

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 on Mercury

Report by the Secretariat

SOURCES OF MERCURY EXPOSURE AND HEALTH IMPACTS

1. Mercury is released into the environment mainly as a result of human activity, particularly from coal-fired power stations, artisanal and small-scale gold mining, and other industrial processes. Once in the environment, elemental mercury is transformed into methylmercury, which accumulates in fish and shellfish. In this form, mercury poses a particular threat to the development of the child in utero and in its early life. It has been estimated that among selected populations that rely on subsistence fishing, between 1.5 and 17 per 1000 children showed cognitive impairment resulting from consumption of fish containing methylmercury.

2. People are also exposed directly through their work and use of consumer products to elemental and inorganic mercury compounds, which are known to cause kidney and neurological damage. UNEP estimates that more than 15 million people, including three million women and children, in more than 70 countries, participate in artisanal and small-scale gold mining where elemental mercury is used to extract gold. The risks to health of this activity can be considerable and the subsequent disease burden is most often borne by people in the weakest segments of society, who live and work in informal mining camps with inadequate access to health services.

3. Health workers can be exposed to mercury through broken thermometers and poorly maintained sphygmomanometers. Dental amalgam contains mercury, and cremation and the improper disposal of amalgam scrap contributes to environmental pollution. Kidney damage has been reported in women using skin-lightening cosmetics containing mercury.

NEGOTIATION AND ADOPTION OF THE MINAMATA CONVENTION

4. In view of the significant public health problems and disease burdens globally, UNEP's Governing Council agreed in 2009 to the elaboration of a legally binding instrument on mercury. Subsequently, a global treaty was negotiated and, in October 2013, the Minamata Convention on

Mercury was adopted.¹ The Convention, which is legally binding, was opened for signature at the Conference of Plenipotentiaries on 10 October 2013, in Kumamoto, Japan, and will enter into force after the 50th ratification.

5. The protection of human health is at the core of the Minamata Convention, whose objective (Article 1) “is to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds”. The Convention includes a range of measures to meet its objective, including controls on emissions and releases of mercury to the environment from industrial sources and the phasing out or phasing down of certain products or product components that contain mercury or a mercury compound that was intentionally added (“mercury-added products”). The Convention includes an article (Article 16) dedicated to health aspects.

THE ROLE OF HEALTH MINISTRIES

6. The Minamata Convention includes controls on mercury-added products and manufacturing processes in which mercury or mercury compounds are used, as well as controls on artisanal and small-scale gold mining. Measures are directed at reducing emissions and releases of mercury to the environment from large-scale industrial plants such as coal-fired power stations, industrial boilers, waste incinerators and cement clinker facilities. The Convention also contains Articles detailing measures to be taken on mercury wastes, contaminated sites and the environmentally-sound interim storage of mercury. Controls are placed on the supply and trade of mercury. Provision is made for financial and technical support to developing countries and countries with economies in transition.

7. Implementation of the Convention will require multisectoral action, including the health sector. Involvement of health ministries is indicated for a range of measures, in particular for Article 16 (Health aspects). Under Article 16 Parties are encouraged inter alia: to promote the development and implementation of strategies and programmes to identify and protect populations at risk from exposure to mercury and mercury compounds; promote appropriate health care services for populations affected by exposure to mercury or mercury compounds; and establish and strengthen institutional and health professional capacities for the prevention, diagnosis, treatment and monitoring of health risks related to exposure to mercury and mercury compounds.

8. In relation to mercury-added products, a leading role for health ministries is envisaged in implementing the required phasing-out of thermometers, sphygmomanometers and antiseptics and skin-lightening cosmetics that contain mercury by 2020 (with provision for exemptions to 2030 in specified circumstances). The Convention also provides a menu for phasing down the use of dental amalgam, from which Parties are to select two or more measures, taking into account domestic circumstances and relevant international guidance. Thiomersal in vaccines is explicitly excluded from the list of mercury-added products regulated by the Convention. The measures in the Convention for the mercury-added products mentioned in the present paragraph are consistent with WHO policies, norms and evidence, which were provided by WHO to the Intergovernmental Negotiating Committee.

9. Involvement of health ministries is also indicated for the required development of public health strategies in national action plans to reduce the health impacts of mercury use in artisanal and small-scale gold mining (Article 7) as well as assessment of contaminated sites for risks to health (Article 12). Article 17 on information exchange specifically mentions information on health impacts.

¹ Document UNEP(DTIE)/Hg/CONF/3 (<http://www.mercuryconvention.org/Convention/tabid/3426/Default.aspx>, accessed 27 November 2013).

Article 18 on public information, awareness and education in particular mentions human health. Article 19 (Research, development and monitoring) calls for cooperation, including monitoring of levels of mercury and mercury compounds in vulnerable populations.

THE ROLE OF WHO IN IMPLEMENTING THE MINAMATA CONVENTION

10. The preamble to the Convention recognizes WHO's activities in the protection of human health related to mercury. Article 16 (Health aspects) establishes that the Conference of the Parties, in considering health-related issues or activities, should consult and collaborate with WHO and promote cooperation and exchange of information with WHO. Resolution 3 of the Conference of Plenipotentiaries invites WHO to cooperate closely with the Conference of the Parties "to support the implementation of the Convention, particularly Article 16, and to provide information to the Conference of the Parties on the progress made in this regard".

11. The Secretariat's range of established activities provides the basis for encouraging Parties to ratify and implement the Convention. WHO is pre-eminent in providing health-related evidence and raising public awareness about the health implications of mercury exposure through the publication of authoritative risk assessments, advocacy materials and other information. It sets guidelines for mercury exposure through air, drinking-water and food.

12. Since 2008, WHO and Health Care Without Harm, a coalition of organizations, have managed a global initiative to replace mercury-containing thermometers and sphygmomanometers by alternatives that contain no mercury. A range of technical guidance and tools are available to this end.

13. The Secretariat also creates tools, provides guidance and issues training materials as support to Member States in dealing with the public health impacts of artisanal and small-scale gold mining.

14. WHO is establishing the evidence-base relating to the advantages and disadvantages of dental amalgam and alternative materials for dental restoration. In partnership with UNEP, it is implementing several pilot projects to phase down the use of dental amalgam.

15. WHO publishes training materials for health workers, issues guidance for identifying populations at risk from mercury exposure, and designs protocols for monitoring human exposure to mercury.

16. The Secretariat also provides support to Member States in investigating and responding to disease outbreaks due to mercury exposure and establishing poisons information centres.

STRENGTHENING HEALTH AND ENVIRONMENT ALLIANCES AND HEALTH SECTOR ENGAGEMENT IN THE SOUND MANAGEMENT OF CHEMICALS

17. In order to implement the Minamata Convention, the health and environment sectors at national level will need to collaborate in order to realize the Convention's full potential to protect human health. At the international level, greater collaboration between WHO and UNEP is essential. WHO will also need to work with other relevant bodies in the United Nations system. Multisectoral participation will provide an opportunity to strengthen multisectoral institutional arrangements for not only mercury but also the sound management of chemicals in general. At the regional level, health and environment interministerial processes can provide a springboard for effective intersectoral action on chemicals. At the international level, the establishment of the United Nations Environment Assembly, as the main governing body of UNEP with universal membership, provides a further opportunity to promote health in environment policies.

18. Mercury is only one of a number of chemicals of major public health concern. Preventable exposure to lead, carcinogens, highly hazardous pesticides and other hazardous chemicals continues to occur. These exposures result in significant disease burden and demands on health systems. In the outcome document of the United Nations Conference on Sustainable Development (Rio de Janeiro, Brazil, 20–22 June 2012) “The future we want”,¹ deep concern was expressed that many countries lack the capacity for sound management of chemicals, and called for additional efforts to enhance work towards strengthening capacities, including through partnerships, technical assistance and improved governance structures. Governments reaffirmed their aim to achieve by 2020 sound management of chemicals throughout their life cycle and of hazardous waste in ways that lead to minimization of significant adverse effects on human health and the environment, as set out in the Johannesburg Plan of Implementation.

19. Member States have numerous opportunities to reduce or eliminate exposures to hazardous chemicals, including implementation of the Strategic Approach to International Chemicals Management. In resolution WHA59.15 on that matter, the Health Assembly urged Member States to take full account of the health aspects of chemical safety in national implementation of the Strategic Approach and to participate in national, regional and international efforts to that end, including the International Conference on Chemicals Management. 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 (Nairobi, 17–21 September 2012), sets out various actions.²

20. Member States are invited to participate in WHO’s Chemical Risk Assessment Network, which was established on 1 July 2013 in recognition of the need for enhanced global efforts to share expertise on assessing and managing the risks associated with exposure to hazardous chemicals. Its main objectives are to provide a forum for scientific and technical exchange, facilitate and contribute to capacity building, and assist in the identification of emerging risks to human health from chemicals.

21. In 2002 the World Summit on Sustainable Development decided to phase-out lead paints. The Global Alliance to Eliminate Lead Paint is an initiative jointly undertaken by UNEP and WHO following a resolution of the second International Conference on Chemicals Management.³ WHO’s Secretariat endorses the encouragement of the third International Conference to all governments, civil society organizations and the private sector to contribute to achievement of the goal of the Global Alliance.⁴

22. In order to guide the work of the Secretariat and Member States towards the achievement of the 2020 goal for the sound management of chemicals, the Secretariat proposes to consult Member States on identifying a set of core priority actions for the health sector.

ACTION BY THE EXECUTIVE BOARD

23. The Board is invited to note the report and provide guidance on the proposal for consultations.

= = =

¹ <http://www.uncsd2012.org/content/documents/727The%20Future%20We%20Want%2019%20June%201230pm.pdf> (accessed 1 November 2013).

² Document SAICM/ICCM.3/24, resolution ICCM III/4 in SAICM/ICCM.3/24.

³ Document SAICM/ICCM.2/15. Resolution II/4 Emerging policy issues, section B: Lead in paint.

⁴ Document SAICM/ICCM.3/24. Resolution III/2 Emerging policy issues, section B: Lead in paint.