Common Themes Heard

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Common Themes Heard

• Applying New Approaches/Tools to Address Risk Assessment Issues
  – What is included in approaches and tools?
    How are we going to implement the approaches and tools?
  – How are we going to communicate?
  – How does a chemical move from tier to tier?
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• Validation concerns
  – how confident are we that the assays can detect effects, or negate effects?
  – false negatives and false positives
  – relevance to human physiology and disease

• Need to characterize exposure/dose better

• Defining meaning of biological perturbation
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- Advantages
  - understanding of MOA characterizing interspecies and intraspecies variability
  - refine NOAEL/LOAEL, UF
  - effects at molecular level help inform pathways to disease
  - predictive toxicology; set priorities
  - mixtures testing
  - potential to be more cost effective
  - reduce animal testing & improve efficiency of testing
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• Challenges...
  – in vivo dose: ADME, point of entry, volatility
  – adverse vs. adaptive versus reversible?
  – mixtures
  – human variability/complicated disease states/windows of susceptibility
  – data management and public access to data
  – funding
  – regulatory and stakeholder communication and acceptance when standards are set
  – interpretation of the data, reproducibility
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• Solutions...
  – more complex in vitro systems to better model in vivo cell relationships
  – involve risk assessors and risk managers (translation)
  – improve through iterative process
  – align with U.S. competitiveness initiatives
  – continue the stakeholder engagement
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• For what kinds of environmental challenges would these approaches be useful?
  – Improve occupational risk assessment, herbal supplements
  – Characterize soil sampling
  – Emergency response
  – Mixtures
  – Technology transfer to streamline R&D to build better chemicals
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• Communication suggestions
  – decide what the message is and keep on it
    • “vision” versus “actual advancements”
    • carefully convey uncertainty; keep in mind the public may be fearful of uncertainty
  – lessons learned from other similar attempts
  – who are the target audiences? (get specific)
    • convey benefits and limitations/pros and cons
    • help the media get the message right
    • how do they need it organized (e.g., reporters need to find the information within 3 clicks)
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• Communication suggestions
  – be clear about inter-agency coordination/
    consistent communications
  – active communication
  – education (all levels)
  – train communities (e.g., promoters, primary care
    physicians)
  – best methods of communication will depend on
    audience you want to reach