UNITED NATIONS

UNEP

UNEP/MC/COP.5/INF/30/Rev.1

MINAMATA CONVENTION ON MERCURY

Distr.: General
9 October 2023

English only

Conference of the Parties to the Minamata Convention on Mercury
Fifth meeting
Geneva, 30 October–3 November 2023
Item 5 of the provisional agenda*

International cooperation and coordination

Reports of the World Health Organization and the International Labour Organization

Note by the secretariat

1. Paragraph 2 of article 16 of the Minamata Convention on Mercury, on health aspects, provides that the Conference of the Parties to the Minamata Convention, in considering health-related issues or activities, should consult and collaborate with the World Health Organization, the International Labour Organization and other relevant intergovernmental organizations, and should promote cooperation and the exchange of information with those organizations, as appropriate.

2. At its first meeting, the Conference of the Parties requested the secretariat to continue to actively engage in cooperation and collaboration with the World Health Organization, the International Labour Organization and other relevant organizations in the implementation of the Minamata Convention. That request was reiterated at subsequent meetings of the Conference of the Parties.

3. The secretariat continued and strengthened its programmatic cooperation with the World Health Organization and the International Labour Organization with a view to identifying concrete actions to enhance implementation in areas of common interest. The key priority areas for such cooperation include global monitoring of mercury in the context of the Open-ended Scientific Group and the effectiveness evaluation of the Convention, artisanal and small-scale gold mining, medical devices, dental amalgam, and public information about, awareness of and education on the effects of mercury on human health.

4. Updates on the activities carried out by the World Health Organization and the International Labour Organization in relation to the Minamata Convention are set out, respectively, in annexes I and II to the present note. The annexes are presented without formal editing.

* UNEP/MC/COP.5/1.

Annex I*

Work of the World Health Organization relevant to the Minamata Convention on Mercury

1. Collaboration between the World Health Organization (WHO) and the Conference of the Parties to and secretariat of the Minamata Convention on Mercury stems from the Convention text, in particular paragraph 2 of article 16; the resolution on matters pertaining to other international bodies of the Conference of the Plenipotentiaries; and World Health Assembly (WHA) resolution WHA67.11 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.

2. In the period from 5 November 2021 to October 2023 WHO activities relevant to the Minamata Convention have focused on the topics described below.

3. All the documents described in this report are available through the WHO Website resources, except where separately referenced.

Annotated bibliography of WHO information

4. The Minamata Convention on Mercury: annotated bibliography of WHO information[1] remains the main source of information on key information resources relevant to the Minamata Convention on Mercury and the associated World Health Assembly Resolution WHA67.11. It remains useful both for awareness-raising, strategic planning and project implementation and includes references to resources from across WHO and how they link to the different Minamata Convention provisions.

Dental amalgam

5. In March 2022, WHO published the first document in a series of briefing notes on oral health entitled "Prevention and treatment of dental caries with mercury-free products and minimal intervention". The publication, intended for non-specialists and the public at large, explains why mercury-free products and minimally-invasive interventions are important in oral health care. It also describes six strategies using mercury-free products and minimally-invasive intervention approaches to prevent and treat dental caries: fluoride toothpaste, fluoride varnish, glass ionomer cement sealants, glass ionomer cement restorations, silver diamine fluoride and composite resin restorations.

6. In May 2022, Member States approved the Global Strategy on Oral Health[2] at the Seventy-fifth World Health Assembly (A75/10 Add.1 and WHA75(11)). The development of the Global Strategy on Oral Health was the first step in the implementation of the resolution on oral health[3] which recognized the importance of the Minamata Convention on Mercury, calling for phase-down of the use of dental amalgam. The Global Strategy on Oral Health reflects the significance of the Minamata Convention on Mercury and the concern about the potential environmental impact caused by the use and disposal of mercury-containing dental amalgam. Under the strategic objective 1 on Oral health governance – Improve political and resource commitment to oral health, strengthen leadership and create win-win partnerships within and outside the health sector it calls for sustainable partnerships within and outside the health sector, specifically the critical collaboration between the ministry of health and the ministry of environment is to address environmental sustainability within oral health care, such as the implementation of the Minamata Convention on Mercury and challenges related to the management of chemicals and waste (including mercury).

7. In 2023, the Seventy-sixth World Health Assembly noted the Global Oral Health Action Plan 2023-2030[4] (A76/7 Add.1 Rev.1). It translates the Global Strategy on Oral Health into an action plan for public oral health, including a framework for tracking progress with clear measurable targets to be achieved by 2030. Of the eleven targets, the Global target 1.2 Environmentally sound oral health care is dedicated to the Minamata Convention. The global target aims that by 2030, 90% of countries have implemented measures to phasedown the use of dental amalgam as stipulated in the Minamata Convention on Mercury or have phased it out.

* The annex has not been formally edited.

[1] https://www.who.int/publications/i/item/9789240022638

[2] https://apps.who.int/gb/ebwha/pdf_files/WHA75/A75_10Add1-en.pdf

[3] https://apps.who.int/gb/ebwha/pdf_files/EB148/B148_R1-en.pdf

[4] https://www.who.int/publications/m/item/draft-global-oral-health-action-plan-(2023-2030)

8. In March 2023, the project to Accelerate implementation of dental amalgam provisions and strengthen country capacities in the environmental sound management of associated wastes under the Minamata Convention (Phasing Down Dental Amalgam project) [5] was officially launched. The kick-off with all partners was hosted by WHO in April 2023.[6] The three-year project is funded by the Global Environment Facility (GEF) with the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) respectively as implementing and executing agencies. In alignment with the Minamata Convention on Mercury, the project's overall objective is to protect human health and the environment from harmful effects of mercury. The project comprises three components, including 1) Phase down of dental amalgam use through improved policies and technical capacity, 2) Improve management of mercury and hazardous waste from dental use, and 3) Knowledge management and global awareness. While the main focus of activities is placed on the project countries Senegal, Thailand, and Uruguay, sharing knowledge and raising awareness on a global level is part of the project.

9. In August and September 2023, with a view to monitoring progress in the implementation of the Minamata Convention and the recent WHO Global Oral Health Action Plan adopted by the 76th World Health Assembly, an online survey on the measures taken to phase down the use of dental amalgam was jointly conducted by the Secretariat of the Minamata Convention and WHO. The survey collected information on the measures listed in Annex A Part II, including the original nine measures and the additional two mandatory measures adopted by the Conference of the Parties at its fourth meeting. The survey was sent to the national focal points of the Minamata Convention, with a copy to the responsible staff for oral health in Ministries of Health, with the expectation that it would be completed in collaboration.[7] An update on the survey results will be provided at COP-5, as well as included in the baseline report of the WHO Global Oral Health Action Plan for submission to the 154th Executive Board of WHO.

Skin lightening products

10. On 14-15 February 2023, a face-to-face inception meeting and stakeholder meeting was held to launch the GEF funded project on the elimination of skin lightening products containing mercury. This three year medium-sized project is being carried out in Gabon, Jamaica and Sri Lanka. WHO is the co-executing agency for the project together with the Biodiversity Research Institute. Targeted technical support is being provided by the UNEP Global Mercury Partnership and a wider project stakeholder group to share results from the project with the wider group of stakeholders working on mercury-containing products has been established [8]. National stakeholder meetings have been held in Gabon and Jamaica and arrangements are being finalized in Sri Lanka. The project comprises three components 1) National capacity-building on legislation, enforcement, compliance and awareness-raising 2) Reduction or stopping the production, trade, and distribution of skin lightening products in the project countries, and 3) Knowledge management at the global level. A survey of approaches for the regulation of skin lightening products and cosmetics is being conducted to inform the preparation and dissemination of model legislative approaches.

Mercury-containing medical devices

11. A project agreement has been finalized with WHO for execution of the GEF project on phasing out mercury measuring devices in healthcare. This full-sized GEF project will be carried out in five countries Albania, Burkina Faso, India, Montenegro and Uganda. Recruitment of project staff is currently underway and it is planned to hold a global inception meeting in January 2024. The project has four components 1) Development and implementation of national health-system wide strategies for phasing-out the import, export and manufacture of mercury thermometers and sphygmomanometers in line with WHO recommendations and related provisions of the Minamata Convention, 2) Implementation of national strategies to phase out manufacture, import and export in all project countries and demonstration of a phase-out in at least 3 countries, 3) knowledge management, and 4) Dissemination of project results nationally, regionally and globally. The project will benefit greatly by the experience gained during the COVID-19 pandemic regarding devices for temperature measurement and will also contribute to the global need for improving accessibility to low-cost blood pressure measuring devices.

[5] https://wedocs.unep.org/handle/20.500.11822/42671

[6] https://wedocs.unep.org/handle/20.500.11822/42846

[7] An analysis of the preliminary results of the survey was prepared by the World Health Organization and is set out in the appendix to the present report. The analysis is circulated as it was received by the secretariat of the Minamata Convention on Mercury and without formal editing.

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

On-line training and other training

12. The on-line training course "Mercury effects in human health and the environment and consideration under the Minamata convention" published by WHO Regional Offices for the Americas/Pan American Health Organization under its virtual campus continues to be used to in a teacher-assisted mode as part of technical assistance to countries. It has been utilised to assist countries develop public health strategies, using both virtual (July-September 2023) and face to face workshops in Peru (Gender, health and mercury among communities affected by the Artisanal and Small Scale Gold Mining (September 13th-15th) and Bolivia (planned for January 2024), targeted to health professionals working on communities affected by ASGM.

13. WHO is collaborating with UNICEF and preparing to launch a on-line course for health professionals on children's environmental health. This course is planned to be launch in February 2024 and will include a specific module on mercury.

14. In order to support national capacity building and promote the use of human biomonitoring as a tool for the assessment of exposure to mercury and its compounds, the WHO Regional Office for Europe has developed and published the educational course "Human biomonitoring. Basics"[9] The course focuses on the scientific and ethical principles of human biomonitoring surveys, principle for selection of biomarkers and target population groups, planning and conducting surveys and interpreting results. Approaches to mercury human biomonitoring covered in the course create a basis for planning HBM surveys together with previously published the standard operating procedures and protocol surveys on mercury HBM.

15. Pilot training using the educational course was organized in the framework of the RECETOX Summer School (15-16 June 2023) and was attended by 25 participants from 10 countries including outside from the WHO European Region. A further training is planned in November 2023.

Human Biomonitoring

16. The Budapest Declaration on Environment and Health and its Roadmap for healthier people, a thriving planet and a sustainable future 2023-2030 was adopted at Seventh Ministerial Conference on Environment and Health (5-7 July 2023, Budapest, Hungary). This declaration promotes "the establishment and use of human biomonitoring as an effective instrument to help guide policies and actions to prevent health impacts caused by chemicals through exposure reduction". The Environment and Health Process Partnership on human biomonitoring was launched at the Conference as an innovative mechanism to advance monitoring of exposure to chemicals and their mixtures, to share data and to contribute to risk assessment on chemicals. WHO will continue to seek synergies in this work and the effectiveness evaluation to be carried out under the Minamata Convention, including mobilizing the interests of relevant WHO Collaborating Centres.

World Health Assembly

17. WHO has started a process to update the Roadmap to enhance health sector engagement in the Strategic Approach to International Chemicals Management (SAICM) towards the 2020 goal and beyond so that it takes account of the new Global Framework on Chemicals and other developments. WHO will continue to strive for synergy in its activities and commitment towards implementation of the Minamata Convention and will also use the updating activity to create greater linkages with the Minamata Convention. The World Health Assembly has requested through decision WHA76.17 to consider the updated roadmap in May 2025.

[9] https://apps.who.int/iris/handle/10665/368163

Appendix*

Analysis by the World Health Organization of the preliminary results of a global survey to monitor progress in phasing down the use of dental amalgam

Background

The Minamata Convention on Mercury is a global treaty that entered into force in 2017 with the aim to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. Article 4 of the Minamata Convention requires Parties to take measures on mercury-added products listed in Annex A Part II, which provides the measures to be taken to phase down the use of dental amalgam, a dental restorative material that is 50% mercury.

WHO is mandated by Member States, through two World Health Assembly resolutions (WHA67.11 and WHA74.5) to support countries in the implementation of the Minamata Convention on Mercury.[1,2] This is also supported through ongoing work by WHO to reinforce political commitment towards universal health coverage for oral health, grounded on several guiding principles, including a 'public health approach to oral health' which focuses on dental caries prevention and health promotion, thereby minimizing the need for dental restoration, in alignment with the first measure of Annex A Part II of the Minamata Convention.

In 2023, the WHO Global Oral Health Action Plan 2023-2030 came into effect at the Seventy-sixth World Health Assembly.[3] It translates the vision and principles of the WHO Global Strategy on Oral Health into an action plan for public oral health, including a framework for tracking progress with clear measurable targets to be achieved by 2030. Of the eleven targets, the Global target 1.2 Environmentally sound oral health care is dedicated to the Minamata Convention. The global target aims that by 2030, 90% of countries will have implemented measures to phase down the use of dental amalgam as stipulated in the Minamata Convention on Mercury or have phased it out.

The original text of Annex A Part II listed nine measures from which Parties are to implement two or more. The Conference of the Parties at its fourth meeting in 2022 (COP4) amended the Annex, with the addition of two mandatory measures which entered into force on 28 September 2023. The additional two mandatory measures are to exclude or not allow the use of mercury in bulk form by dental practitioners, and to exclude or not allow the use of dental amalgam for the dental treatment of deciduous teeth, children under 15 years, pregnant women, and breastfeeding women, except when considered necessary by the dental practitioner based on the needs of the patient.

In 2021, WHO conducted an informal consultation with policy makers in dental public health (including parties and non-parties to the Convention) to assess the progress in phasing down the use of dental amalgam.[4] The report concluded that the phase down process has the potential to be accelerated by further strengthening multisectoral leadership and collaboration, as well as establishing clear timelines to achieve the nine phase-down measures. In the same year, Parties to the Minamata

* The designations employed and the presentation of the material in the annex do not imply the expression of any opinion whatsoever on the part of the World Health Organization (WHO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The designations employed to refer to countries, territories and areas in relation to the Minamata Convention on Mercury may be at variance with that used by WHO and are without prejudice to questions of status.

[1] Resolution 67.11.2014. 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 (https://iris.who.int/bitstream/handle/10665/162849/A67_R11-en.pdf, accessed 20 October 2023).

[2] Resolution 74.5.2021. Oral health (https://apps.who.int/gb/ebwha/pdf_files/WHA74/A74_R5-en.pdf, accessed 20 October 2023).

[3] 152nd session of the Executive Board 152/6, Provisional agenda item 6, 10 January 2023. Political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases, and mental health. Report by the Director-General (https://apps.who.int/gb/ebwha/pdf_files/EB152/B152_6-en.pdf, accessed 1 October, 2023)

[4] World Health Organization. (2022). Report of the informal global WHO consultation with policymakers in dental public health, 2021: monitoring country progress in phasing down the use of dental amalgam. Licence: CC BY-NC-SA 3.0 IGO (https://iris.who.int/bitstream/handle/10665/348985/9789240038424-eng.pdf, accessed 20 October 2023)

Convention were to submit their first full national reports on the measures taken to implement the provisions of the Convention, including the phasing down of dental amalgam use, pursuant to Article 21 of the Convention.[5] Of the 118 parties that submitted the national reports, 30 responded that they had not 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.

Therefore, with a view to continue monitoring the progress in the implementation of the Minamata Convention and the recent WHO Global Oral Health Action Plan, including establishing a baseline for the new mandatory provisions adopted at COP4 and that recently entered into force, the Secretariat of the Minamata Convention and WHO jointly conducted from August to September 2023 a global survey on the measures taken to phase down the use of dental amalgam. The objectives of this report are to present the preliminary results of the progress achieved in phasing down the use of dental amalgam and to establish a baseline for further monitoring in order to inform the discussions on the proposed amendment to dental amalgam to be considered at COP5.

Methods

A questionnaire was developed based on the eleven measures listed in Annex A Part II of the Minamata Convention on Mercury, including the original nine measures and the additional two mandatory measures adopted by COP4. An online, self-administered survey was designed to include both close-ended and open-ended responses and was made available in English, Spanish and French. For Parties and non-parties that have nominated national focal points of the Minamata Convention, the survey was distributed amongst those focal points, mostly based at Ministries of Environment, with a copy to the responsible staff for oral health at Ministries of Health, with the expectation that it would be completed in collaboration. For WHO Member States that have not designated national focal points, the questionnaire was sent to the responsible staff for oral health at Ministries of Health. Analysis of quantitative data was carried out in Microsoft Excel to generate global figures. Unless otherwise advised, the subgroup analyses by WHO regions were only conducted for WHO Member States and the subgroup analyses by World Bank country income were only conducted for countries with an income group classification.

Results

Response rate and demographics

Of the 195 countries that were invited to participate, 79 countries completed the survey which resulted in a global response rate of 41%. The response rate by WHO regions was 49% for the Region of the Americas (17 out of 35), 44% for the Western Pacific region (12 out of 27), 43% for the African region (20 out of 47), 36% for both the European (19 out of 53) and the South-East Asian (4 out of 11) regions, and 29% for the Eastern Mediterranean region (6 out of 21). The response rate by level of income was 47% for high-income countries (27 out of 58), 46% for upper-middle income countries (24 out of 52), 28% for lower-middle income countries (15 out of 53), and 39% for low-income countries (11 out of 28).

For the 79 countries that participated in survey, 86% were Parties to the Convention. Even though there were 69 (87%) countries that initially reported that the survey was completed in collaboration between the national focal point of the Minamata Convention (or equivalent) and the responsible staff for oral health at Ministry of Health (or equivalent), a more in-depth review of the data revealed that 54 (68%) countries had, in fact, included both names of the focal points who reportedly collaborated in completing the survey.

[5] UNEP/MC/COP.5/INF/23. Article 21 synthesis report. Available at https://minamataconvention.org/sites/default/files/documents/information_document/UNEP-MC-COP.5-INF23-Art-21-synthesis-report_English.pdf (accessed 20 October 2023)

Characteristics	Country	
	N	%
Country's Minamata Convention ratification status		
Party	68	86%
Non-party	11	14%
Total	**79**	**100%**
WHO region (Total no. Member States in region)		
WHO African Region (N=47)	20	26%
WHO Region of the Americas (N=35)	17	22%
WHO Eastern Mediterranean Region (N=21)	6	8%
WHO European Region (N=53)	19	24%
WHO South-East Asia Region (N=11)	4	5%
WHO Western Pacific Region (N=27)	12	15%
Total	**78**	**100%**
Country income group (Total no. countries in group)		
High income (N=58)	27	35%
Upper-middle income (N=52)	24	31%
Lower-middle income (N=53)	15	19%
Low income (N=28)	11	14%
Total	**77**	**100%**

Dental amalgam use

The majority of countries (n=74, 94%) reported that dental amalgam was still being used. Of these 74 countries reporting the use of dental amalgam, 61 reported that they were in the process of phasing it down and 13 countries reported that there were no plans or implemented measures to phase it down, with most of the latter responses coming from low-income and lower-middle income countries mainly located in the African region. Overall, 6% of the countries reported that dental amalgam was not used at all (completely phased out).

Implementation of the provisions *listed in Annex A part II*

Responses to the questions "Please indicate if the following measure to phase down the use of dental amalgam has been implemented in your country"

Measure to phase down dental amalgam	**Countries' response**		
Original 9 measures	**Yes**	**No, but currently under development**	**No**
(i) Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration;	55 (70%)	16 (20%)	8 (10%)
(ii) Setting national objectives aiming at minimizing its use;	44 (56%)	17 (21%)	18 (23%)
(iii) Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration	62 (79%)	5 (6%)	12 (15%)
(iv) Promoting research and development of quality mercury-free materials for dental restoration;	25 (32%)	9 (11%)	45 (57%)
(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;	56 (71%)	5 (6%)	18 (23%)
(vi) Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration;	26 (33%)	10 (13%)	43 (54%)
(vii) Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration;	27 (34%)	10 (13%)	42 (53%)
(viii) Restricting the use of dental amalgam to its encapsulated form;	57 (72%)	7 (9%)	15 (19%)
(ix) Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land.	57 (72%)	12 (15%)	10 (13%)
Additional mandatory measures adopted at COP4	**Yes**	**No, but currently under development**	**No**
(i) Exclude or not allow, by taking measures as appropriate, the use of mercury in bulk form by dental practitioners;	50 (63%)	8 (10%)	21 (27%)
(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.	49 (62%)	9 (11%)	21 (27%)

Participating countries that have implemented two or more of the measures listed in subparagraphs (i) – (ix) of part II of annex A:

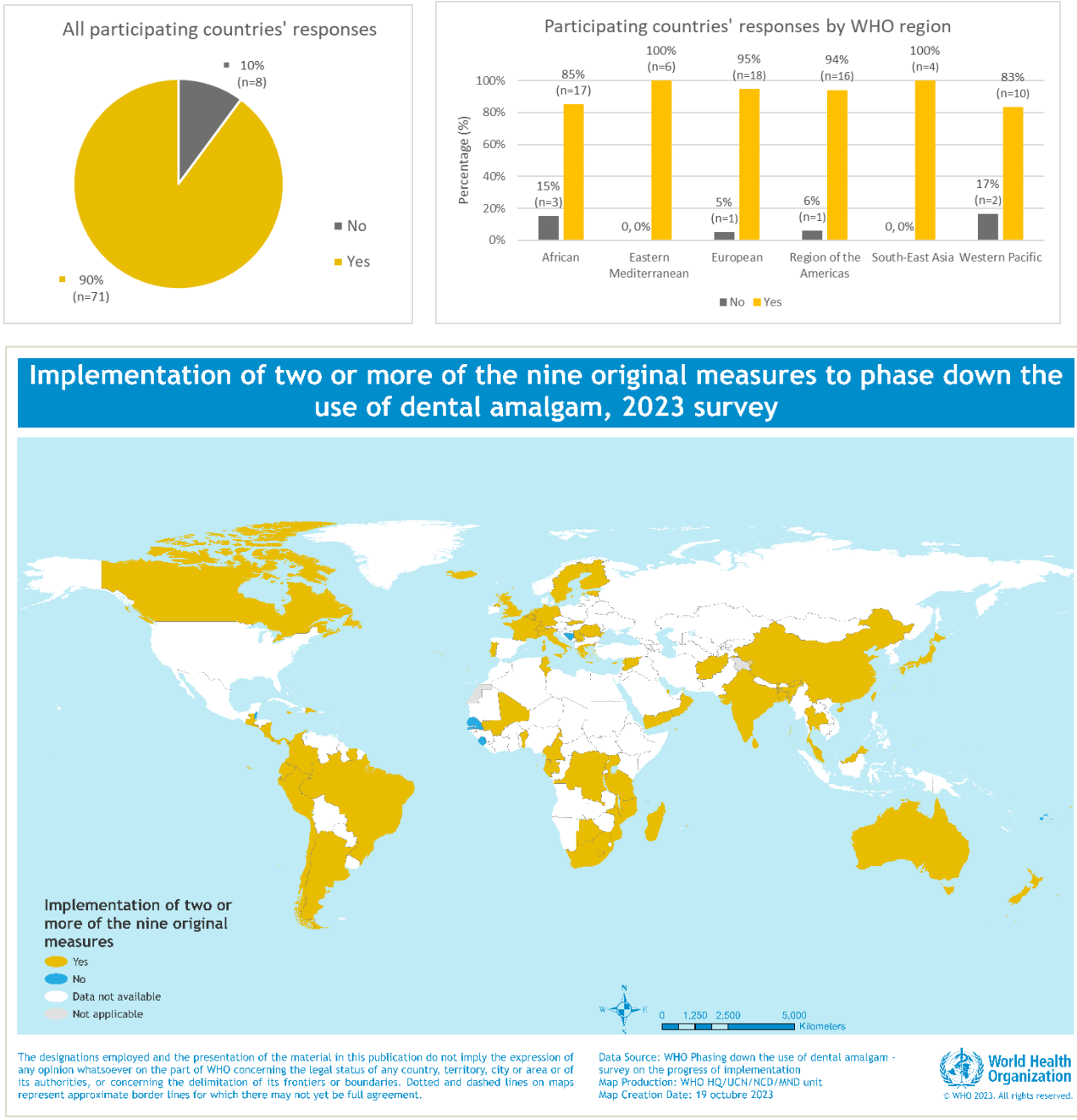
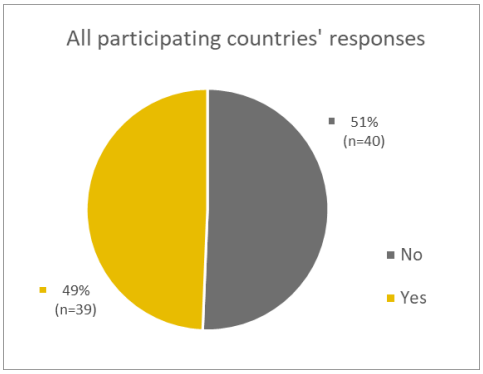
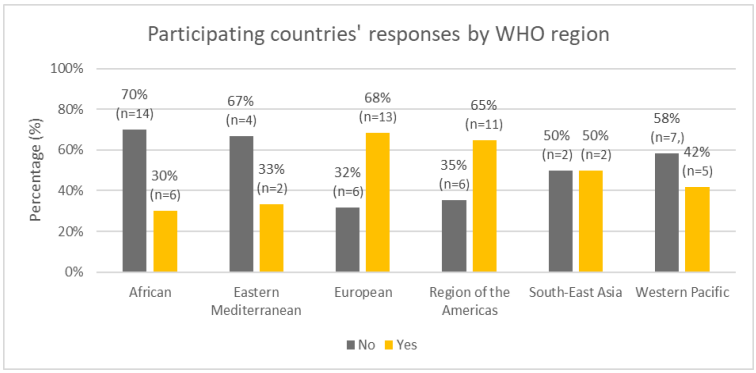


Figure 1. Map visualization of the implementation of two or more of the original nine measures to phase down the use of dental amalgam amongst WHO Member States

Participating countries that have implemented both mandatory measures adopted at COP4:





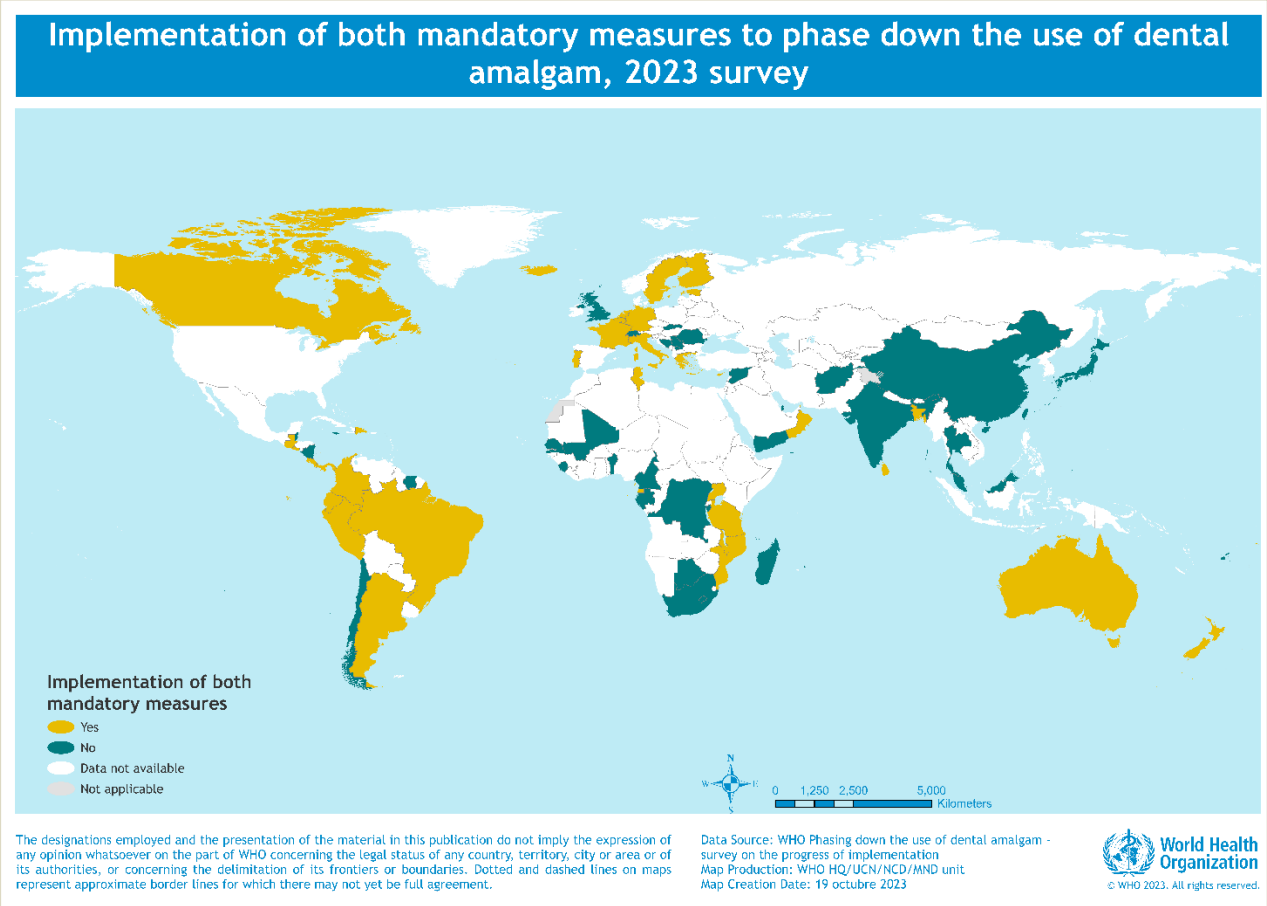
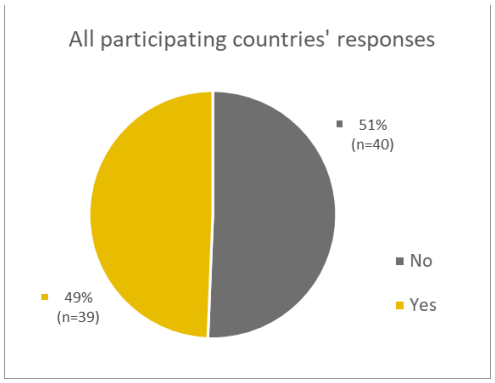


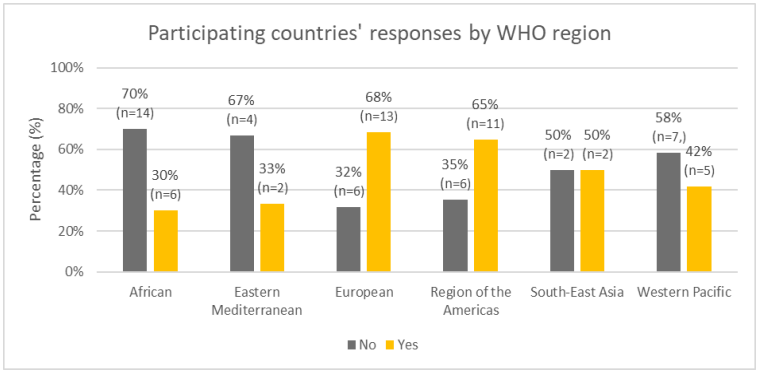
Figure 2. Map visualization of the implementation of both mandatory measures adopted at COP4 to phase down the use of dental amalgam amongst WHO Member States

Participating countries that have fully achieved the requirements of Annex A Part II of the Convention:

1. have implemented two or more of the measures listed in subparagraphs (i) – (ix) of part II of annex A; and

2. have implemented both mandatory measures adopted at COP4.





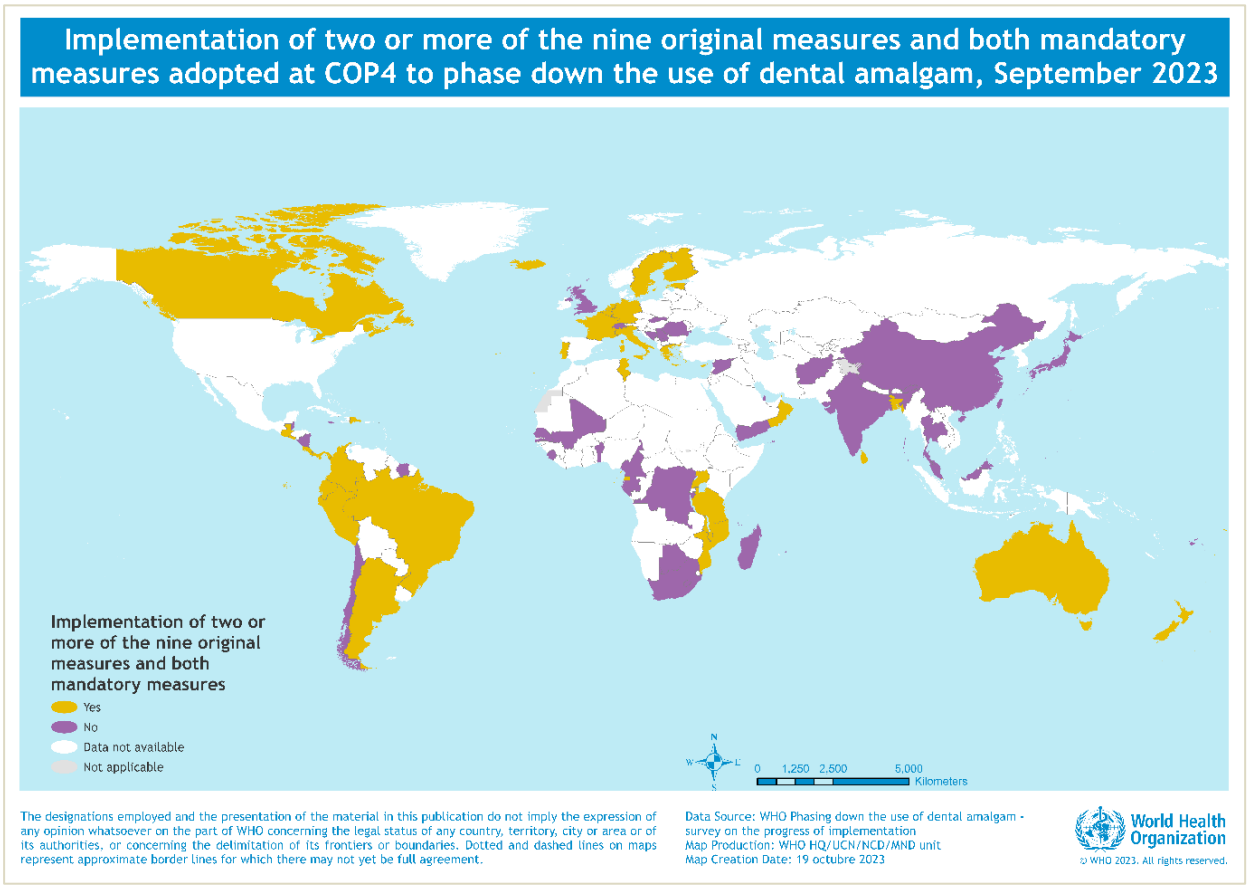


Figure 3. Map visualization of the implementation of two or more of the original nine measures and both mandatory measures adopted at COP4 to phase down the use of dental amalgam amongst WHO Member States

Discussion

Of the countries that participated in the survey, the majority reported that they were in the process of phasing down the use of dental amalgam; however, this does not necessarily mean that all of these countries were meeting all required provisions set out in Annex A Part II of the Convention. The Convention requires Parties to implement two or more of the original nine measures and to implement two new mandatory provisions adopted at COP4 on excluding or not allowing the use of mercury in bulk form by dental practitioners and excluding or not allowing the use of dental amalgam for the dental treatment of deciduous teeth, of patients under 15 years and of pregnant and breastfeeding women. When assessing the implementation against these provisions, the large majority of the participating countries (n=71, 90%) had complied with the requirement to implement two or more of these nine measures; however, only half of all participating countries (n=39, 49%) had implemented the two additional mandatory provisions.

When combining both requirements by the Convention, that is, to implement two or more of the nine measures and *also* to implement the additional two mandatory measures adopted at COP4, only half of the countries (n=39, 49%) had met both criteria (see figure 3).

Although the Convention provides flexibility to Parties in the way that the original nine measures should be implemented (two or more measures to be implemented in accordance with their national circumstances), the two additional measures adopted at COP4 are mandatory and must be promptly put into action, as they have become legally binding as of September 2023, except for Parties that have made notification of non-acceptance or have declared that any amendment will enter into force after their ratification of it.

Based on the original nine measures, the most commonly implemented measure reported by countries (79%) was measure iii "Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration". The availability and affordability of cost-effective, high-quality mercury-free alternative materials, as well as minimally invasive procedures for caries management, are steadily increasing worldwide.[6,7] This positive trend is driven by continuous improvements in the quality and properties of mercury-free dental medicines and preparations, the added benefit of caries prevention through the slow release of fluoride by certain dental medicines and preparations, the inclusion of mercury-free alternatives in the 2023 WHO Model Lists of Essential Medicines,[8] market competitiveness, and a growing demand for these options. Consequently, mercury-free dental medicines and preparations are becoming more widely accessible and affordable to both patients and healthcare providers. As an example, based on estimations amongst 62 low and lower-middle income countries, the average cost including equipment, materials and oral health workforce to apply silver diamine fluoride to arrest dental caries is 2.2 USD per case and the average cost to apply glass ionomer cement as a dental filling (after removal of dental caries with hand instruments) is 6.9 USD per case.[9]

Although the current approach of the Minamata Convention is to phase down the use of dental amalgam, a number of countries are pursuing a phase out approach instead. Such is the case of the European Union which after considering the feasibility of phasing out the use of dental amalgam has proposed to amend their regulation EU 2017/852.[10] The amendment proposes that, from 1 January

[6] UNEP/MC/COP.4/5. Information on dental amalgam. Available at https://minamataconvention.org/sites/default/files/documents/working_document/4_5_DentalAmalgam.English.pdf (accessed 20 October 2023)

[7] World Health Organization. (2022). Prevention and treatment of dental caries with mercury-free products and minimal intervention: WHO oral health briefing note series. World Health Organization. License: CC BY-NC-SA 3.0 IGO (https://iris.who.int/handle/10665/352480, accessed 20 October, 2023)

[8] World Health Organization. (2023). Web Annex A. World Health Organization Model List of Essential Medicines – 23rd List, 2023. In: The selection and use of essential medicines 2023. World Health Organization. Licence: CC BYNC-SA 3.0 IGO (https://iris.who.int/bitstream/handle/10665/371090/WHO-MHP-HPS-EML-2023.02-eng.pdf, accessed 20 October 2023)

[9] 154th session of the Executive Board 154/6, Provisional agenda item, January 2024. Political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases, and mental health Report by the Director-General.

[10] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury as regards

2025: 1) dental amalgam use is prohibited for dental treatment of any members of the population, except when deemed strictly necessary by the dental practitioner based on the specific medical needs of the patient; and 2) the manufacture and export of dental amalgam is prohibited. Likewise, the African region has put forward a proposal to be considered at COP5 to amend Annex A of the Minamata convention seeking stricter measures to limit the use of dental amalgam by establishing 2030 as a date after which the manufacture, import or export of the products shall not be allowed (phase out date) and it also proposes two additional mandatory measures to exclude or not allow the use of dental amalgam in government insurance policies and programmes, and to submit to the Secretariat a national plan concerning the measures it intends to implement to phase out the use of dental amalgam.[11]

While achieving a complete phase-out of dental amalgam by 2030 may not be feasible for every Party, article 6 of the Convention allows Parties to register an exemption up to 5 years (extending the phase out date by 2035) and to also apply for an extension of the exemption for another 5 years (extending the phase out date by 2040). The establishment of a roadmap with a time-bound agenda including clear deadlines to track progress of implementation, along with the assignment of roles to key stakeholders, offers added value. It enhances accountability and acts as a catalyst for driving concrete actions at the national level, thereby accelerating the phase down of dental amalgam use and, in some cases when appropriate, even a phase out. WHO calls on all key stakeholders and the global oral health community, including governments, civil society, academia, private sector, professional associations and international partners, to support countries in their efforts to advance toward achieving sustainable oral health care and protect planetary health.

In the meantime, WHO recommends establishing or strengthening the multisectoral collaboration mechanism between Ministry of Health and Ministry of Environment and work together in upgrading their national regulatory framework, insurance policies and programmes, and dental education curricula, with the aim of meeting the new mandatory provisions of the Convention. This will further promote an enabling environment for the prevention and treatment of dental caries with mercury-free dental medicines and preparations that ensures access to adequate resources (e.g. human resources, financial, equipment, supplies) to successfully implement the dental amalgam obligations as required by the Convention, and simultaneously providing access to essential, quality oral health care services in line with the principles of primary health care and Universal Health Coverage. Moreover, despite the continuous improvement of mercury-free dental medicines and preparations, there remains a pressing need for increased investment from both the private and public sector in research. Such activities should include active engagement from dental industry and researchers to expedite research and development for new or improved mercury-free dental medicines and preparations that are clinically effective, accessible, affordable, biocompatible and environmentally sound.

This global survey captures the reporting from countries during a specific time period; however, this will be an ongoing monitoring activity conducted by the Secretariat of the Minamata Convention and WHO. Countries that have not yet reported their progress on phasing down the use of dental amalgam are encouraged to contact the Secretariat or WHO to submit their response.

Conclusion

The results show that countries are actively working towards phasing down the use of dental amalgam. However, further action and support are essential to effectively implement the necessary provisions, particularly in light of the two mandatory measures adopted at COP4 that have now come into effect, as only half of the countries that participated in this survey had implemented them.

WHO calls upon all stakeholders and actors in the field of oral health to support efforts being made by countries to fully comply with the requirements of the Minamata Convention on Mercury and strive toward achieving sustainable oral health care and protect planetary health. At the same time, there

dental amalgam and other mercury-added products subject to manufacturing, import and export restrictions. Available at https://ec.europa.eu/transparency/documents-register/detail?ref=COM(2023)395&lang=en (accessed 20 October 2023)

[11] MC/COP5/2023/55. Proposal by Botswana and Burkina Faso, on behalf of the Africa region, to amend Part I and Part II of Annex A to the Minamata Convention on Mercury on dental amalgam to be considered by the Conference of the Parties at its fifth meeting. Available at https://minamataconvention.org/en/documents/proposal-botswana-and-burkina-faso-behalf-africa-region-amend-part-i-and-part-ii-annex (accessed 20 October 2023)

is a need for further investment, along with active engagement from dental industry and researchers, to continue improving or developing mercury-free dental medicines and preparations that are clinically-effective, accessible, affordable, biocompatible and environmentally sound.

WHO strongly advocates for a close collaboration between the Ministry of Health and Ministry of Environment to effectively phase down the use of dental amalgam in countries. This can be further supported by establishing a roadmap at the national level with a time-bound agenda, including assigned roles to key stakeholders and clear deadlines to track implementation progress, that provide direction and drive action in countries. WHO is committed to supporting countries in implementing a more ambitious dental amalgam agenda in the framework of Minamata Convention and contributing to the achievement of the Sustainable Development Goals by 2030.

Annex II*

Work of the International Labour Organization relevant to the Minamata Convention on Mercury

1. Collaboration between the ILO and the Conference of the Parties to the Minamata Convention on Mercury and the secretariat of the Minamata Convention is based on the text of the Convention, in particular paragraph 2 of article 16. ILO and its constituents have focused their technical support in line with article 7 and annex C, covering ASGM and have expanded the scope of its initiatives to other sectors. The ILO has increased its research efforts in order to develop a strong knowledge base on mercury in the world of work to promote the development of evidence-based policies.

2. Since the adoption of the Minamata Convention, relevant ILO activities in support of the Convention have included promotion of ILO international instruments, project work at the country level, production of codes of practice, working documents and technical research reports, as described below.

A. Promotion of ILO international instruments for the prevention of mercury exposure

3. The ILO promotes the ratification and the implementation of ILO international instruments relevant to mercury exposure. This includes the Chemicals Convention, 1990 (No. 170); the Prevention of Major Industrial Accidents Convention, 1993 (No. 174); the Safety and Health in Mines Convention, 1995 (No.176) and the Safety and Health in Agriculture Convention, 2001 (No. 184).

4. The ILO plans to develop new technical guidelines on chemical hazards and to consolidate a number of chemical instruments for standard-setting to be discussed in the 114th session (2026) or the 115th session (2027) of the International Labour Conference[1].

5. In June 2022, the International Labour Conference amended the Declaration on Fundamental Principles and Rights at Work (1998) to include "a safe and healthy working environment as a fundamental principle and right at work. With this decision, the Occupational Safety and Health Convention, 1981 (No. 155) and the Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187) were designated as fundamental conventions, meaning that all ILO members, regardless of ratification status, have the obligation to respect, to promote and to realize, the principles concerning the fundamental right to a safe and healthy working environment. These conventions provide a framework for strengthening national occupational safety and health (OSH) systems within which to anchor the implementation of the other conventions.

6. The ILO List of Occupational Diseases in the annex of ILO Recommendation No. 194 concerning the List of Occupational Diseases and the Recording and Notification of Occupational Accidents and Diseases, includes diseases caused by mercury or its compounds.

7. The ILO published *Diagnostic and exposure criteria for occupational diseases: Guidance notes for diagnosis and prevention of the diseases in the ILO List of Occupational Diseases (revised 2010)*[2]. These guidance notes provide information and criteria for the diagnosis and prevention of diseases and are meant to be utilized by competent authorities, occupational safety and health professionals, employers, workers, those in charge of recording and notification of diseases, as well as any other relevant stakeholders. The guidance notes include a section dedicated to "diseases caused by mercury or its compounds", which includes general characteristics of mercury, occupational exposures, mercury's toxicological profile and diseases and their diagnostic criteria.

B. Projects in the artisanal and small-scale gold mining (ASGM) sector

8. The project "Accelerating Action for the Elimination of Child Labour in Supply Chains in Africa (ACCEL AFRICA)" [3] implemented by the ILO and funded by the Ministry of Foreign Affairs of the Netherlands has been extended to a second phase. Phase II will be implemented in Côte d'Ivoire, Ghana, Kenya, Mali, Nigeria and Uganda starting from July 2023. During Phase I, gold miners of working age in Mali were trained, in collaboration with the Chamber of Mines of Mali, on

* The annex has not been formally edited.

[1] https://www.ilo.org/gb/GBSessions/GB347/ins/WCMS_873027/lang--en/index.htm

[2] https://www.ilo.org/global/topics/safety-and-health-at-work/resources-library/publications/WCMS_836362

[3] https://www.ilo.org/africa/technical-cooperation/accel-africa/lang--en/index.htm

the dangers associated with the use of chemicals (including mercury). These training sessions included distribution of sensitizing communication material (including podcasts on mercury usage in gold mining and photo boxes), on-site trainings and documentary screenings on the consequences of mercury use in Minamata. In addition, they were provided with occupational safety and health equipment. Moreover, a training module on mercury management was developed with the aim of informing participants about the negative impacts of mercury on health and the environment and to provide information on how to utilize this chemical in a responsible manner. The discussion focused on the use of mercury in artisanal and small-scale mining specifically. Mining, a particularly hazardous sector in terms of occupational safety and health risks, including exposure to hazardous chemicals such as mercury, will remain a key sector of activity for phase II.

9. The project "Improving Workers' Rights in the Rural Sectors of the Indo Pacific, with a Focus on Women", implemented by the ILO in the Philippines and supported by the US Department of Labor, includes as one of its target sectors small-scale mining in several regions of the country. A key contribution of the project's work to support compliance to the Minamata Convention is through providing a platform for established workers' organizations in the formal sector to engage and build partnerships with small-scale mining associations to advance working conditions in the sector. Through the work with social partners, relevant initiatives for the mining industry can be integrated in the national OSH programme providing support for education and awareness and social dialogue within the industry, and elimination of the use of mercury in the workplace and community. Informality in the sector is closely linked with the prevalent use of mercury. In order to strengthen formality in the sector, amendments under House Bill 6408 are recommended by members of the National Coalition of Small-Scale Miners of the Philippines Inc. and filed by the Trade Union Congress of the Philippines. These recommendations include, for example, to set up a licensing and accreditation system, which among others shall ensure occupational safety and health for workers in small-scale mining. Currently, the Coalition is holding its Assembly and will be consulting its members on their inputs on the National Action Plan (NAP) required under the Minamata Convention, for which consultations shall also start soon. q

C. Technical reports, research papers, training materials and working documents

10. In January 2022, the ILO published a technical report: *Exposure to Mercury in the world of work: A review of the evidence and key priority actions*[4]. The report provides information to ILO constituents, including governments, employers and workers, as well as the public on occupational safety and health and mercury. The report outlines the properties of mercury, sectors where it is widely used, main health outcomes for those exposed and priority actions at the national and workplace level to address the risk of mercury exposure in the workplace.

11. In 2022, the ILO produced a series of training modules on chemical risks and occupational safety and health, major industrial accidents and chemicals and climate change. These training modules included information about occupational safety and health management systems and chemical management, preventative measures for key chemical hazards, the Globally Harmonized System of Classification and Labelling of Chemicals, information about ILO conventions related to occupational safety and health and a variety of other topics that can be utilized by stakeholders, including those working to address the risk of mercury exposure in the world of work.

12. The training module *Spotlight on mercury in the world of work*[5] provides a history of human and environmental mercury exposures, examines key routes and sectors of exposure, explores supply and demand of mercury globally, discusses health impacts and provides priority actions at the policy and workplace level to address these risks.

13. A training module titled *Chemical hazards in the mining sector: an industry case study*[6], describes the global mining sector and examines artisanal and small-scale mining in detail, as well as key chemicals involved in mining, including mercury. The module includes a section on mercury's health impacts, mercury and its use in ASGM, several case studies and the use of mercury in other mining industries.

[4] https://www.ilo.org/global/topics/safety-and-health-at-work/resources-library/WCMS_834578/lang--en/index.htm

[5] https://www.ilo.org/global/topics/safety-and-health-at-work/areasofwork/chemical-safety-and-the-environment/WCMS_871785/lang--en/index.htm

[6] https://www.ilo.org/global/topics/safety-and-health-at-work/areasofwork/chemical-safety-and-the-environment/WCMS_871779/lang--en/index.htm

14. In July 2023, the ILO published a technical report: *Chemicals and climate change in the world of work: Impacts for occupational safety and health*[7]. This report made several references to mercury use in industries that are responsible for large amounts of pollution, such as mining and ore, and references the Minamata Convention on Mercury.

15. The ILO has developed a technical report titled *Chemical exposures in mining: Impacts for workers' safety and health*, which is expected to be released in late 2023. The report explores the mining sector and common occupational safety and health risks related to chemicals. Mercury exposure in mining is discussed, particularly in artisanal and small-scale gold mining (ASGM), as well as primary mercury mining and non-ferrous mining operations. The report explores strategies to phase out mercury use in ASGM, such as working toward formalization of ASGM activities.

16. As part of a series[8], the ILO developed a policy brief on Occupational Safety and Health in a Just Transition. In that paper, the increasing risk of workers' exposure to mercury in the production and life cycle of energy-efficient compact fluorescent lamps (CFL) has been outlined. The ILO will continue to investigate this exposure pathway within discussions on green jobs and a Just Transition.

D. Technical support, promotion and advocacy

17. The ILO technically reviewed a section of an e-course on Gender and Mercury[9] by the Secretariat of the Minamata Convention on Mercury, focused on labour and occupational safety and health issues (June 2022).

18. The ILO presented in the *Minamata Online Session on Health Risk Communication* (7 December 2022). The speaker from the ILO discussed the world of work perspective of mercury exposure and described the resources available from the ILO.

19. The ILO provided technical support to Suriname, when a representative from the Ministry of Labour requested information on mercury-containing tailings (2023).

20. The ILO produced a promotional video on *Chemicals and the World of Work*[10] which describes the importance of addressing chemical risks in the world of work. The video outlines the work of the ILO on chemicals, including its international labour standards, technical reports and international collaborations, including the Minamata Convention.

21. The ILO attended the open-ended scientific group meeting for the Minamata Convention in Geneva (27-31 March 2023).

22. The ILO collaborates with other United Nations agencies in the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) on the IOMC Toolbox. The ILO has developed and updated the Occupational Safety and Health Management Scheme[11], which includes entry points for governments, employers and workers, with regularly updated, tailored webpages and resources to fit their specific needs. The OSH Management Scheme includes resources on mercury and mining, as well as links to ILO publications related to these topics.

E. ILO continued support and future initiatives

23. Following the inclusion of "a safe and healthy working environment" within the ILO's Declaration of Fundamental Principles and Rights at Work by the 2022 International Labour Conference, the ILO will continue to promote the ratification and implementation of the two Fundamental OSH Conventions, the Occupational Safety and Health Convention (No. 155) and the Promotional Framework for Occupational Safety and Health Convention (No. 187). These conventions provide for a systems approach to managing occupational safety and health, which can impact the sound management of chemicals, such as mercury.

24. The ILO Governing Body at its 347th approved proposals and a road map for the review of the ILO Global Strategy on Occupational Safety and Health and requested the International Labour Office to prepare a Global Strategy on Occupational Safety and Health 2024-2030 and a plan of action for its

[7] https://www.ilo.org/global/topics/safety-and-health-at-work/areasofwork/chemical-safety-and-the-environment/WCMS_887111/lang--en/index.htm

[8] https://www.ilo.org/global/topics/green-jobs/publications/just-transition-pb/lang--en/index.htm

[9] https://elearning.informea.org/#course10

[10] https://youtu.be/WaUhLV7HH_k

[11] https://iomctoolbox.org/node/50035/steps

implementation for the 349th session of the ILO Governing Body, including outlining the ILO's work and global engagements related to the sound management of chemicals and waste.

25. In the ASGM sector, formalizing artisanal mining is a crucial step towards ensuring decent work and resolving the problem of mercury use. The ILO will continue to promote formalization of work, including in the mining sector.

26. At the global level, the ILO continues its efforts to enhance the knowledge base on hazardous exposures in the world of work, specifically on the topic of mercury exposures and risks in the mining sector. The ILO will continue to enhance multi-lateral collaboration specifically when it comes to the global implementation of the Minamata Convention, enhancing the labour and decent work components in these efforts.