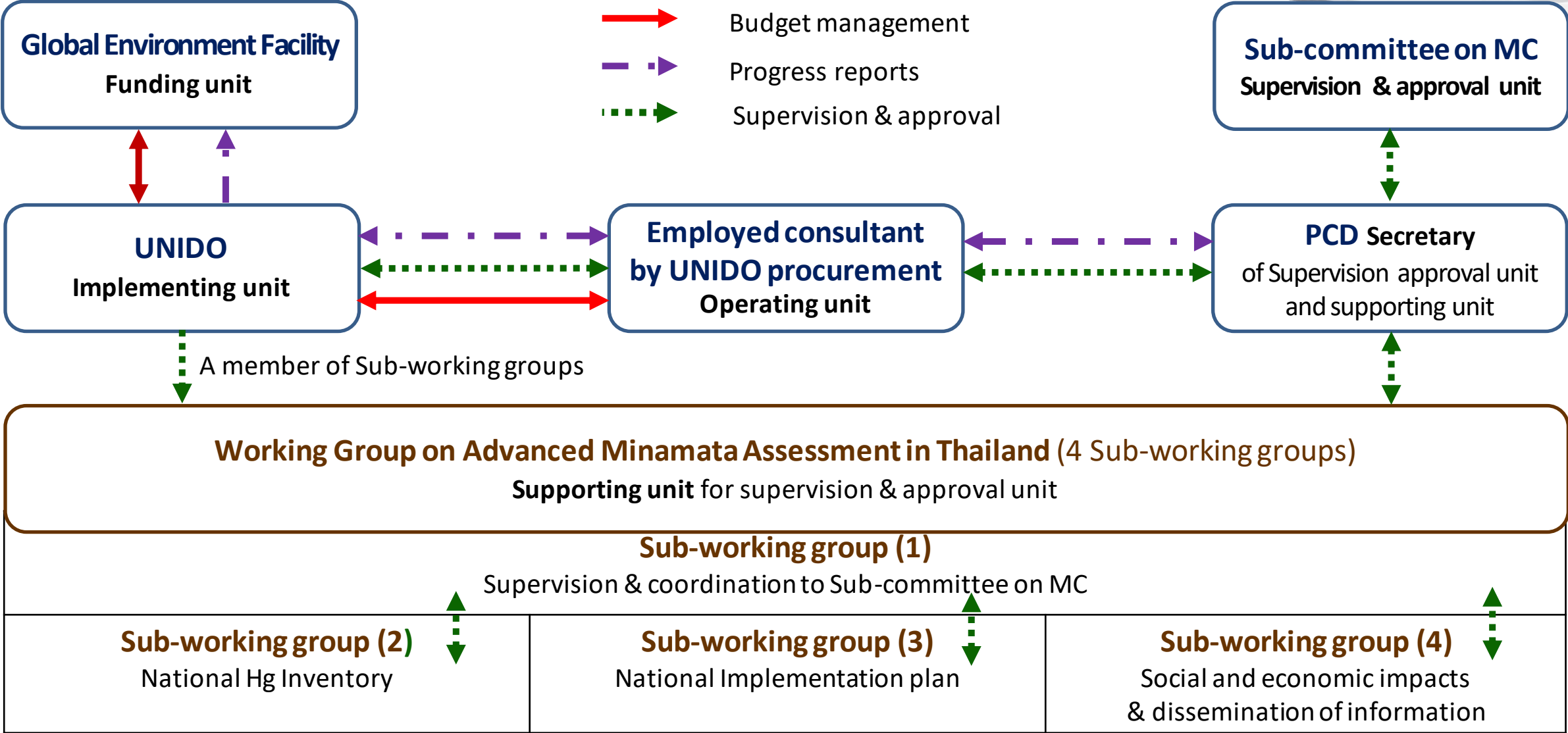


**Chaired by the Expert
in National Environment Board**



2. Advanced Minamata Assessment in Thailand

Enabling activity project supports by GEF-7 (2 years: 2022 – 2024 (just started))



Note: Department of Health is a member of **Sub-working group 2,3 & 4**
Hg Inventory and Implementation plan must be received approval from **NEB** and **the Cabinet** before submitting them the MC Secretariat

3. A Period of Changes in National Organizational Structure of Hazardous Waste Management (including mercury waste from oral health/ health sector)

Change from centralized policy to decentralized policy



Local governments

Main leaders of HW management

Environment bureau

Department of Health

Leader of preparing Notifications of Ministry of Public Health

Ministry of Interior

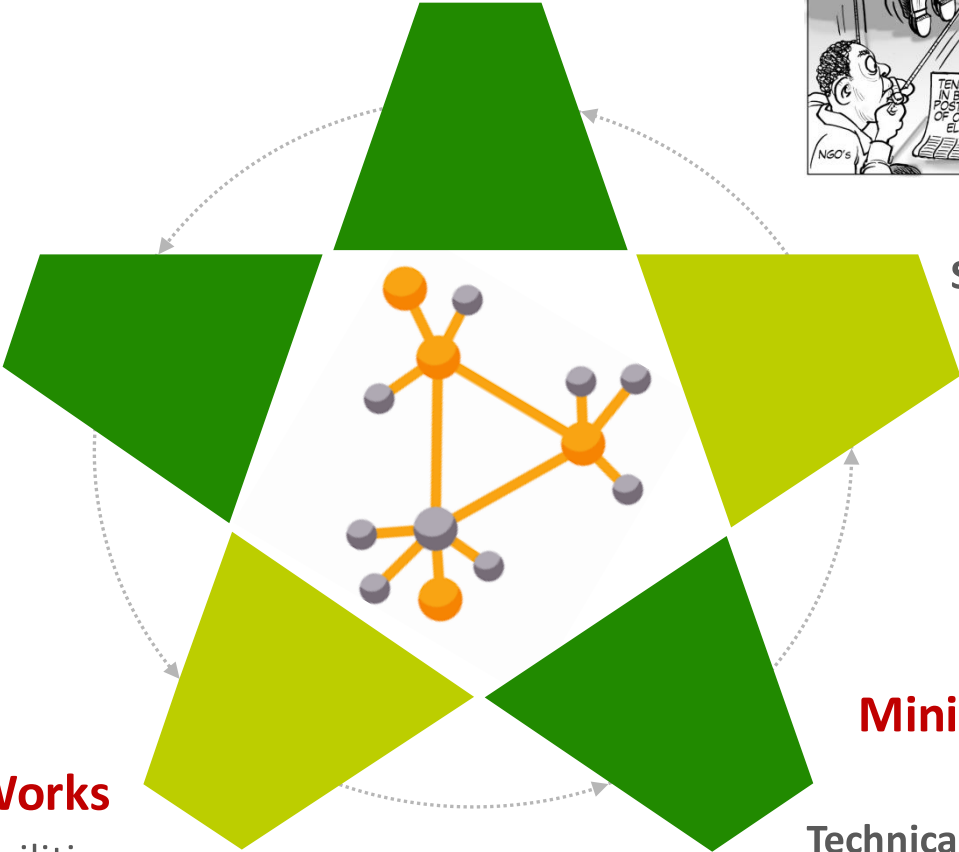
Supervisor of local governments

Department of Industrial Works

Leader and supporter of factory facilities

Ministry of Natural Resources and Environment

Technical supporter on waste management





Thank you

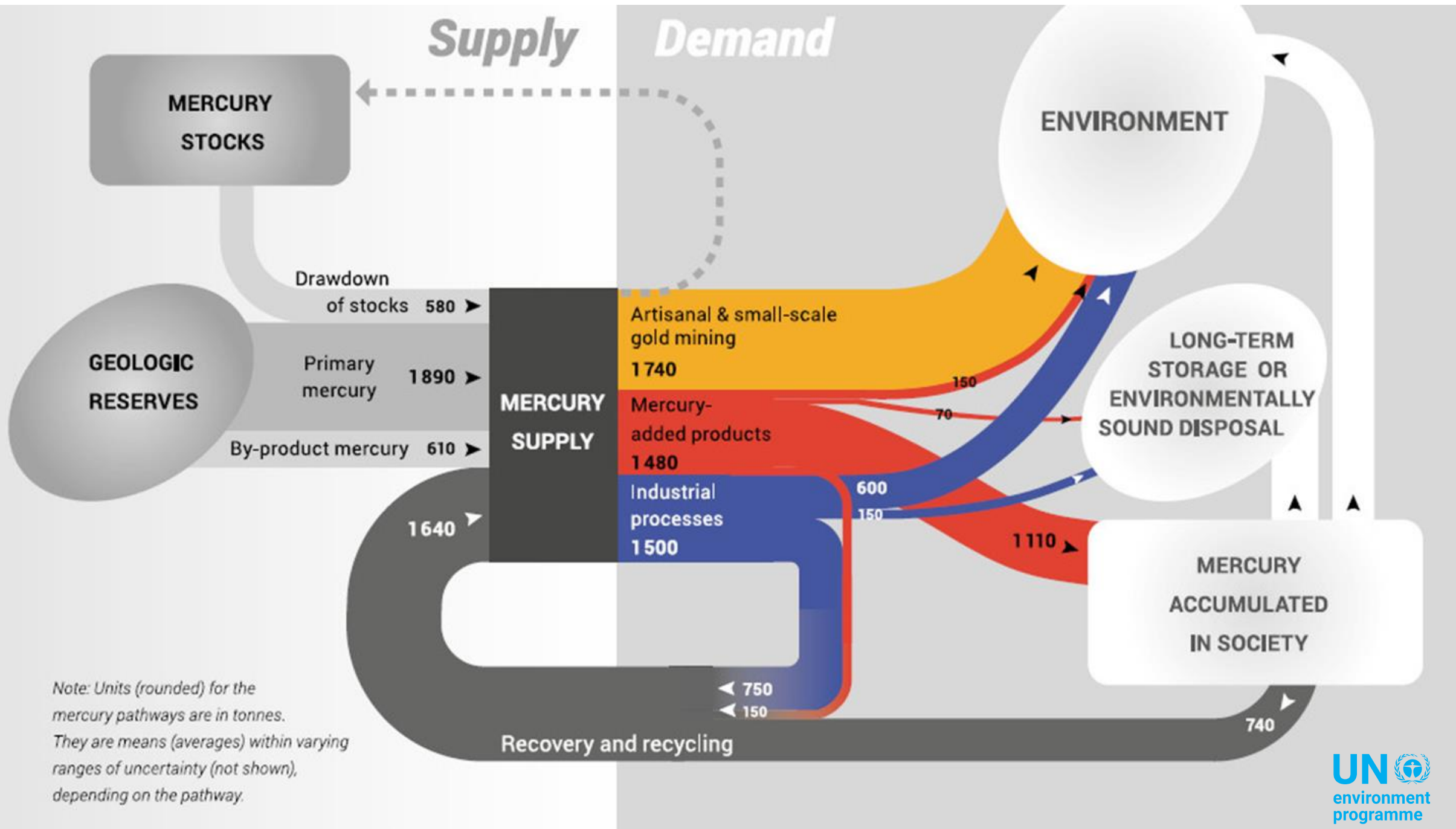
Mercury Waste Management

GEF7 Phasing Down Dental Amalgam Project
Inception Workshop

Kenneth Davis, UNEP
Geneva, 28 April 2023

Supply

Demand



Note: Units (rounded) for the mercury pathways are in tonnes. They are means (averages) within varying ranges of uncertainty (not shown), depending on the pathway.

Mercury Consumption by Region and Sector

Region	ASGM	VCM production	Chlor-alkali production	Batteries	Dental applications	Measuring and control devices	Lamps	Electrical and electronic devices	Hg compounds and other applications ²	Regional totals
	mean ³	mean ³	mean ³	mean ³	mean ³	mean ³	mean ³	mean ³	mean ³	mean ³
East and Southeast Asia	645	1 215	8	95	52	208	69	52	62	2 407
South Asia	4	5	27	33	72	39	12	12	59	263
European Union (28 countries)	0	0	85	8	56	3	13	1	84	249
CIS and other European countries	24	6	45	13	19	12	7	7	37	171
Middle Eastern States	0	0	38	13	13	18	7	9	9	107
North Africa	0	0	11	8	4	6	4	2	5	41
Sub-Saharan Africa	366	0	1	24	7	11	5	19	15	447
North America	0	0	8	9	32	2	8	19	61	137
Central America and the Caribbean	16	0	19	9	6	9	4	6	8	78
South America	680	0	35	18	12	20	9	8	13	794
Australia, New Zealand and Oceania	0	0	0	1	3	1	3	13	1	22
Total per application	1 735	1 226	277	231	274	330	142	147	354	4 715

What is the fate of mercury used in dental amalgam?

- Waste generated during placement of amalgam, filling removal or tooth extraction
 - Dental waste
 - Other solid waste
 - Trap or separator waste
 - Releases to sewage systems
- Excess mercury in dental offices
- End of life
 - Burial
 - Cremation (emissions were 3.5-5 tonnes Hg in 2015 according to the Global Mercury Assessment)

Table 1: Mercury used in dentistry - pathways to the environment

Global releases/ pathways	Mercury (metric tons/year)
Atmosphere	50-70
Surface water	35-45
Groundwater	20-25
Soil	75-100
Recycling of dental amalgam	40-50
Sequestered, secure disposal	40-50
Total	260-340

Sources: Maxson 2009, as cited in WHO 2011 and AMAP/UNEP 2013

What does the Minamata Convention say?

- Article 11 – Mercury Wastes – requirements on Parties:
 - Manage mercury waste in an environmentally sound manner, taking into account guidelines developed under the Basel Convention
 - Mercury recovered from waste may only be disposed in an environmentally sound manner or re-used for a use allowed under the Convention.
 - International transport in accordance with Basel Convention (for Basel Parties)
- Article 4 and Annex A – Mercury-added products – relevant points:
 - One measure is Annex A Part II is the promotion of the use of best environmental practices in dental facilities to reduce releases of mercury to the environment.
 - Note amendment to Annex A Part II that prohibits the use of mercury in bulk form by dental practitioners.

Mercury Waste Management Principles

Refer to the Basel Convention Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with mercury or mercury compounds

- Handling
 - Special attention to the prevention of evaporation and spillage
 - Proper PPE, also taking into account other risks (e.g. biological)
- Separation, Packaging and labelling
 - Do not mix mercury wastes with other waste streams, such as municipal solid waste
 - Label clearly as required by local regulations, export requirements, and other guidance from waste management facility. E.g. “non-contact mercury amalgam waste”
 - Packaging should be airtight, resist breakage and leakage
- Collection
 - Collect mercury waste separately from other waste streams
 - Collection systems depend on amount of waste, geography, availability of storage

Mercury Waste Management Principles

Refer to the Basel Convention Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with mercury or mercury compounds

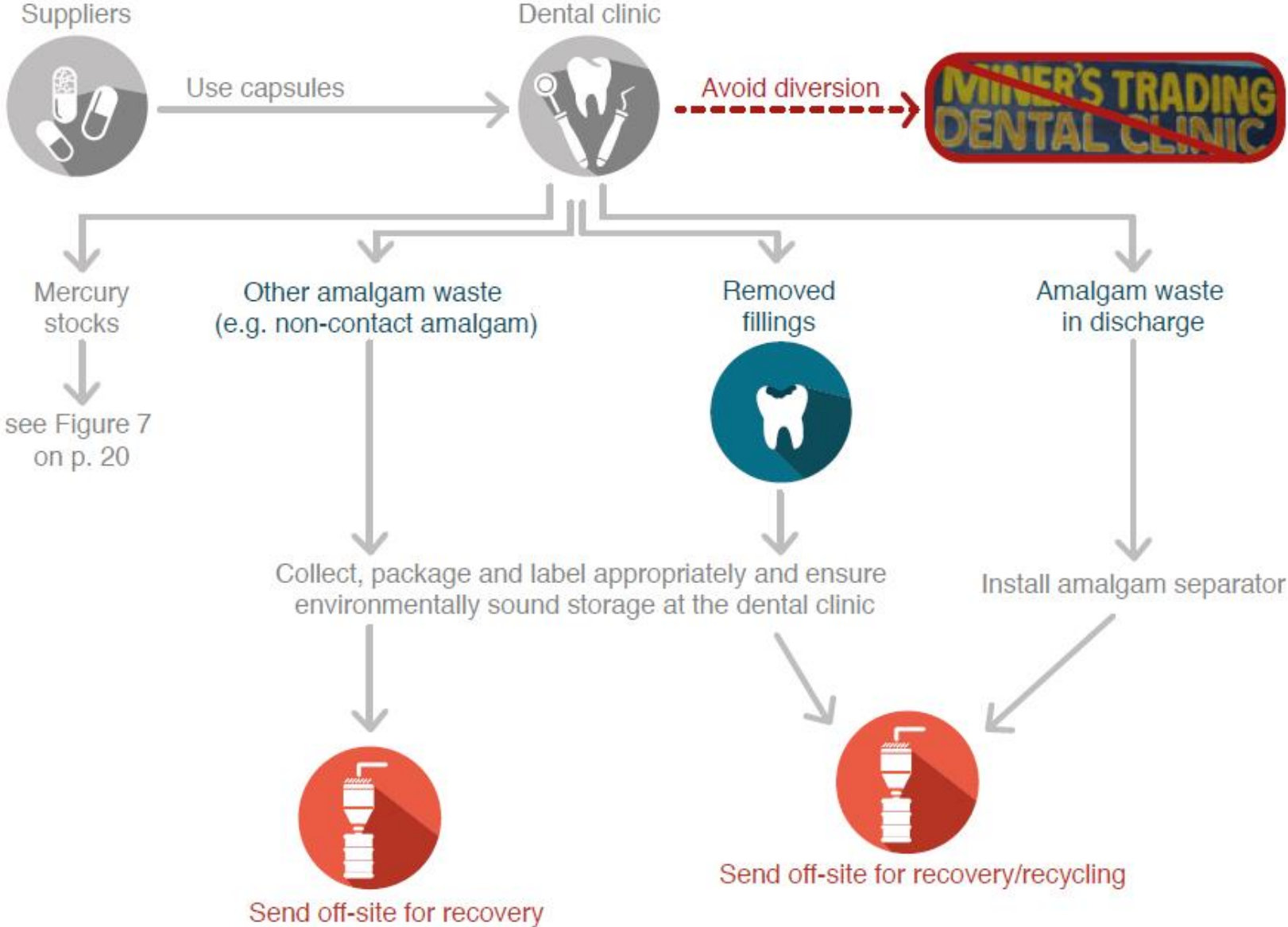
- Transportation
 - Shipping papers need to contain appropriate information such as contact number, waste description, UN number (e.g. UN 2809)
 - Shipment in accordance with applicable regulations, depending on mode of transport (air, sea, road)
 - Chain of custody to final destination
- Storage
 - Temporarily, until collection for disposal (may be national regulations on storing waste)
 - Separate from other wastes and items
 - Secure and well-marked
 - Safe – separate ventilation, impermeable floor, fire prevention, monitoring

Mercury Waste Management Principles

Refer to the Basel Convention Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with mercury or mercury compounds

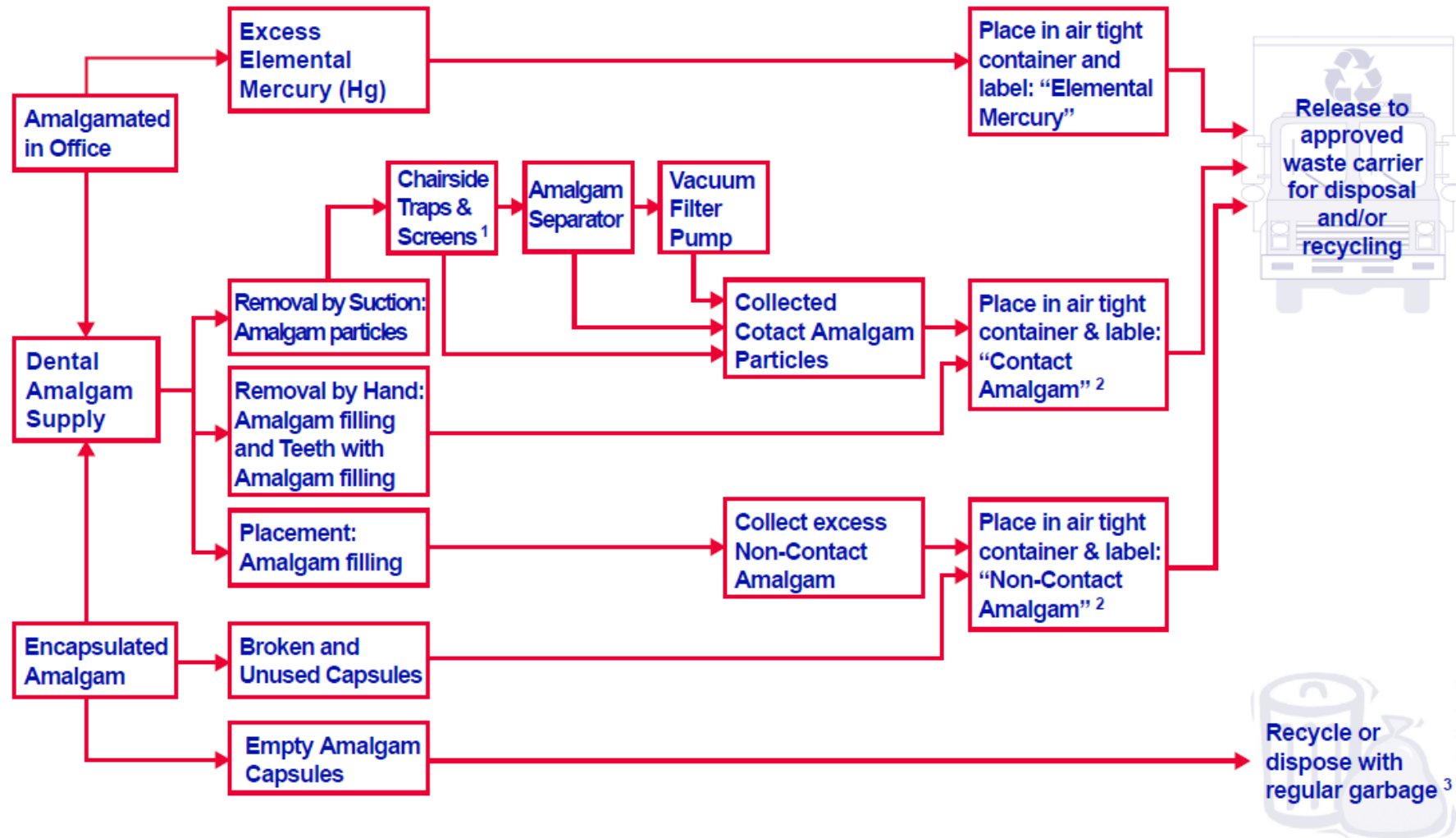
- Treatment
 - Treatment standard for dental amalgam waste is typically thermal treatment followed by recovery of mercury and either recycling or conversion to less reactive form for final disposal
- Disposal
 - Stabilization, solidification, placement in specially engineered landfill or underground facility

ESM of Dental Amalgam Wastes



Best Management Practices for the Disposal of Dental Amalgam and Mercury Wastes in Ontario

Dental practices discharging to a private septic system should consult local municipality for guidance on this class of dental waste.

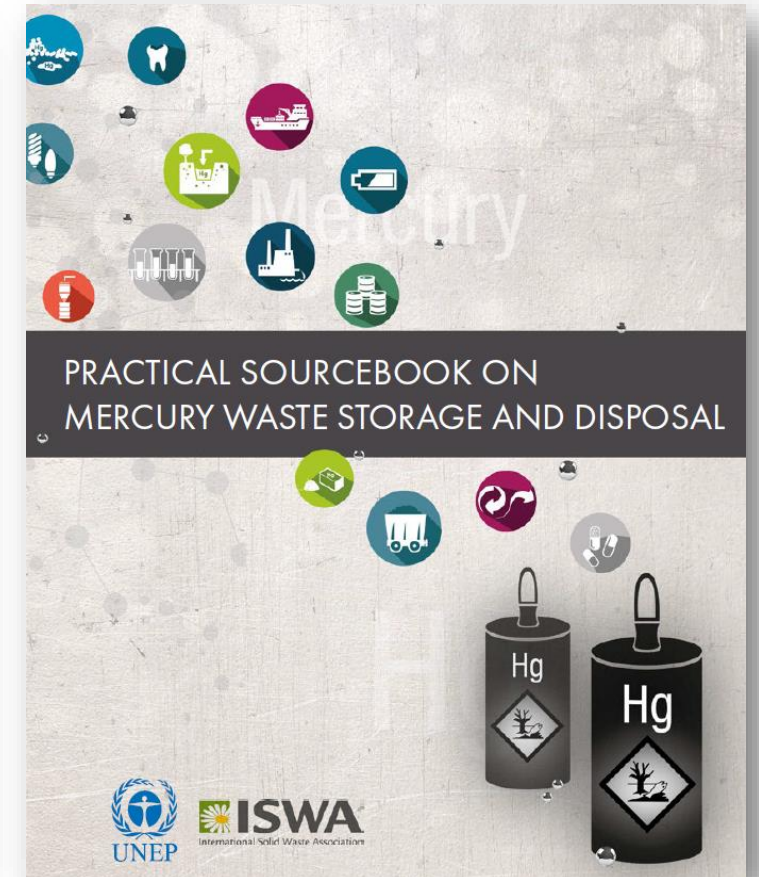
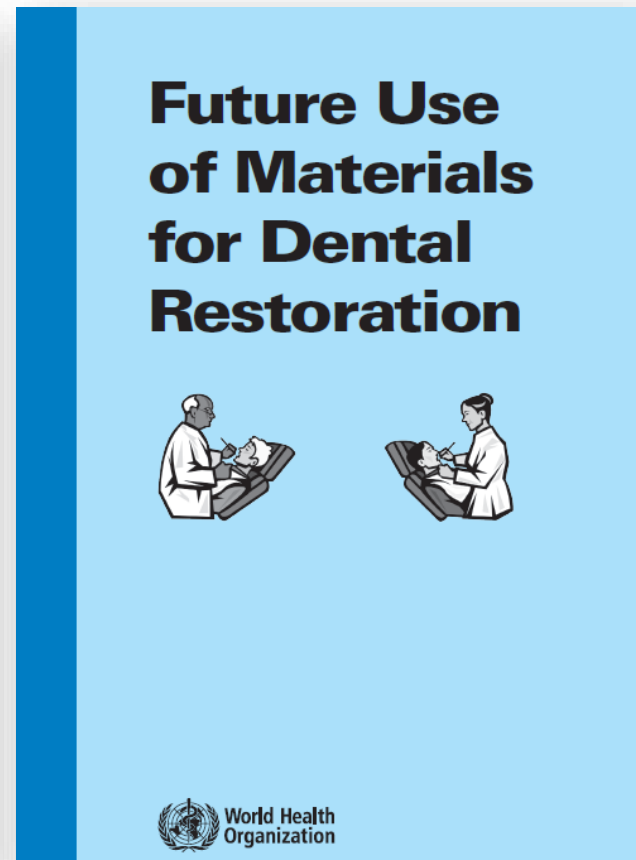
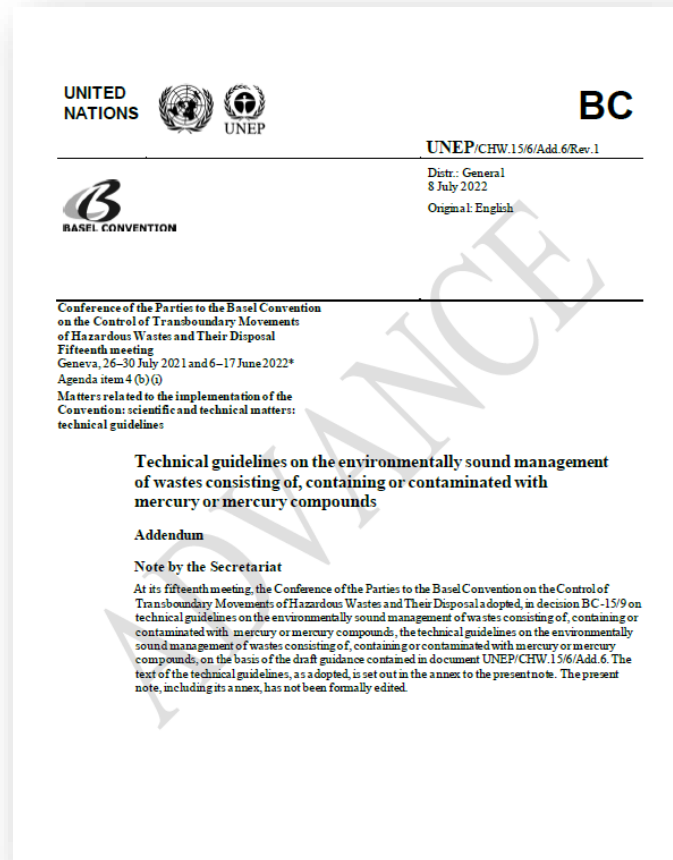


1. There are different configurations of traps, cuspidors etc. All dental amalgam particles collected by any configuration should be treated as contact amalgam.

2. Where separation between contact and non-contact amalgam is not required by the Approved Waste Carrier, all amalgam wastes may be placed in a single container labelled "Scrap Amalgam".

3. Check with local municipality whether empty amalgam capsules are recyclable.

Resources



More resources available on Global Mercury Partnership Web Site

GLOBAL PROJECT KICK-OFF MEETING

GEF ID 19036: GEF7 PHASING DOWN DENTAL AMALGAM PROJECT

National context, challenges and opportunities to improve the management of mercury and hazardous waste from dental use in Uruguay



Ministerio
de Ambiente

National context

- UNEP toolkit Emissions and Releases: main sources- stockpiles
- Since 2008 different Hg projects on mercury waste, chloralkali best practices, early ratification, mercury products end of life
- Decree 15/2019 on mercury added products and control of importations through customs and a governmental portal as well as PIC Minamata procedure
- Guidelines: storage of different types of Hg waste from mercury added products including dental amalgam and mercury
- Academia involvement:
 - *Dental amalgam report from Faculty of Dentistry*
 - *Participation in Workshops organized related to Dental restoration for dissemination of information*
- Development of HS codes for mercury added products
- Partnerships with Ministry of Health and CIAT (Poisson center of Uruguay & WHO collaborating centre)
- Dental Professional Association in Uruguay: questionnaire on dental amalgam usage
- Waste treatment capacities under development for dental amalgam stockpiles
- Policy measures to address phase out of dental amalgam in Uruguay by Ministry of Health
- Ministry of Environment web page: materials published

<https://www.gub.uy/ministerio-ambiente/mercurio>

National context

[Ministry of Environment webpage- dedicated to Minamta Convention implementation activities](#)

<https://www.gub.uy/ministerio-ambiente/mercurio>

<https://www.gub.uy/ministerio-ambiente/comunicacion/noticias/amalgama-dental-control-del-mercurio>

<https://www.gub.uy/ministerio-ambiente/politicas-y-gestion/documentos-productos-comunicacion-mercurio>

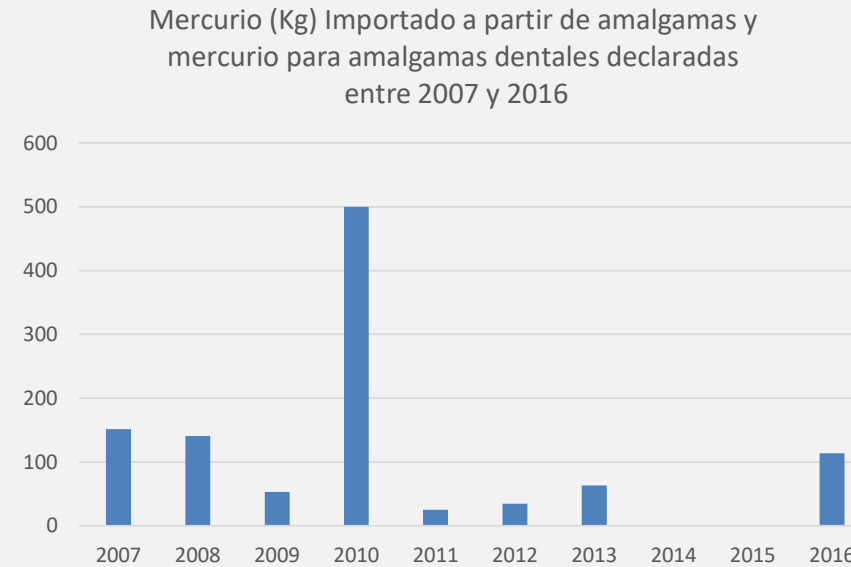
AMALGAMAS

1-IMPORTACIONES DECLARADAS DE AMALGAMAS CON MERCURIO Y MERCURIO PARA AMALGAMAS DENTALES ENTRE 2007 Y 2016

Año	Total anual mercurio (Kg de mercurio)
2007	151
2008	141
2009	50,3
2010	500
2011	25
2012	35
2013	63,3
2014	0
2015	0
2016	113

Total período	1.083
Promedio anual	108

FUENTE: ELABORACIÓN DEL PROYECTO URU/13/G32 A PARTIR DE DATOS DE URUNET



2-EMISIONES DE MERCURIO ESTIMADO ENTRE 2007 Y 2016: EMISIONES 49 KG ANUALES

GEF ID 19036: GEF7 PHASING DOWN DENTAL AMALGAM PROJECT

- Partnership: Ministry of Health and Environment
- PAHO Uruguay office-CIAT (WHO collaborating centre)
- Challenges:
 - *Updating stockpiles at country level*
 - *Sustainable Collection system and waste treatment in place*
 - *Report on availability of mercury free alternatives at national level including assessment of feasibility, costs as well as health and environmental risks and impacts.*

GEF ID 19036: GEF7 PHASING DOWN DENTAL AMALGAM PROJECT

Opportunities:

- National capacity building dental amalgam life cycle
- Close collaboration with Academia and private sector- alternative materials and waste treatment
- Sustainability of collection and waste treatment in place
- Implementation of Minamata Convention – dental amalgam policy measures
- Awareness raising and training material
- National contribution to lessons learnt- case study

Thanks for your attention!

Judith Torres

Cooperation and International Affairs Advisory

judith.torres@ambiente.gub.uy



Ministerio
de Ambiente



PROJECT COMPONENT 2 SESSION - GROUP DISCUSSION AND Q&A

- Discussion and opportunities for collaboration at national, regional and global levels
- Q&A session





**World Health
Organization**

Project Component 3 session: Knowledge management and global awareness

Session moderators:

Adriana Otheguy, Ministry of Health, Uruguay

Judith Torres, Ministry of Environment, Uruguay



PROJECT COMPONENT 3 SCOPE: OUTCOMES, TARGETS, DELIVERABLES

BRIEF OVERVIEW

Gabriela Sardon

WHO Oral Health Programme, NCD Department

GEF7 Phasing Down Dental Amalgam - Global Project Kick-off meeting, 28 April 2023



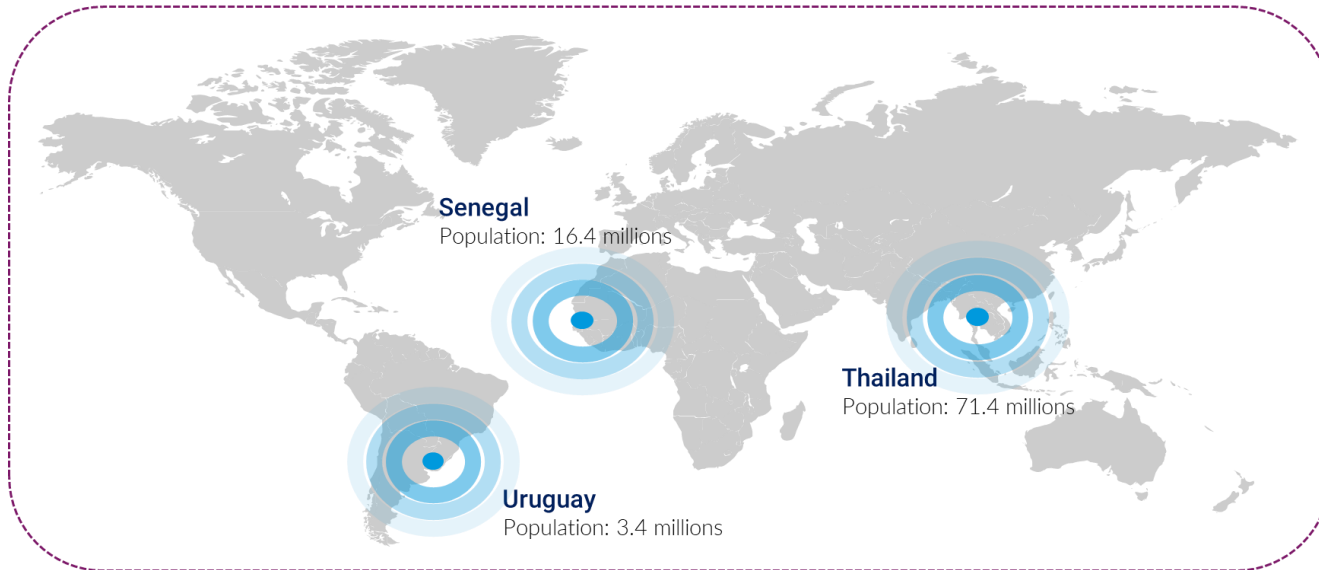
World Health
Organization



HEALTH
FOR ALL

COMPONENT 3: KNOWLEDGE MANAGEMENT AND GLOBAL AWARENESS

Knowledge management and global awareness



Output 3.1.1: Guidance materials updated on future use of dental restoration materials and global database established to inform project outputs, COP, and reporting

Output 3.1.2: Lesson learned collected, systematized, and distributed by the knowledge hub through national awareness raising campaigns and the Global Mercury Partnership

COMPONENT 3: TARGET



At least 3 or more countries demonstrating dental amalgam phase down efforts

COMPONENT 3: MAIN ACTIVITIES AND DELIVERABLES

Main activities

3.1.1.1. Update and enhance an existing WHO/UNEP guidance (Future Use of Materials for Dental Restoration, 2009) through an expert group and subsequent virtual consultations

3.1.1.2. Establish a global database to inform project outputs/results, relevant decisions of Conference of the Parties and reporting (Art.21)

3.1.2.1. Conduct national and sub-regional meetings (inception, midterm, and final meetings)

3.1.2.1. Establish a knowledge hub within the Global Mercury Partnership and through the GGKP platform for dissemination and exchange of information and expertise at the global level

3.1.2.3. Conduct national awareness raising events to disseminate project results

3.1.2.4. Present project findings at relevant international and regional meetings

Deliverables

Technical guidance on environmentally friendly and less-invasive dentistry

One global database

Project meetings

One knowledge hub

Events/meetings
Communication products

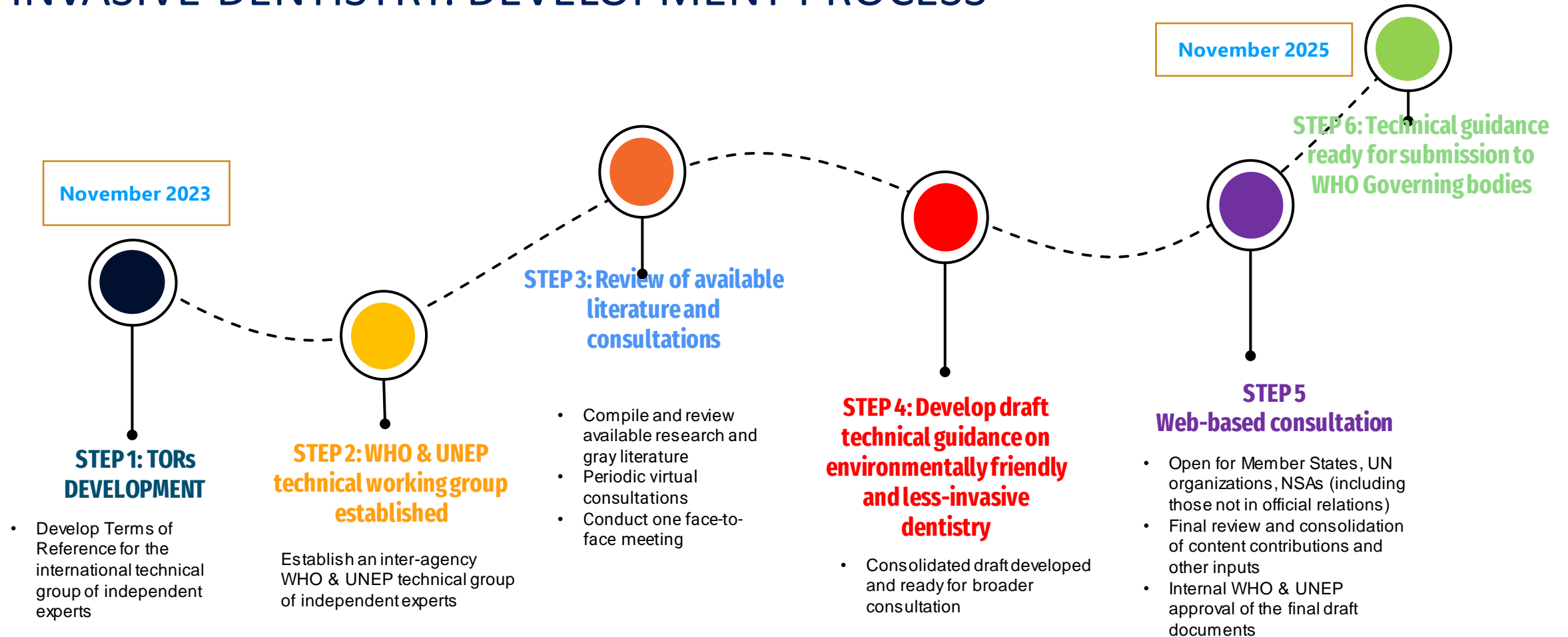
TECHNICAL GUIDANCE ON ENVIRONMENTALLY FRIENDLY AND LESS-INVASIVE DENTISTRY: OVERVIEW

PURPOSE: Purpose of this technical guidance on environmentally-friendly and less-invasive dentistry is to support countries in the implementation of the phasing down of dental amalgam in the context of the Minamata Convention on Mercury.

OBJECTIVES:

1. provide the most recent information and findings for the selection and use of materials for dental restoration across the full spectrum of dental caries, with a focus to promote mercury-free products and minimal intervention for the prevention and treatment of dental caries
2. share best waste management practices of materials used in oral healthcare facilities, including technical options and business models for dental waste management over the long term
3. present potential environmental issues related to quality mercury free alternatives to dental amalgam.

TECHNICAL GUIDANCE ON ENVIRONMENTALLY FRIENDLY AND LESS- INVASIVE DENTISTRY: DEVELOPMENT PROCESS



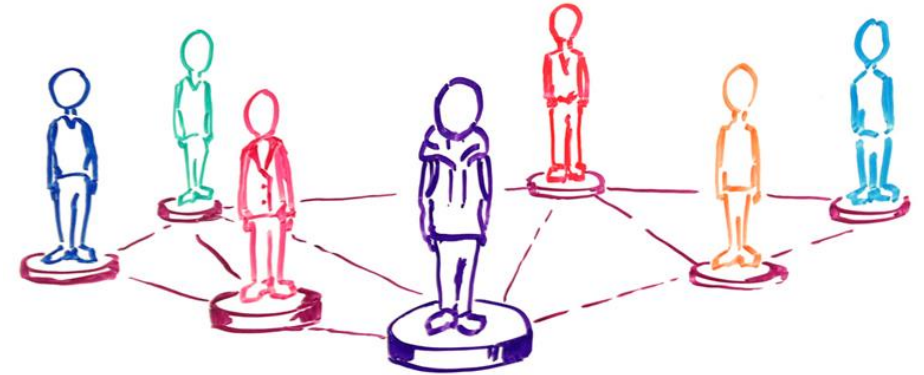
Knowledge hub for dissemination and exchange of information and expertise

Global Project Kick-off meeting of the GEF7 Phasing Down Dental Amalgam project
28 April 2023

Stephanie Laruelle & Imelda Dossou Etui
UNEP Global Mercury Partnership Secretariat
Chemicals and Health Branch, Industry and Economy Division, UNEP

The Global Mercury Partnership

- **Overall Goal:** to protect human health and the environment from the releases of mercury.
- **Priorities:**
 - ✓ Support timely and effective implementation of the Minamata Convention
 - ✓ Provide knowledge and science on mercury
 - ✓ Deliver outreach and awareness raising towards global action
- **To date: close to 250 partners** from
 - Governments
 - Intergovernmental organizations
 - Non-government organizations
 - Industry, private sector
 - Academia, scientific community and others
- **New members:** Alchemy Mining Group Inc., CLASP, EAM Environmental Inc., Melanin Foundation, Qa3, Tellus Holdings Limited, Togo



Partnership Communication and Outreach

- Partnership Advisory Group meetings on annual basis
- Regular meetings of Partnership Areas
- Webinar series in cooperation with key partners and stakeholders
- Partnership Newsletter and regular mailing campaigns to raise awareness and feature highlights by Partnership areas and partners, events, resources, etc
- Dedicated website



- [Thirteenth Meeting of the UNEP Global Partnership Advisory Group \(PAG-13\).](#)



Latest news from the UNEP Global Mercury Partnership – April 2023

As we move through the year, stay up to date with the activities of this first quarter of 2023, and get ready for upcoming ones.

On the agenda for the next few months are, among others, the Basel, Rotterdam and Stockholm COPs from 1 to 12 May 2023, which will include a side event on mercury-containing waste, workshops and information-sharing sessions on mercury-containing products, as well as the annual meetings of some of the Partnership areas.

This edition also welcomes new members and shares recent mercury-related publications and initiatives.

The Secretariat of the Global Mercury Partnership

HIGHLIGHTS



The GEF-funded project **Eliminating Mercury Skin Lightening Products** implemented by UNEP and co-executed by the World Health Organization and the Biodiversity Research Institute in Gabon, Jamaica and Sri Lanka, was launched in Geneva on 14 and 15 February 2023. Further information is accessible on its [dedicated knowledge platform](#). #mercuryfreecosmetics



The sixteenth and eleventh **Conference of the Parties**, respectively of the **Basel, Rotterdam and Stockholm Conventions**, will take place at the International Conference Center (CICC), in Geneva, Switzerland, from **1 to 12 May 2023** under the theme "Accelerating action: targets for the sound management of chemicals and waste". Get more insights on mercury related events on the [event page](#).



The **inventory toolkit for the identification and quantification of mercury emissions and releases**, used for the Minamata Initial





Examples of Events and Meetings under the GMP

Annual Meeting of the Partnership Area on Mercury in Products – [Mercury in Products Partnership Area - 2023 Meeting | Global Mercury Partnership \(unep.org\)](#)

Upcoming Side event on Mercury Waste Management under the BRS COPs on the Sound Management – [Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions | Global Mercury Partnership \(unep.org\)](#)

Upcoming information-sharing sessions on Mercury from the Oil and Gas industry, and Hg from the non-ferrous sector – [Partnership Area on Mercury Waste Management - 2023 Meeting | Global Mercury Partnership \(unep.org\)](#)

Upcoming Information-sharing session on the U.S. Department of State granted Hg related projects in the ASGM sector – [Information-sharing session on ASGM ongoing projects | Global Mercury Partnership \(unep.org\)](#)

[Events | Global Mercury Partnership \(unep.org\)](#)

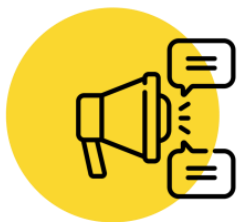
Platform to exchange information, provide feedback and suggest best practices for actions leverage.



Knowledge generation,
curation and dissemination



Data and trends analysis



Global communication,
support in data sharing, and
awareness-raising campaigns

**Dedicated page to be created on the
Global Mercury Partnership Platform**

Example:

[Eliminating Mercury Skin Lightening Products |
Global Mercury Partnership \(unep.org\)](#)

Eliminating Mercury Skin Lightening Products



[Overview](#) [Why does it matter?](#) [About the project](#) [Community of Practice](#)



Eliminating mercury containing skin lightening products and promoting the beauty of all skin tones.

Learn more why it matters, meet the community of practitioners, and explore the library of resources, news and events.

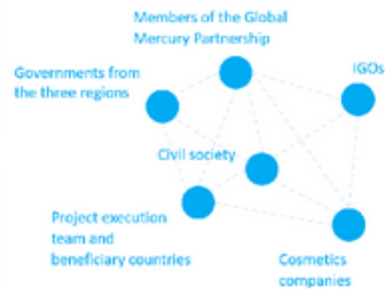
- [Resources](#)
- [News](#)
- [Events](#)

[Overview](#) [Why does it matter?](#) [About the project](#) [Community of Practice](#)

Multiplying project benefits through community of practice

Spread the word at

Stay tuned - page content will be available shortly.



Spread the word and contribute to #mercuryfreecosmetics by sharing this project website widely www.unep/mercuryfreecosmetics

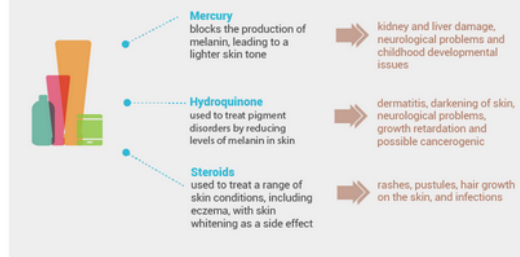
[Overview](#) [Why does it matter?](#) [About the project](#) [Community of Practice](#)

Skin lightening - also referred to as skin whitening or bleaching – refers to the use of cosmetic products, mainly creams or soaps, to reduce the amount of melanin, or pigment, in the skin to make it appear lighter.

Demand for products is rooted in social, cultural and historical factors. In many cultures, harmful stereotypes associate lighter skin with beauty and better prospects of employment, marriage and social standing.

Beauty standards promoted by media, advertising and marketing often reinforce the bias that a lighter skin tone is more desirable than darker skin tone.

SKIN LIGHTENING PRODUCTS POTENTIALLY HARMFUL INGREDIENTS



THANK YOU FOR YOUR ATTENTION!

www.unep.org/globalmercurypartnership

Contact us: metals@un.org



Gender Action Plan

**For the GEF-7 Project, Phasing Down
Use of Dental Amalgam**



why are gender considerations important to a project such as this?

Positions the project to match and contribute to global commitments such as:

- **“whole of society” / “leave no one behind”**
- **human rights principles of social inclusion**
- **commitments to gender equality and women’s empowerment**



why a gender action plan for a project such as this?

in addition to incorporating the “principles” of social inclusion...

a) gender mainstreaming is a requirement -- GEF mandates and commitments from UNEP and Minamata

b) gender mainstreaming improves project outcomes and impact -- a “win-win”



gender mainstreaming contributes to the success of the project through two pathways

I. The project's strategies and activities will be more effective if they include considerations such as:

- ▶ understanding and mitigating the ways in which mercury exposures are sex-differentiated;
- ▶ developing awareness-raising and information programs that are designed to reach men and women equally, and that raise awareness about gender differences in exposures and management of dental amalgam;
- ▶ ensuring that men and women alike gain resources and benefits from this project.




2. AND a “plan” provides guidance on achieving outcomes such as:

- ▶ prioritizing gender balance in stakeholder constituencies and consultative processes;
- ▶ increasing women’s participation and role in dental amalgam phase down processes;
- ▶ targeting both women and men as specific beneficiaries, and improving their knowledge related to mercury and dental amalgam, both as receivers (dental patients) as well as providers (dental professionals);
- ▶ directing technical capacity-building across the entire oral health workforce



the gender action plan is an implementing tool

- ▶ **transforms equality and diversity “principles” into specific actions**
how?
- ▶ **builds from the commitments and guidance of the GEF, UNEP and Minamata gender action plans**
- ▶ **then, follows the structure of the project and its components**
- ▶ **aligns with and builds on the results framework and existing project components, with a few suggestions for new activities or approaches**



for example, the types of guidance in the gender action plan:

Component I activity in project doc:

‘Develop case studies and awareness-raising materials, to include lessons learned and best practices, for phasing down the use of dental amalgam (pd 33)’

GAP implementation guidance:

- a. ensure case studies and awareness materials are gender-aware and gender-inclusive (*such as: gender-differentiated exposure pathways, health-seeking behaviors, gender profiles of oral health workforce (professionals and students)*)
- b. develop an explicitly focused women’s case study for the portfolio
- c. develop an explicit case study focus on (m/f) reproductive impacts of mercury exposure



for example

Component 2 activities in project doc:

‘Country specific dental health workforce made aware of key components of dental amalgam phase-down, and of mercury alternatives’ (pd79) and Conduct national dental industry dialogues (pd147)

GAP implementation guidance:

- a. ensure gender balance in participants in training and awareness campaigns
- b. ensure information about gender-differentiated exposures to mercury is included in the training
- c. ensure that dialogues with dental industry includes all sectors of the dental workforce, including female-dominated sector



for example

Component 3 activity in project doc:

‘Lessons learned collected, systematized, and distributed by the knowledge hub through national awareness raising campaigns and the Global Mercury Partnership (pd36)’

GAP implementation guidance:

ensure that gender findings are included in the “lessons learned” distributed (*such as: gender-differentiated exposure pathways, health-seeking behaviors*)



and further

► **and further the gender action plan provides guidance on two macro methodological components across the project lifecycle:**

- sex disaggregation of data collection, monitoring and evaluation metrics;
- context-building through country-specific gender situational awareness ‘mapping’



in sum

the draft gender action plan

- identifies specific actions for gender-equal inclusion, access, benefits
- *and* draws attention to the ways that *gender norms* are relevant to the overall aims of the phase down of the use of dental amalgam
- *and* provides guidance on sex-disaggregated indicators and metrics to measure gender mainstreaming success or gaps



THANK YOU

PROJECT COMPONENT 3 SESSION - GROUP DISCUSSION AND Q&A

- Discussion and opportunities for collaboration at national, regional and global levels
- Q&A session



GROUP DISCUSSION

Comments and reflection from
the meeting



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- Closing remarks and next steps

Slim Slama, World Health Organization
(WHO)