#### Methods for Research Synthesis: A Cross-Disciplinary Approach

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## **The Problem**

Often need to estimate the value of some quantity

For policy evaluation, ...

#### Available information varies in quantity/quality

**Empirical estimates** 

Multiple high-quality estimates in relevant context Multiple estimates in other contexts

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No good estimates

#### Theory / principles

Natural laws

- **Biological regularities**
- Economic models

•••

Hunches

## **Solutions**

Analyst's judgment "Method of Bogsat" Bunch of guys/gals sitting around a table Expert committee that reaches consensus (e.g., NAS) Delphi procedure Prediction market Model calibration Structural modeling Literature review Systematic review **Meta-analysis** Expert judgment / elicitation

# Questions

Which method is best, in what contexts?

Are the methods substitutes or complements?

#### How do we define "best"?

Accuracy / reliability of estimate

Acceptability for public decisions

Public, judicial, ...

Time & resource constraints

# **Four Questions for Papers**

- 1) What criteria should be used to evaluate the applicability of different research synthesis methods to particular types of problems and data?
- 2) What particular characteristics of the problem and data make the research synthesis method(s) you address particularly well (or poorly) suited for that context?
- 3) What are the strengths and limitations of the outputs provided, and the implications for their use in policy analysis?
- 4) What are the most important research needs, in terms of methodological development, given your findings?

## **The Workshop**

Papers on website

Short presentations (15 min)

Discussion at end of each panel

Publish as special issue (*Risk Analysis*?)

Peer review & independent editorial decision

# Agenda\*

- 8:30-8:45 Welcome and Overview
- 8:45-9:15 Introduction to Systematic Review and Meta-Analysis: A Health Care Perspective
- 9:15-9:45 Introduction to Structured Expert Elicitation: A Risk Analysis Perspective
- 9:45-11:15 Panel 1: Synthesis for Air Pollutant Risk Assessment
- 11:15-11:30 Break
- 11:30-1:00 Panel 2: Synthesis for Food Safety and Toxicology
  - No replacement for Sandra Hoffmann
  - Aylin Sertkaya replaces Amber Jessup
- 1:00-2:15 **Lunch** 
  - No replacement for Kathryn Stack
- 2:15-3:30 Panel 3: Synthesis for Program Evaluation
- 3:30-3:45 Break
- 3:45-5:15 **Panel 4: Synthesis for Economic Analysis** 
  - Lisa Robinson replaces Kevin Haninger
- 5:15-5:30 Wrap-up
- \* includes changes due to Federal government shutdown.