Completeness

• Tension between risk assessment and socio-economic assessment
  – RA: Is a risk present?
  – SEA: What is the aggregate cost of impacts?
Availability of literature

• Limited

• For many health effects, single studies
  – How well do they link to quantified health impacts?
  – How completely do they describe associated values?
  – Can we infer reliability via comparison of values across different impacts?
Understanding impacts

• Completeness
• Unfamiliar impacts
• Examples
  – Productivity
  – Cancers
  – IQ loss
Capturing the value of unfamiliar impacts

- Low birth weight
- Acceptance of partial value as full value
  - IQ loss valued via loss of earnings
- Diabetes
  - Illness, + mortality component
- Differentiating impacts by severity
  - Chronic bronchitis
    - To what extent does an agent initiate disease?
    - To what extent does an agent worsen disease?
Effects on productivity

• Air pollution effects:
  – Ostro et al: lost work days
    • Valuation can account for direct costs (wages of absent workers and replacement staff, lost production), and indirect costs (poorer quality of work).
    • CBI data used in European assessment – extrapolation?
  – Hanna and Oliva: reduced labour supply
  – Zivin et al, Chang et al: reduced productivity in the workplace, ‘presenteeism’
Value of a statistical case of cancer (VSCC)

• Separation of morbidity and mortality
• Differentiation by pain and quality of life?
  – impacts of treatment
  – course of disease
  – …
  – Burden on surveyed population?
NESHAP mercury rule

- National Emission Standard for Hazardous Air Pollutants
  - Justification largely via cobenefits (PM reduction)
  - Efficiency ?
Handling uncertainty

• No discussion in the paper, beyond recognising presence of uncertainty
• Useful approaches?
  – Scientifically valid
  – Understandable by non-experts