

Human Health Risk Assessment National Research Program

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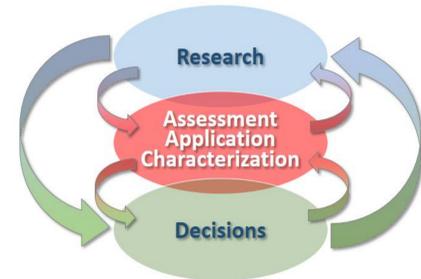
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Problem Statement → Program Vision

Problem Statement: Every day, EPA and diverse stakeholders must make decisions to protect human health and the environment from the known or potential adverse effects of a variety of exposures to environmental pollutants. The wide range of risk management decisions calls for risk assessment products and analytical approaches that tailor assessments to fit the purpose of these various decisions. Assessment products must be scientifically credible and contemporary with evolving technologies, whether based on very limited data or when integrating evidence across thousands of sources.

HHRA Vision: Risk-based decisions by EPA, state/local/tribal agencies and the public to protect public health and the environment are based on reliable, transparent and high-quality risk assessment methods, models, and data. The HHRA program supports this vision by identifying, evaluating, integrating, and applying relevant data from a variety of scientific discipline to characterize the risk from exposures of individual chemicals, chemical mixtures, and mixtures of chemicals and non-chemical stressors. The assessments generated by the HHRA program inform a variety of risk management decisions, and serve to identify critical scientific issues and advance analytical approaches for their resolution.

Role in ORD Research Program Portfolio



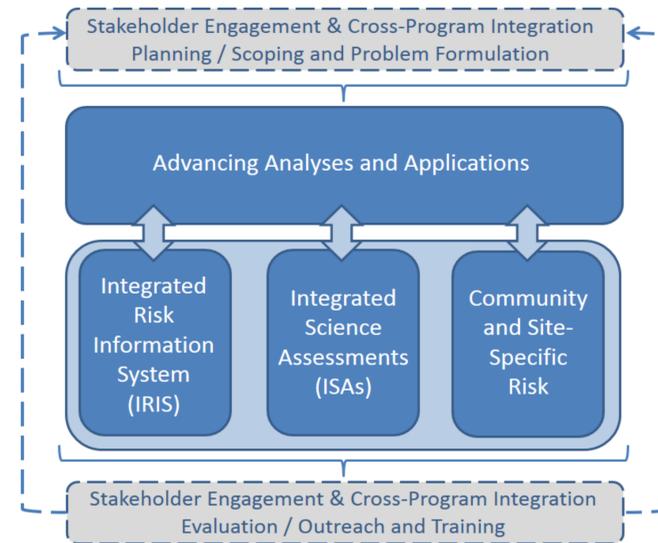
Information flow is illustrated by left-hand side arrows. Insights or new challenges identified in applications inform new assessment approaches and research (research needs illustrated by right-hand side arrows).

Pivotal Role of HHRA Program
(center red oval) with Respect to Overall
ORD Research Portfolio and Agency
Risk Management Activities

As part of the larger Office of Research and Development (ORD) strategy, the HHRA program works in concert with the other five ORD research programs and program partners to identify, analyze, translate, and characterize research as applied in its various assessment activities to support and improve environmental decisions.

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Program Structure: Assessment Products and Research Applications



The program design starts with problem formulation and scoping with stakeholders and other research programs. Development of new methods of analysis and application of these advancements into the portfolio of assessment products (IRIS, ISAs, etc indicated in the light blue block) results in identification of critical issues that inform and stimulate research and new methods development. Evaluation of the utility of these activities feeds back to problem formulation and scoping. Training and outreach activities additionally enhance stakeholder engagement.

- Objective 1: Characterize risks** — Efficiently support a range of decision making with an agile, fit-for-purpose portfolio of robust and responsive assessment products that characterize risks and potential impacts to human health and the environment;
- Objective 2: Advance and refine assessment approaches** — Refine risk assessments by identifying critical issues and advancing analytical approaches and applications to incorporate new science, methods and technologies; and
- Objective 3: Enhance and engage** — Enhance data access and management systems to support transparency and efficiency; provide outreach and engage stakeholders to ensure support, training, and tailoring of assessment priorities and products.

Topics and Projects

The HHRA program is comprised of four highly interdependent and leveraged topics and consists of nine project areas. In concert these provide priority assessment products, identify critical issues as they arise, and develop or stimulate advances in approaches and solutions to address emerging challenges, incorporate innovations, and continuously refine applications.



Topic 1. Integrated Risk Information System (IRIS)
Develop hazard and dose-response assessments for priority chemicals

- Project 1: IRIS Assessments**
- Project 2: IRIS Updates**



Topic 3. Community and Site-Specific Risk
Provide rapid response assessments and cumulative risk methods to address emergency response, Superfund site assessment, sustainability characterization, and community concerns

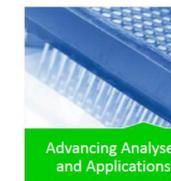
- Project 4: Provisional Peer-reviewed Toxicity Value (PPRTV) assessments**
- Project 5: Site-specific and Superfund regulatory support**
- Project 6: Cumulative risk assessment methods and applications**



Topic 2. Integrated Science Assessments (ISAs)

Characterize the health and environmental effects of criteria air pollutants and support decisions to retain or revise the National Ambient Air Quality Standards (NAAQS)

- Project 3: ISAs and scientific/regulatory support**



Topic 4. Advancing Analyses and Applications

Address science challenges affecting hazard, exposure or dose-response analyses and to incorporate scientific, technical and communication innovations that improve characterization of human and environmental impacts and application of that science to address critical environmental protection needs

- Project 7: Advancing hazard characterization and dose-response methods**
- Project 8: Applying emerging science to inform risk screening and assessment**
- Project 9: Risk assessment support and training**