RISK INFORMATION EXCHANGE (RiskIE): A DATABASE TO COMMUNICATE IN-PROGRESS RISK ASSESSMENTS

Andrea Wullenweber[1], Oliver Kroner[1], Andrew Maier[1], and Michael Dourson[1], Drew Rak[2], Phil Wexler[3], Chuck Tomljanovic[4]

[1]Toxicology Excellence for Risk Assessment *(TERA),* Cincinnati, Ohio; [2]Noblis, Falls Church, VA; [3]National Library of Medicine, Bethesda, MD; Concurrent Technologies Corporation *(CTC),* Johnstown, PA

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Abstract

The rate of chemical use and development has outpaced the development of risk values and the resolution of risk assessment methodology questions, both of which are needed by the risk assessment community. In an effort to increase output and communication of harmonized risk assessment guidance for risk values and methods, an Alliance for Risk Assessment (*ARA*) has been developed. The *ARA* aims to increase the capacity for developing risk values and facilitate the harmonization of risk assessment processes as a shared resource for diverse organizations. Central to the *ARA* is the development of a hazard and risk assessment notification system — the Risk Information Exchange (RiskIE).

RiskIE is being developed to enhance communication about in-progress risk assessment work. This database will be a National Library of Medicine (NLM), web-based system for coordinating and sharing information on human health risk assessment projects, including chemical risk value and methodology documents that are under development or revision. Identification of groups working on a chemical or issue of interest will allow stakeholders (e.g., states, provinces, tribes, industry, public interest groups, or federal agency stakeholders) an opportunity to provide input on ongoing assessments or develop collaborations with document authors. The networking created by this system will decrease duplication of effort and reduce the chances for multiple competing assessments. The system will also encourage sharing of data, which will lead to higher quality assessment documents.

Specifically, RiskIE will contain notifications about human health risk assessment projects in progress or completed projects that have either not been peer reviewed and/or are ineligible for inclusion on the International Toxicity Estimates for Risk (*ITER*) database of chronic human health risk data (www.tera.org/iter/ or http://toxnet.nlm.nih.gov/) or other public domain databases. The notification system will also identify risk assessment data gaps and will contain links to non-chemical information related to human health risk assessment, such as training modules, white papers and risk documents. It will be part of the NLM's TOXNET compilation of databases (http://toxnet.nlm.nih.gov/). In addition, it will be linked with *TERA*'s *ITER* database and will be fully searchable against other databases in the TOXNET system. This presentation provides the proposed database design. A data submission form is available online for submitting projects to the forthcoming database. A beta version of the database is currently available at (www.allianceforrisk.org).

Why do we need RiskIE?

- **Chemical use and development has outpaced the development of risk values**
  - The GAO (2006) reported approximately 20,000 new chemicals have been introduced since the implementation of the Toxic Substances Control Act (TSCA) in 1979. On average, this equates to over 700 new chemicals introduced into commerce each year.
  - The development of risk values for these chemicals is significantly slower than the pace of production. It takes years for all of the chemical testing required by various government agencies to be conducted before risk values can be developed. For example, of the 15 Toxicological Profiles published during 2006, 13 of those were updates to previously published Toxicological Profiles and only two were first time evaluations. During 2006, EPA updated one existing chemical on IRIS .
- **Risk assessment methodologies and values vary across organizational boundaries**

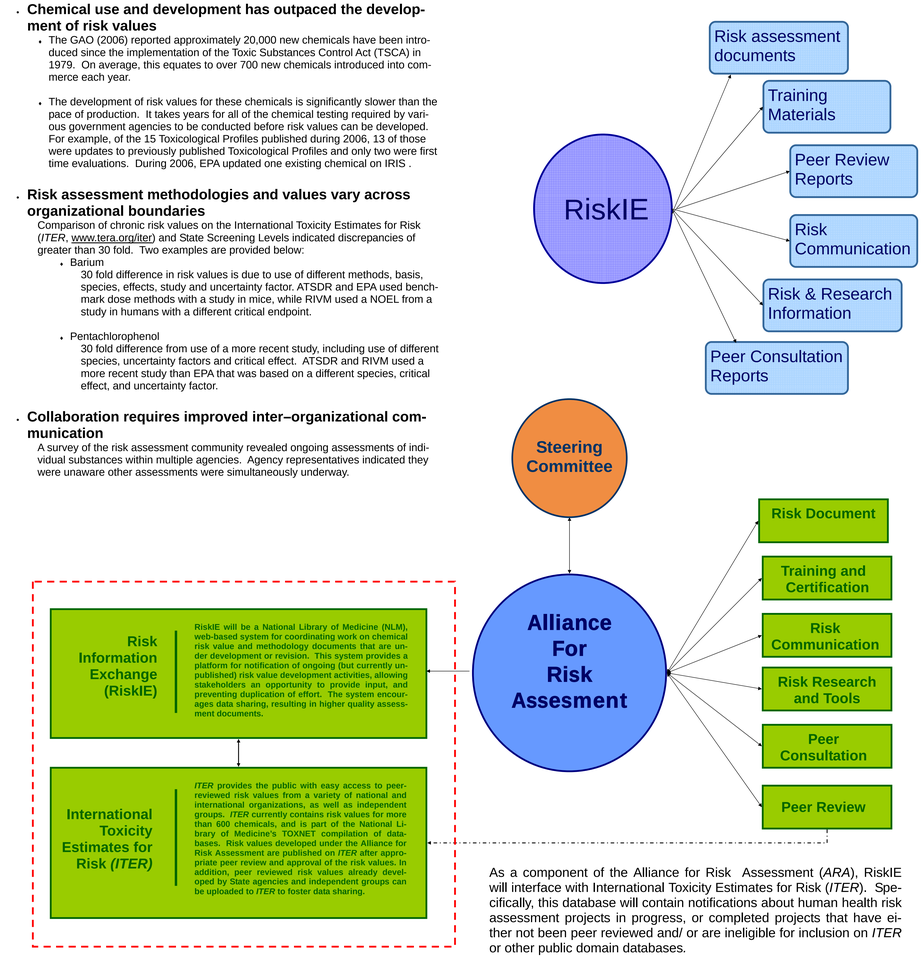
  Comparison of chronic risk values on the International Toxicity Estimates for Risk (*ITER*, www.tera.org/iter) and State Screening Levels indicated discrepancies of greater than 30 fold. Two examples are provided below:
  - Barium

    30 fold difference in risk values is due to use of different methods, basis, species, effects, study and uncertainty factor. ATSDR and EPA used benchmark dose methods with a study in mice, while RIVM used a NOEL from a study in humans with a different critical endpoint.
  - Pentachlorophenol

    30 fold difference from use of a more recent study, including use of different species, uncertainty factors and critical effect. ATSDR and RIVM used a more recent study than EPA that was based on a different species, critical effect, and uncertainty factor.
- **Collaboration requires improved inter–organizational communication**

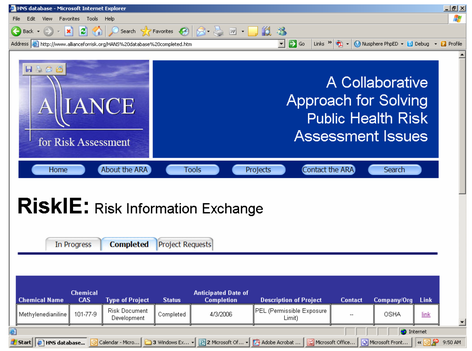
  A survey of the risk assessment community revealed ongoing assessments of individual substances within multiple agencies. Agency representatives indicated they were unaware other assessments were simultaneously underway.

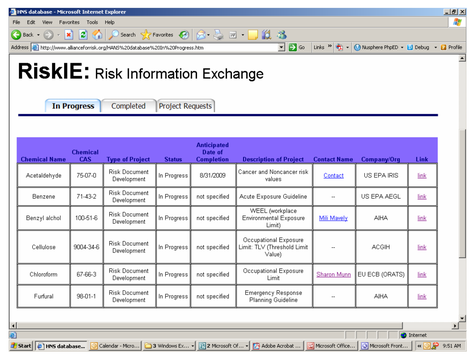
Types of Notification on RiskIE



As a component of the Alliance for Risk Assessment (*ARA*), RiskIE will interface with International Toxicity Estimates for Risk (*ITER*). Specifically, this database will contain notifications about human health risk assessment projects in progress, or completed projects that have either not been peer reviewed and/ or are ineligible for inclusion on *ITER* or other public domain databases.

RiskIE Beta





Benefits of RiskIE

. **Increase the production of risk values by improving efficiency**

. **Maximize the use of technical and financial resources by minimizing the duplication of effort.**

. **Facilitate the sharing and dissemination of risk information**

For more Information

Please visit:
www.allianceforrisk.org

Or contact
Andrea Wullenweber
Toxicology Excellence for Risk Assessment (*TERA*)
Ph:425-486-1769
Wullenweber@tera.org

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