

The Changing Toxicology Landscape: Challenges and the Future of Risk Assessment

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ATSDR Mission

ATSDR protects communities from harmful health effects related to exposure to natural and man-made hazardous substances. We do this by responding to environmental health emergencies; investigating emerging environmental health threats; conducting research on the health impacts of hazardous waste sites; and building capabilities of and providing actionable guidance to state and local partners.

Achieving the Mission

- **Define the ongoing challenges**
- **Set research priorities [related to toxicology]**
- **Collaborate with partner agencies**
- **Coordinate activities through participation and support of interagency workgroups (ICCVAM, Tox21 etc)**
- **Participate at national and international conferences to harmonize methods development and chemical assessments**

The Challenge for ATSDR and our Partners

Remove the uncertainties, and improve the precision and timeliness of health/risk assessments for the communities we serve.

What are the toxicology needs for ATSDR?

- Basic biological research on cellular pathways and mechanisms at environmentally-relevant concentrations
- Improved techniques for assessing harmful effects from co-exposures (Mixtures) and cumulative exposures
- Improved methods for assessing cancer risks
- Improved understanding of risks for susceptible populations

What are the toxicology needs for ATSDR?

- Harmonized approaches for developing HGV's for emerging chemicals
- New and improved, validated tools for predictive toxicology
- Better use of probabilistic techniques for communicating 'risk' to communities
- New methods for incorporating 'big data' into health/risk assessments, esp human data (e.g., biomonitoring, epi studies, surveillance, medical health records)

Questions or comments?

For more information, contact NCEH/ATSDR
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