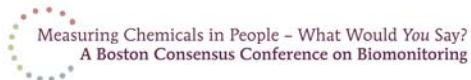


Boston Consensus Conference on Biomonitoring: Lay Findings and Recommendations

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Introduction



Biomonitoring – the practice of measuring chemicals in peoples' body fluids or tissues – has gained increasing attention as the technology has advanced and its use has expanded. Its varied uses, from epidemiologic studies to government surveillance programs to environmental advocacy, raise significant ethical, social, and political questions. The National Research Council released a report on biomonitoring in July 2006, and other technical working groups have convened to discuss these issues. In September 2006, California established the first state-wide biomonitoring surveillance program in the U.S., and other states are considering similar legislation.

One important voice missing in these conversations has been that of the general public. In Fall 2006, the Boston University School of Public Health organized the Boston Consensus Conference on Biomonitoring to gather input from the public. Consensus Conferences are used in Denmark to stimulate informed social debate on science and technology issues and to increase citizen participation in policymaking.

Objective

- Educate the general public and stakeholders about the ethical, legal, social, and scientific issues related to human biomonitoring.
- Gather input on the topic from informed laypeople and learn from their unique perspectives.

Methods

The Consensus Conference brought together 15 residents of the Boston area. This "lay panel" met over three weekends to learn about biomonitoring, hear from experts in the field, ask questions, and ultimately come to their own conclusions about the issues raised.

Assembling the Lay Panel

Panelists were recruited through ads in local newspapers and on the popular online posting board Craigslist, and through fliers and postcards. They were selected to reflect the demographics of the City of Boston.



Ad placed in Boston-area newspapers

	City of Boston (approx. %)	Panel of 15 (actual number)
Gender		
Male	50	7
Female	50	8
Household Income		
< 15,000	20	3
15 - 45,000	30	5
46 - 74,000	20	3
> 75,000	30	4
Ethnicity		
White	55	8
Black	25	4
Asian	8	1
Hispanic	14	2
Age		
18 - 34	47	7
35 - 54	36	5
55 - 74	17	3

Final make-up of the lay panel

Methods Continued

Background Meetings

During two initial weekend meetings, the lay panel learned about biomonitoring through a carefully planned program of reading, expert testimony, and discussion. Aided by a team of professional facilitators, the panelists identified and articulated their own key questions and concerns about biomonitoring.

Weekend 1 Expert Presentations

- Intro to toxicology, epidemiology, public health: Madeleine Kangsen Scammell, BU SPH
- Intro to biomonitoring: Tom Webster, DSc, BU SPH

Weekend 2 Expert Presentations

- NHANES biomonitoring surveillance program: Larry Needham, PhD, CDC
- CA biomonitoring surveillance legislation: Amy Kyle, PhD, MPH, UC Berkeley



Tom Webster presents, Weekend 1

Consensus Conference

On the third weekend, the lay panel posed the questions they had developed to a panel of six experts, including scientists, a health law attorney, and representatives from state government, a chemical industry trade group, and an environmental advocacy organization. The experts had received their questions ahead of time and answered them in short presentations. The lay panel and audience then had a chance to ask further questions.



Julia Brody presents to the lay panel



Brody, Morello-Frosch, and Roche respond to follow-up questions



Lay panelists listen to presentations



Lay panelist asks a question



Lay panelists speak with experts after their presentations

Expert Panel Members, Question Topics

- Rachel Morello-Frosch**, PhD, MPH, Brown University Department of Community Health, School of Medicine & Center for Environmental Studies and **Julia Brody**, PhD, Executive Director, Silent Spring Institute
Ethics and confidentiality; surveillance programs
- Patricia Roche**, JD, BU SPH
Ethics and confidentiality
- Roy Petre**, Senior Policy Analyst, Center for Environmental Health, Massachusetts Department of Public Health
Ethics and confidentiality; surveillance programs; education and communication; public policy
- Carol Henry**, PhD, DABT, Vice President, Industry Performance Programs, American Chemistry Council
Surveillance programs; corporate/government responsibility
- Ted Schettler**, MD, MPH, Science Director, Science and Environmental Health Network
Surveillance programs; corporate/government responsibility

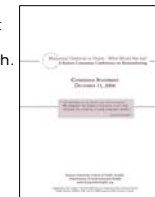
Using a facilitated consensus-based process, the lay panel summarized its findings and recommendations in a written Consensus Statement. The Statement was presented to the public on the final morning of the conference.



Members of the lay panel present the Consensus Statement to the public

Results

The Consensus Statement identifies four areas that warrant further consideration as the use of biomonitoring expands, and offers specific comments and recommendations for each.



Establishing Responsible Surveillance Programs

- State-based programs are useful in addition to the federal program.
- Oversight boards should be composed of different stakeholder groups, including affected communities.
- There is concern that communities or individuals could be stigmatized by results.

Using Biomonitoring Data to Influence Corporate and Government Behavior

- Biomonitoring data can be used to stimulate "green chemistry" and "green companies."
- Increasing trends in chemical exposure should be treated in a precautionary manner that seeks to reduce or eliminate exposure.

Educating the General Public About Biomonitoring

- Education is key to achieving broad participation in biomonitoring programs.
- Participation can be a point of entry into the health care system.
- Information conveyed should include what is known and not known about cause and effect of exposure.

Addressing Issues of Ethics, Confidentiality, and Disclosure

- Biomonitoring data should be statutorily exempted (like genetic testing) from being transmitted or shared with employers, insurers, or others as part of the medical history.
- Participants should be able to decide whether or not to receive personal results.
- When reporting results, it is important to include action steps for reducing exposure where available.

Conclusions

- The panel's findings are an important opportunity for scientists, public officials, advocates, and others to hear the voice of the public on key questions about the use of biomonitoring.
- The panelists' diverse experiences and backgrounds offer a unique and insightful perspective, and raise concerns and issues not voiced in the literature or by expert panels.
- The lay public is capable of understanding complex scientific information and making useful recommendations.
- The Consensus Conference can be adapted for use in the U.S. as a model for gathering public input on complicated science and policy issues.



Lay panelist reading Statement

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