Gulf Coast Oil Spill

Research Methodologies and Data Sources Could Be Used in Surveillance and Monitoring Activities-Perspectives

Lynn Goldman, MD, MPH

The problem

- “Health” is a broad concept, according to WHO “a complete state of physical, mental and social well-being and not merely the absence of disease or infirmity”
- Need to address health concerns:
  - Individual level – identify health risks and take actions to prevent adverse effects
  - Population level – identify special health needs for people in the region
  - Future – find ways to better protect people in future oil spill events

Challenges for Health Surveillance and Monitoring

- Unknown numbers of people exposed to unknown hazards related to the Gulf of Mexico Oil Spill. In addition to organized responders and workers there are many others in the area – volunteers, NGOs, residents, who may have opportunities for exposure and all in the area may be at risk for health outcomes related to stress and adversity
- People have already suffered and are continuing to suffer due to loss of life (the tragic deaths of 11 oil rig workers); loss of/diminished livelihood; and potential exposure to chemicals related to crude oil, oil burning and use of dispersants
- This disaster is bigger than anyone could have been predicted and no governmental agency anywhere in the world has been prepared to address health surveillance and monitoring for such a disaster.

Surveillance and Monitoring (1)

- Health surveillance
  - Baseline health status
  - Change in health in immediate aftermath and long term changes in health over time
  - Biomonitoring for changes indicative of exposures or increased risk of health outcomes. Past experience has indicated that archiving of samples of blood and urine can enable direct exposure measurements years later which in turn can inform about individual and population risks. Opportunities exist e.g. keeping newborn blood spots.

Surveillance and Monitoring (2)

- Environmental monitoring
  - Immediate environmental monitoring
  - As with biological monitoring, collection and archiving of samples for later more sophisticated analyses
  - Use of all possible sources of data

Lessons Learned from Past Experience

- Need by public health and environmental researchers to involve citizens and communities in the design and analysis of studies.
- In so doing it is important to communicate expectations about the limits of our knowledge and the challenges of proving causality between exposure and disease.
- Need for rapid data analysis and clear communication of issues related to health risks to the public in ways that are sensitive to local culture and values. Uncertainties must be clearly communicated and expectations carefully managed.
- Need for rapid identification and collection of data on baseline health status for potentially exposed individuals and communities.
- Barriers to data collection like legal agreements and confidentiality of publically collected data need to be addressed in ways that honor the privacy of individuals and protect individual data from being used in litigation without consent.

Lessons Learned from Past Experience - 2

- Need for early collection of exposure information. We know that self reports of exposure are likely to be inaccurate unless enhanced by other information like biomonitoring and environmental monitoring and modeling.
- People and communities need to understand that exposure definitions may change over time but it is important, throughout, to use objective exposure measures either via biomonitoring or use of environmental sampling and modeling.
- Local, state and federal agencies are not funded to do this. A rapid infusion of resources is needed including the ability to engage outside help from the academic community and others.