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#### E-waste and Women's Health

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#### E-waste and health



- ... contains various hazardous substances
- Unsafe recycling techniques and landfilling are common in many countries.
- Informal e-recycling is a frequent source of income.

Occupational and ecological exposures may pose <u>significant health risks</u>

E-waste workers suffer high incidences of birth defects and infant mortality.



### Hazardous Emissions from Informal Recycling Practices

- Leachates from dumping activities
- Particulate matter from dismantling activities
- Ashes from burning activities
- Fumes from "cooking", desoldering, and other burning activities
- Wastewater from dismantling and shredding facilities
- Effluents from leaching activities
- Evaporation of substances
- Revolatilization of chemicals from soil



### **Multiple Toxic Effects on Health**

- Neurodevelopmental deficits
- Damage to the blood and cardiovascular systems
- Respiratory diseases
- Skin problems
- Gastric diseases



WHO

Women and men may be exposed to the same environmental chemicals, however the type of exposure and consequences

may differ...

# Why and when may women particularly vulnerable?

**DIFFERENT, UNIQUE** 

**EXPOSURES** 

**PHYSIOLOGY** 

**SOCIAL FACTORS** 

Diet

Multiple exposures (cleaning, smoking)
During pregnancy and lactation
Occupation – at home and outside

Different metabolism, chemical storage
Hormonal cycles
Increased needs & changes in pregnancy
Particular susceptibility of reproductive, immune and skeletal systems

Powerlessness, education, poverty,... Roles within family and community



### Women's Exposures to E-Waste

- Women and their children engaged in e-recycling
- Secondary exposures
  - Home-based family workshops
  - Take-home exposures
  - Homes, play areas near dump sites (that include e-waste)
  - Breastfeeding and transplacental exposures
  - Contaminated water and foods

In Uruguay: 24 % of children with blood lead levels higher to 5 mcg/dl – burning of cables in neighboring area



#### E-waste and health: pregnant women

 A systematic review led by WHO and WHO collaborating centres looking at health outcomes related to e-waste exposure, showed that increases in spontaneous abortions, stillbirths, and premature births, and reduced birth weights and birth lengths are associated with exposure to e-waste

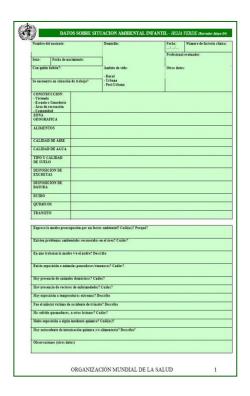


- Environment a myriad of risk factors in e-waste is a key determinant in women's health and disease over their whole life span.
- New knowledge available, advances in genetic and molecular biology, and "omics" allow to study effects linked to the environment
- Joint programmes -environment, health and gender will provide the best prevention – addressing the cause of disease rather than the cure
- Involving women in key roles and decision-making will bring in a new vision to our environments, to health and wellbeing – for women, their children, families and communities



### **Health Care Providers Play a Key Role**

- Identifying the problem
- Diagnose exposure and treat health effects
- Defining its local determinants and characteristics
- Educating colleagues and other professionals
- Informing the community and the children
- Raising the awareness of policy-makers
- Promoting the implementation of the appropriate measures
- Helping to evaluate the efficacy of preventive measures
- Surveillance of exposure and effects.





# WHO & partners e-waste and health initiative

- WHO and partners have identified through an initial consultation (2013) urgent gaps
  - communicating the problem to health actors
  - developing training methods and tools for health professionals
  - identifying needs at local level
  - encouraging specific research about e-waste
  - gathering interested stakeholders to move this issue forward around interventions that can improve the health of those affected

Upcoming WHO/NIEHS e-waste and health workshop on next steps (August, Depok, Indonesia) Prevention Strategies to Reduce E-waste Exposure in Children and vulnerable populations

