Mercury HBM on global and regional level: contribution to the implementation of the Minamata Convention

World Health Organization
REGIONAL OFFICE FOR Europe

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Content

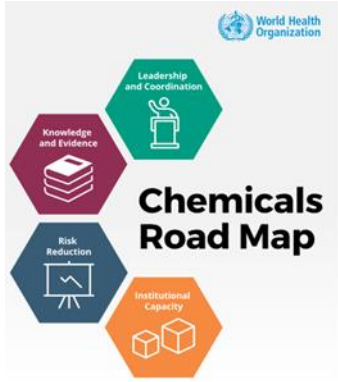
HBM in the WHO policies (global and regional)

Achievements in developing mercury HBM and expected contribution to the Minamata Convention implementation

Priorities and challenges

WHY is HBM important for public health?

- Assessment of population and (individual) exposure and health risks
- Accumulation of scientific knowledge and promotion of research
- Identification of population at risks
- Promotion of policy decisions and monitor their effectiveness
- Social-economic impact of policy actions
- Prioritization of chemicals of public health concern
- Identification of countries requiring an urgent support (comparable data)
- Diagnosis of poisonings (acute and chronic)
- Therapy (justification of clinical measures to reduce body burden in critical cases)



Road map to enhance health sector engagement in the Strategic Approach to International Chemicals Management towards the

Protecting children's health in a changing environment

World Health Organization Europe
UNECE UN environment
EUROPEAN ENVIRONMENT AND HEALTH PROCESS

Better Health. Better Environment. Sustainable Choices.

Why is harmonized approach preferable?

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Benefits

Comparable and reliable data

Knowledge about populations at risks at global and national level

Effective use of human, technical and financial resources

Evaluation of risk reduction measures geographically and temporally

Challenges

Cultural differences

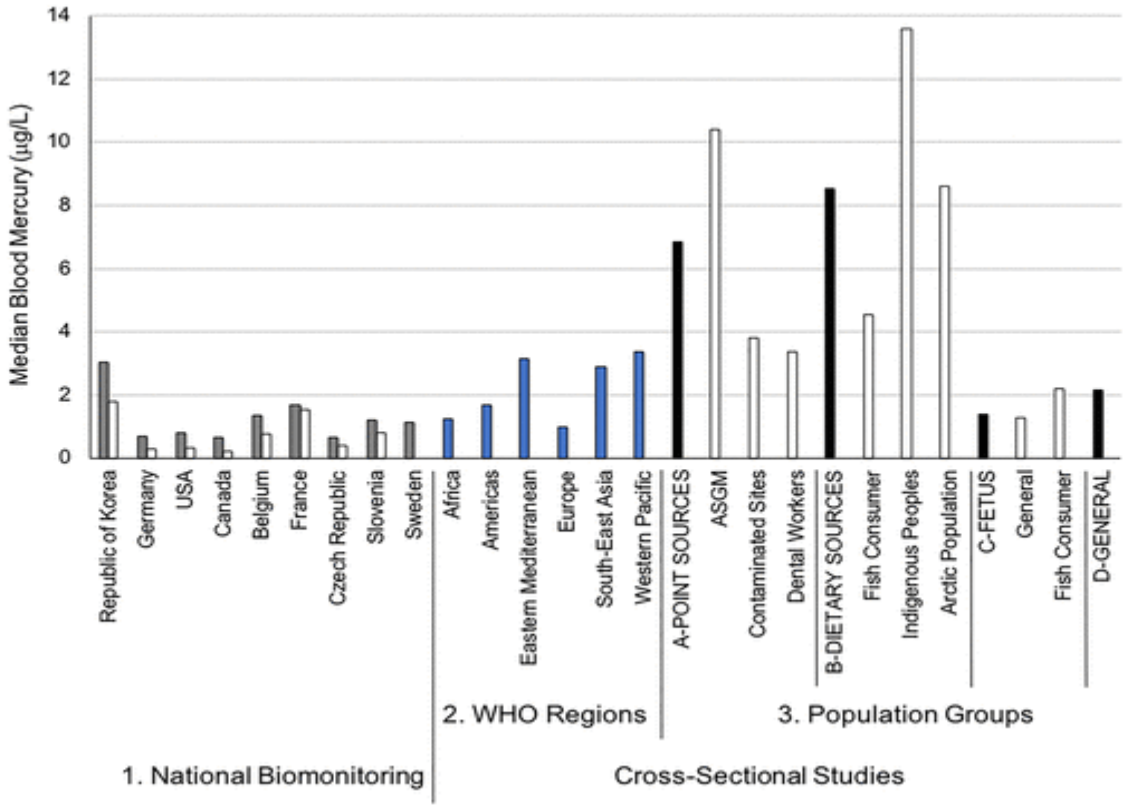
Ethical considerations

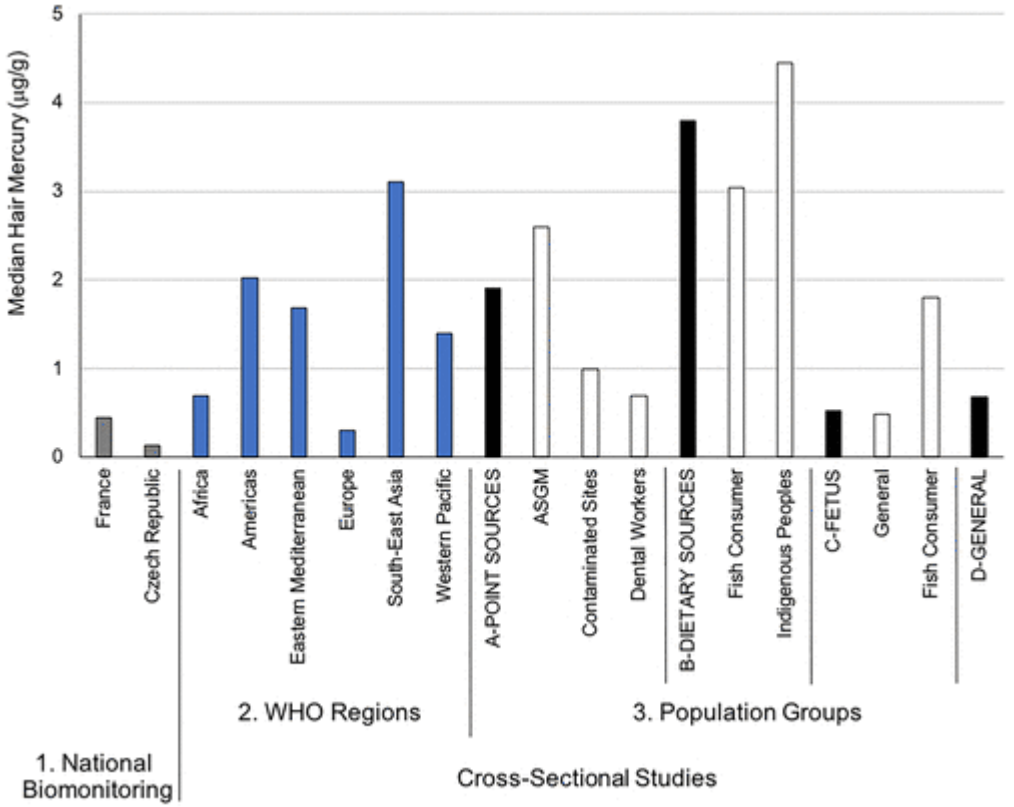
Readiness (laboratory capacity and competence)

Possibility to incorporate in existing national programmes

Benefits of comparable HBM data

A State-of-the-Science Review of Mercury Biomarkers in Human Populations Worldwide between 2000 and 2018; Basu N, et al., 2018





Benefits of comparable HBM data

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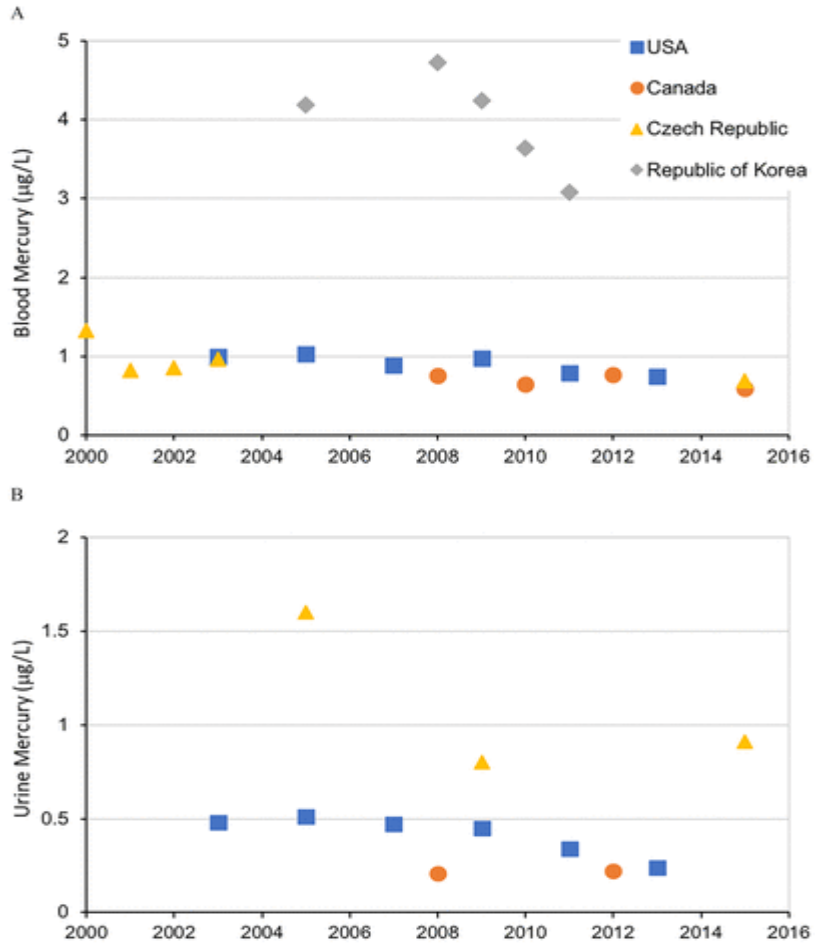
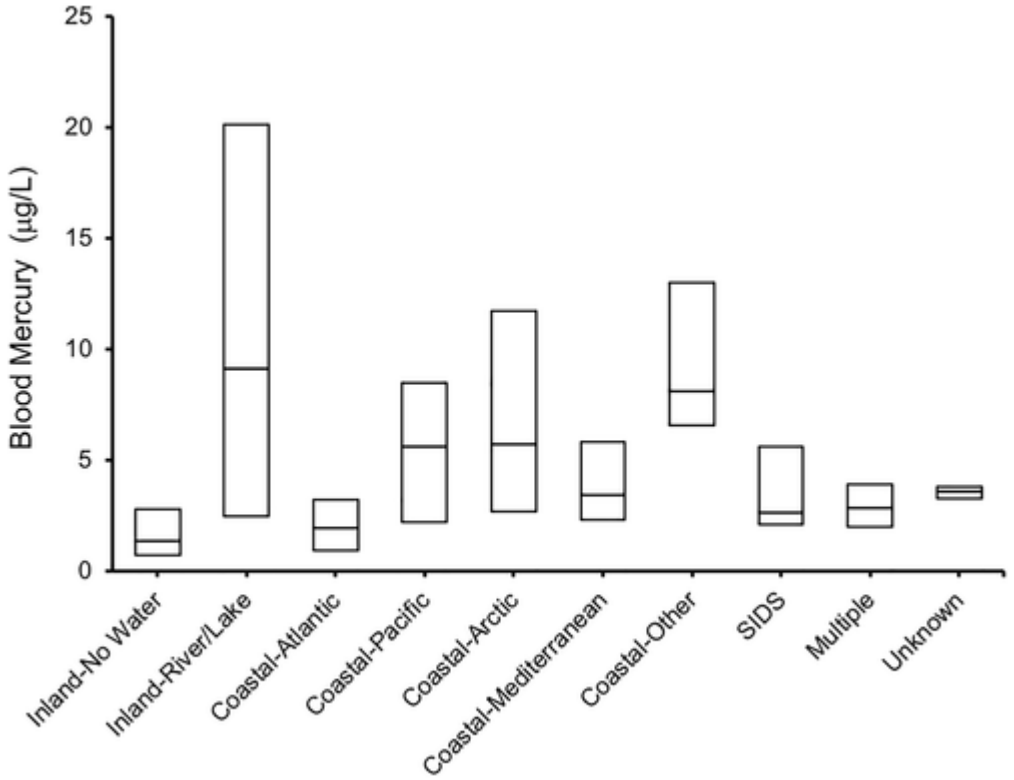


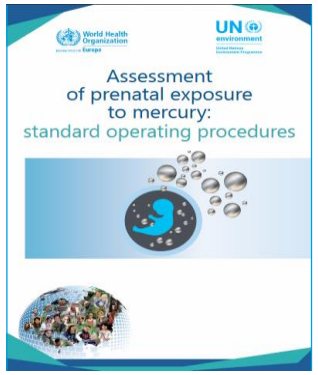


Global monitoring of human exposure to mercury

A: Minamata Convention Article 1: (Objective) Protecting human health and the environment **		Source of information on indicator	Baseline for the indicator
A1. Cross-cutting monitoring indicator	Levels of mercury in the environment and in humans due to anthropogenic emissions and releases	- Integrated modelling	Baseline amount in the first evaluation (if models are available)

Health aspects, Information exchange, public information and education, research, effectiveness evaluation

Articles 16, 17, 18, 19, 22



Database
of baseline
concentrations of
mercury in hair and
cord blood
(6 countries)

Key lessons learnt:

- In addition to the methodological support (SOPs and Protocols), training of national coordinators, field staff and laboratory workers is critical
- Harmonized health-based reference guidelines are needed for risk assessment and communication, including to individuals

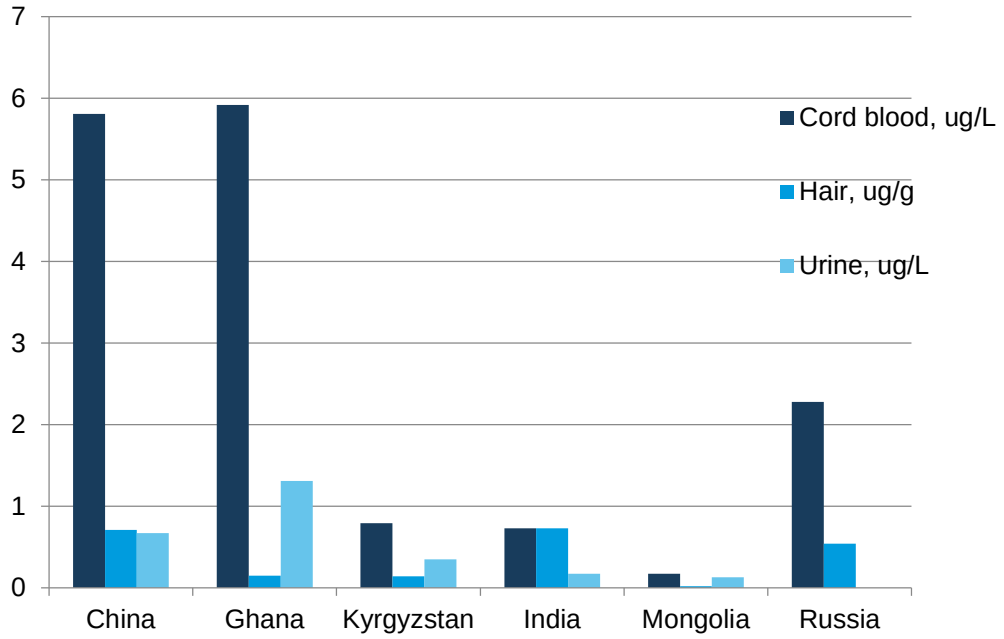
Feasibility of the methodology implementation

	Hair	Cord blood	Urine
China	250	250	250
Ghana	240	59	215
India	250	250	250
Kyrgyzstan	107	107	107
Mongolia	265	265	265
Russian Federation	252	252	252

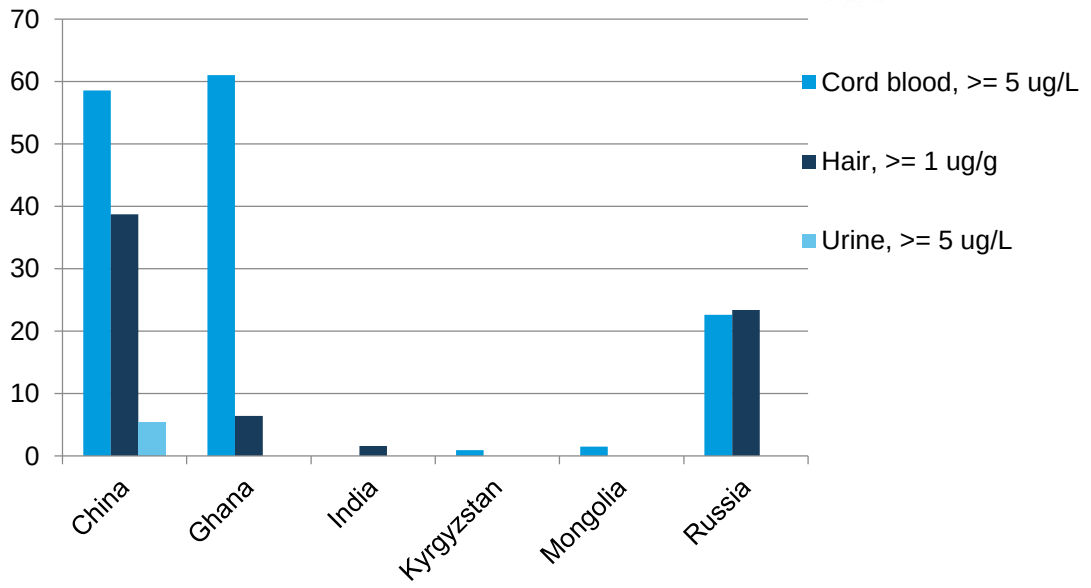
Surveys were implemented in 6 from 7 pilot countries

Collection of reliable and comparable data

Biomarker mercury concentration, by country



Percent of individuals above reference level, by country*



Priorities and challenges

Priorities

- Filling gaps in scientific knowledge
- Promoting policy decision on HBM as an instrument for decision making
- Strengthening of involvement of the health sector

Challenges

- Quantifying health risk based on HBM results
- Applicability of HBM in public health
- Linking HBM results with health outcomes
- Development of health-based reference values (harmonized globally)
- Risk communication
- Availability of resources, human, technical and financial, particularly in developing countries

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