Health Issues

To the extent that health is a driver of MPAQM, we have two considerations:

- **Guiding the strategy**
- **Measuring effectiveness**

Both of these imply the need for (and are limited by) knowledge of:

- **Which pollutants cause which effects (many effects)**
- **Relative importance (potency) of different pollutants**
- **Importance of combinations**
- **Basis for aggregating pollutants by biological impact**

Evidence and logic suggest that we are only partially prepared to answer these questions

What are the prospects for prioritizing the toxic effects of various air pollutants?

- We have some, but very limited ability at this time
- The research enterprise has not been managed to achieve this goal
- Shifting to a multi-pollutant management framework needs to be accompanied by a shift in research agendas
- There is potential for much progress, given appropriate motivation

What is the potential for tracking improvements in health effects given improvements in air quality or exposure or dosage?

- There is some, but limited potential at present
- We will need to follow gradual, rather than abrupt, changes in exposure
- Substantial improvement is needed in the magnitude, uniformity, management, and availability of national (international?)-scale exposure and health outcome data
- Laboratory studies can play a secondary, but important, role by examining specific, complementary exposure contrasts

Are statistical methods for epidemiological differentiation of pollutant species far enough developed to be used for multi-pollutant assessment?

- Present methods can provide much insight, given adequate data and incentives
- Statistical methods can undoubtedly be evolved, and will if there is market demand

Does the proposed outline for the assessment cover the material that would achieve our objectives?

- That depends your definition of objectives (definitions & scope)
- It's on the right track, but incomplete
- It starts with "part B" (accountability)
- It dances around the issues of incentives
- It doesn't portray the full role of laboratory research
- A refined outline will result from the March workshop

Potential Alternate Outline

Nature of our current understanding of the AQ-health relationship

- Nature and sources of information (CPs, HAPs, other)
- Strengths and weaknesses

Knowledge required for MPAQM (initial, eventual)

- For guiding strategies
- For assessing effectiveness

What are we prepared to do now?

- Information, knowledge, methods
- (What are we not able to do now?)

How can we improve our ability?

- Input data (exposures, effects)
- Research strategies and enabling motivations
- Reasonable expectations (10 yrs, 30 yrs)