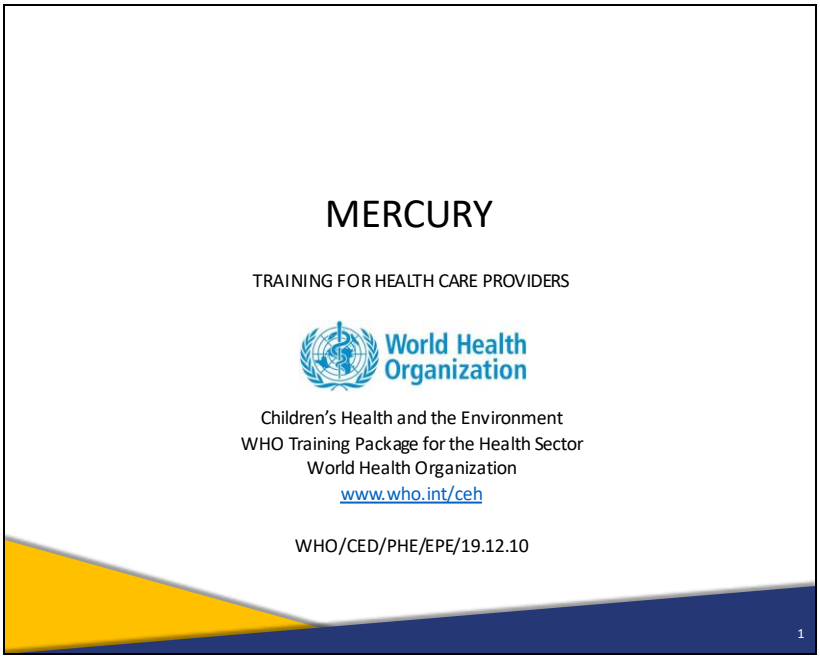
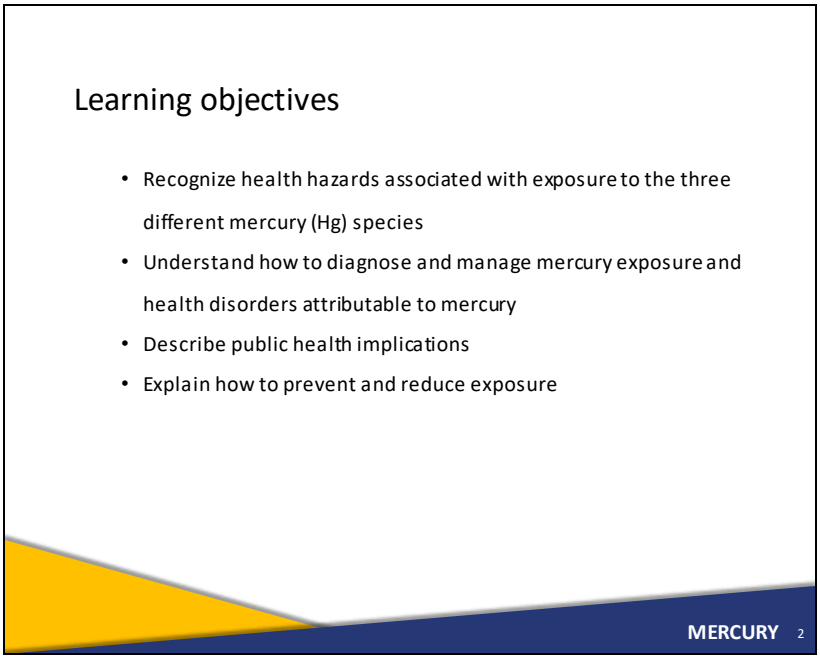


Notes:

- Please add details of the date, time, place and sponsorship of the meeting for which you are using this presentation in the space indicated.
- This is a large set of slides from which the presenter should select the most relevant ones to use in a specific presentation. These slides cover many facets of the problem. Present only those slides that apply most directly to the local situation in the region.

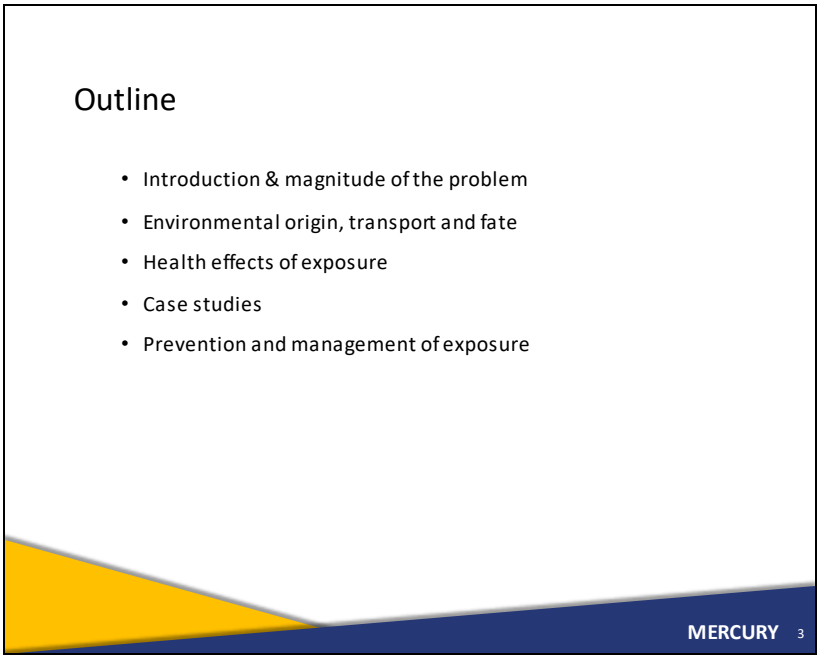


Mercury is a developmental toxicant whose effects have been known for many decades, but concern has increased in the last few years among the medical and environmental communities due to the recognition of its environmental ubiquity and persistence and the developmental effects observed at relatively low levels of exposure.

After this presentation, viewers should understand, recognize and know these learning objectives.

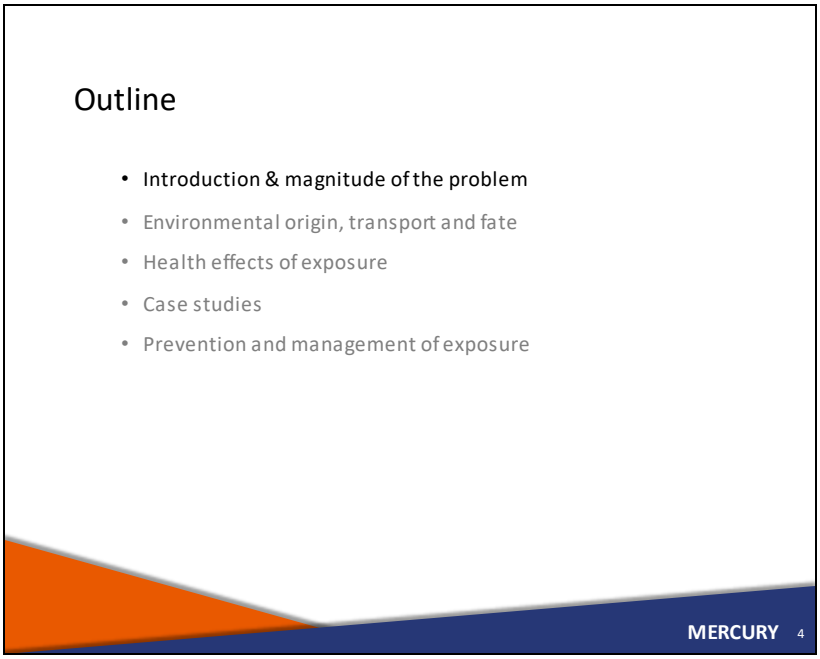
References:

- UNEP (2019). Global mercury assessment 2018. Geneva: United Nations Environment Programme, Chemicals and Health Branch. (https://www.unenvironment.org/resources/publication/global-mercury-assessment-2018, accessed 22 April 2019).



Note:
When selecting the slides to include in your presentation, please choose only those of relevance to the region and/or interests of your audience.

- Introduction & magnitude of the problem:
  - One element with three species
- Environmental origin, transport and fate:
  - Routes of exposure, anthropogenic emissions, populations at risk
  - Artisanal small-scale gold mining, exposure from fish
- Health effects of exposure
  - Target organs and systems, neurodevelopmental effects
  - Metallic mercury, methylmercury, Minamata Disease
  - Diagnosis
- Case studies
- Prevention and management of exposure
  - At home, medical domain, regulatory measures
  - Minamata Convention, Sustainable Development Goals



This section introduces mercury, one element with three species, and its global distribution in the context of children's environmental health.


WHAT IS MERCURY?
Mercury is a naturally occurring metal. When released into the environment, it can be toxic.
How mercury gets into the environment:
Coal power plants
Blood pressure measuring devices
Silver dental fillings
Batteries
Small-scale gold mining
Skin lightening cosmestics
Mercury thermometers
Light bulbs
World Health Organization
5

Figure:

- © WHO

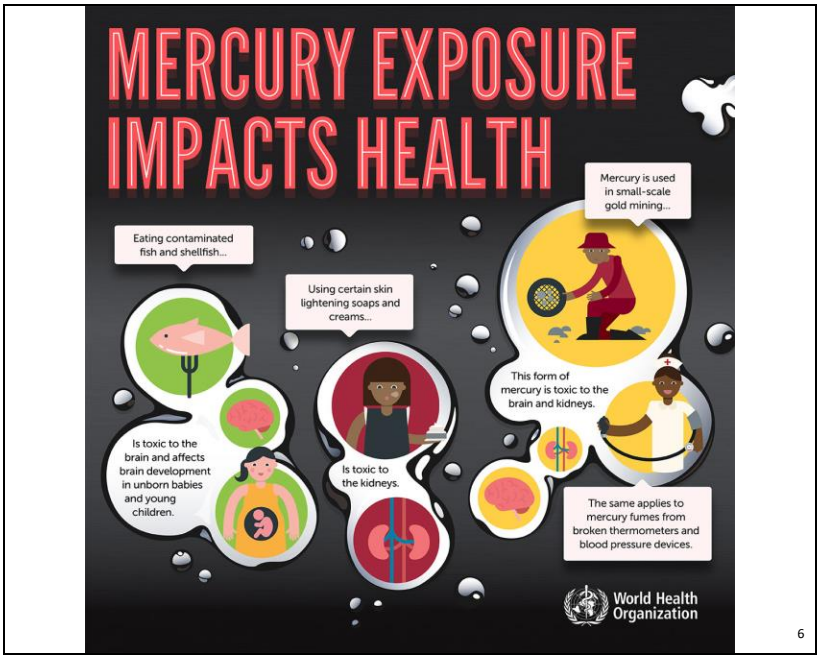

MERCURY EXPOSURE IMPACTS HEALTH
Eating contaminated fish and shellfish...
Is toxic to the brain and affects brain development in unborn babies and young children.
Using certain skin lightening soaps and creams...
Is toxic to the kidneys.
Mercury is used in small-scale gold mining...
This form of mercury is toxic to the brain and kidneys.
The same applies to mercury fumes from broken thermometers and blood pressure devices.
World Health Organization
6

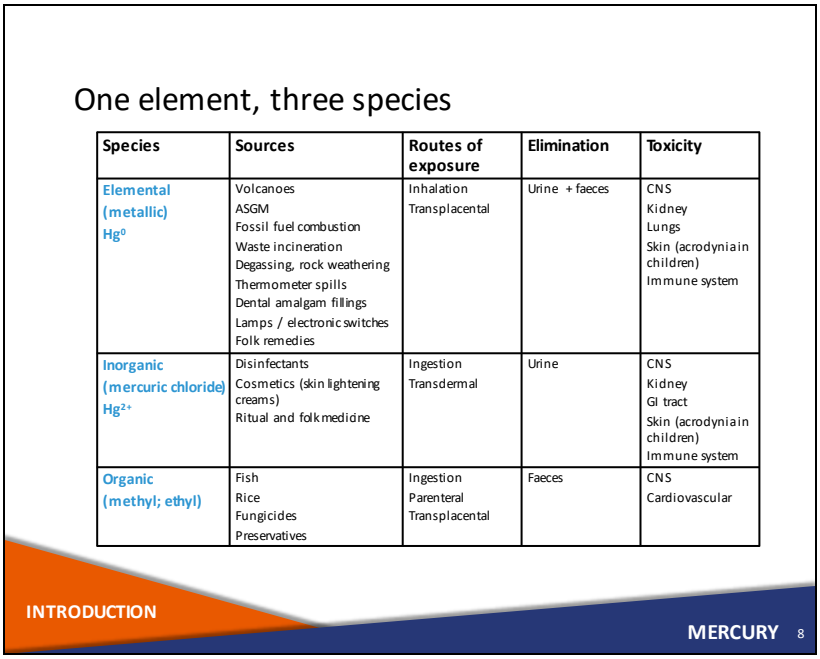
Figure:

- © WHO


WHAT IS THE MINAMATA CONVENTION?
It is an international agreement that aims to protect people and the environment from mercury.
The health sector is working to:
1. Phase out thermometers and blood pressure devices that contain mercury
2. Promote oral health and reduce dental amalgam use
3. Implement strategies to protect small-scale gold miners and other vulnerable groups
4. Monitor mercury exposure and provide health advice
Everyone can contribute:
Dispose of mercury-containing products safely.
Choose mercury-free products when possible.
World Health Organization
7

Figure:

- © WHO



Mercury is a heavy metal, an element, and therefore cannot be created or destroyed. Natural sources of environmental emissions are volcanic eruptions, rock weathering and natural combustion. As with most metals, it can exist in different forms.

Because of the complexity of mercury chemistry, it is often easier to discuss each species separately. Each of its 3 forms: elemental (or metallic), inorganic (e.g. mercuric chloride) and organic (e.g. methyl- and ethylmercury), have different toxicity profiles with different implications for children's health and development. This table summarizes the different sources of mercury, routes of exposure and elimination and main effects. Each type of mercury is toxic to the nervous system, but also a number of other organ systems are affected.

Notes:

- The relative importance of sources and particular species will vary, and so please highlight what is most important in your region.

References:

- AMAP, UNEP, 2013. Technical Background Report for the Global Mercury Assessment 2013. Oslo, Norway: Arctic Monitoring and Assessment Programme, Geneva, Switzerland: United Nations Environment Programme Chemicals Branch.
- WHO (2010). Children's exposure to mercury compounds. Geneva: World Health Organization.

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_28905