

**MINUTES**  
**NIOSH Board of Scientific Counselors**  
**Washington, DC**  
**March 21, 2013**

**Introductions, Announcements, and Approval of Minutes**

Dr. Bonnie Rogers, Chair, called the fifty-ninth meeting of the NIOSH Board of Scientific Counselors (BSC) to order. Other Board members in attendance were Drs. David Bonauto, Kitty Gelberg, Robert Harrison, Michael Kosnett, Michael Larranaga, John Mendeloff, James Ramsay, Carol Rice, Jim Platner, and Mr. William Kojola. The NIOSH Director (Dr. John Howard), Deputy Director for Program (Dr. Margaret Kitt) and other NIOSH staff were present in-person or via Envision. In-person NIOSH attendees included Fred Blosser, Roger Rosa (Executive Secretary and designated federal official), Renee Pana Cryan, John Piacentino, Christine Branche, Sarah Felknor, Matt Gillan, and John Decker, as well as one member of the public. The minutes from the fifty-eighth meeting, convened on September 18, 2012, were reviewed and approved.

**NIOSH Director Remarks**

Dr. John Howard provided opening remarks, expressing appreciation for Board input on program review. Dr. Howard thanked Dr. Roger Rosa for many years of service and indicated that Mr. John Decker had been identified to assume the role of Designated Federal Official and Executive Secretary for subsequent NIOSH BSC meetings and activities.

**Budget:** Dr. Howard first discussed the fiscal year (FY) 2013 budget; the President's proposed FY2013 budget eliminates funding for NIOSH's 18 Education and Research Centers (ERCs) and 8 agriculture research centers. Funding levels for the 1<sup>st</sup> and 2<sup>nd</sup> continuing resolutions were discussed, which did not include elimination of the ERCs and agriculture centers. Dr. Howard also discussed the history of the sequester in Congress, and the effects of the sequester on NIOSH (a reduction of 7.0% or \$4,033,000 to Division of Compensation Analysis and Support [DCAS], a reduction of 5.1% or \$10,608,000 for the World Trade Center Health Program, a reduction of 5.0% or \$14,578,000 for the remainder of what is considered the traditional parts of NIOSH). Conference attendance and travel are the primary areas where NIOSH is trimming; objective is to reduce travel and conference attendance by 30%. Cutting is difficult because we do our work in partnerships which often requires a significant commitment of travel. Dr. Howard himself has cancelled 3 speaking engagements this month. Dr. Howard also indicated that in the midst of these cuts, planning for the FY2014 and FY2015 budgets has begun. Discussion: The BSC members asked whether NIOSH can be reimbursed by outside organizations for travel, and the answer was generally Yes if the funds are from a non-federal funding source. BSC members asked if the BSC could provide input to Congress. Answer: BSC cannot write a letter to Congress; according to its charter, it can only provide advice to the NIOSH Director. The BSC members asked if the sequester imposes budgets for future years. Answer: the budget is created for each individual year. The BSC asked if NIOSH is cutting within the agency across the board. Answer: right now, NIOSH is assessing the impact of the sequester; NIOSH is cutting travel and conferences, but other than that NIOSH has not implemented other cuts to date. The BSC members discussed cuts to ERCs, including whether the Office of the President has an understanding of ERCs. BSC members indicated that such cuts would likely have a drastic impact on occupational medicine. BSC members discussed whether BSC could write a letter or solicitation to the Office of Management and Budget. Answer: The BSC members can write anyone in their own personal capacity, but the BSC as a body can only advise the

NIOSH Director. BSC could weigh in regarding the value of these programs. It was noted that Congress has not proposed elimination of the ERCs; it is the President (through his budget) who has proposed elimination.

### **Science Updates:**

At the Society of Toxicology on March 11, 2013, NIOSH staff presented several abstracts outlining new findings on lung tumor formation in laboratory mice exposed to multi-walled carbon nanotubes (MWCNT). Mice receiving both the initiator chemical plus exposure to MWCNT were significantly more likely to develop tumors. These results indicate that MWCNT can increase the risk of cancer in mice exposed to a known carcinogen (that is, they were cancer initiators/promoters). The study did not suggest that MWCNTs alone cause cancer in mice. Journal manuscripts are in preparation.

Current Intelligence Bulletin (CIB): Occupational Exposure to Carbon Nanotubes and Nanofibers: NIOSH has almost completed the document; the CIB includes a Recommended Exposure Limit. Recommendations are based on fibrogenesis, not cancer.

NIOSH Carcinogen and Recommended Exposure Limit Policy: NIOSH has had a public meeting; a revised final draft will be distributed later this year in the *Federal Register*. Peer and public review will be requested at that time. There will be an open public docket.

### **Publications of Note:**

NIOSH continues to work with OSHA on a variety of co-branded documents, including documents on nail guns, hydraulic fracturing, and methylene chloride (bathtub refinishing).

Web publication: A new publication posted in the NIOSH website on the occupational and injury classification system, includes enhanced graphical analysis. Dr. Howard suggested that BSC members review the publication; it should help improve ability to conduct surveillance.

### **Seeking Advice:**

Dr. Howard thanked the BSC for helping to ensure that the recommendations put forth by the National Academy are evaluated for implementation, and those selected for implementation are actually implemented. Review, evaluation, and assessment of the relevance and impact of our work is as important as doing the work, and the BSC plays a vital role in ensuring NIOSH pays close attention to such reviews, evaluations, and assessments. Having said that, new issues arise, and Dr. Howard suggested several topics for advice from the BSC. NIOSH could provide the BSC with presentations on these topics to facilitate discussion.

1. Challenges in field studies settings. NIOSH does a lot of research in the field. NIOSH would like input on how to conduct participatory field research in settings where workers have a legal representative and in situations where workers are not represented.
2. Review of the 2<sup>nd</sup> Decade of NORA, ending in 2016, and the 3<sup>rd</sup> decade of NORA. We are just beginning the thought process about how best to evaluate the 2<sup>nd</sup> decade which ends in 2016, and how we should structure the 3<sup>rd</sup> decade. This could be an important topic for BSC to review.
3. Surveillance and Electronic Health Records. An overriding concern is sticker-shock of surveillance projects; unclear if NIOSH can afford large national surveillance programs. Questions include "How do we do surveillance in the 21 century?" and "How do we incorporate other sources of information

without busting the bank?” Embedded in the topic is electronic health records. David Weissman, Director of the Division of Respiratory Disease Studies (DRDS), and Eileen Storey, Surveillance Branch Chief in DRDS, have been heavily involved in these areas.

4. Research Integration. In a continuing austere budget era, it is important that we invest wisely and not duplicate research done by NIOSH and by our extramural partners. The BSC might have ideas for how to ensure that our research represents an integrated whole. Sarah Felknor, Associate Director for Research Integration and Extramural Performance, has been working on this issue.
5. Workers’ Compensation Studies. NIOSH, with BLS and OSHA and others, has hosted two workshops on the intersection between workers’ compensation and occupational safety and health. Opportunities for maximizing the use of workers’ compensation data for occupational safety and health surveillance and research—and challenges that researchers face in exploring those opportunities—have been discussed. NIOSH has developed an ongoing research relationship with the Ohio Bureau of Workers’ Compensation and is exploring another one with the California State Compensation Insurance Fund. It might be worthwhile for the BSC to look at this overall topic area, to see what we’re getting out of it from a worker health and safety standpoint, and what should be done.
6. NIOSH Center for Motor Vehicle Safety. Stephanie Pratt, Epidemiologist, who heads NIOSH’s motor vehicle safety program within the Division of Safety Research, has been heading this area. Transportation-related motor vehicles crashes are the #1 fatality risk for workers. Unlike other work settings, fatalities do not often occur on employer’s premises. This could be a potential area where the BSC could provide advice on this ongoing program.
7. Safe, Skilled, Ready Workforce Initiative. The initiative is focused on preparing all individuals for safe and healthy work, which includes worksite wellness and injury prevention programs. The initiative takes a life cycle approach to US work force, and it includes bridging the gap between risks associated with work and those associated with other aspects of daily life. The initiative would involve interface with colleges, high schools, business and labor apprenticeship programs, and general work health issues. The NIOSH Education and Information Division is heading up the initiative.
8. The hydraulic fracturing industry has been a jobs producer for the nation, with 1.5 million jobs already created. Our philosophy is that we want it to occur in safe manner. This burgeoning industry may be an area where the BSC could provide important advice.

Dr. Howard noted that this is a substantial list of items, and it is recognized that the BSC can’t address all of them at one time.

#### **Discussion:**

The Board noted that the States are struggling with many of the same sort challenges associated with the conduct of surveillance, and there may be ways to take a uniform approach to devise better way to approach surveillance.

The Board asked if research integration referred to research just within NIOSH, or does it, for example include NIEHS. Dr. Howard indicated that the current focus was primarily integration of research for funding that NIOSH provides. A question was asked whether NIOSH coordinates with NIEHS, that is, for example NIEHS is also conducting nanomaterials projects. The conduct of basic toxicological research, for instance toxicology of nanomaterials in animals won’t necessarily be different whether the context is occupational and environmental.

Discussion: EPA will be coming out with a report on hydraulic fracturing; Margaret Kitt, Deputy Director for Program, sits on a White House council which develops a research agenda. The federal government has tried to conduct matrix management, through the national nanotechnology coordination, where 35 federal agencies participate. In the case of hydraulic fracturing, the White House has decided to take a similar approach.

There were a variety of additional discussion points by BSC members, including whether there is a NIOSH inventory of intramural and extramural projects, the issue of what NIOSH is giving up by initiating new projects, the need for tracking workers as they change jobs, and the issue of the OMB Paperwork Reduction Act impeding the conduct of federally sponsored research.

The chair, Bonnie Rogers suggested that BSC members consider the various topics for those that would be reasonable for the BSC to review.

### **NIOSH Implementation of National Academies Program Recommendations**

Information on the National Academies review can be found on the following webpage:

<http://www.cdc.gov/niosh/nas/> Included on this page are the BSC reports for Construction, Traumatic Injury, and Respiratory Diseases (discussed below).

### **Construction Program Review**

The BSC Working Group, Review of Progress - Implementation for the NIOSH Construction Program, discussed their report, dated November 30, 2012, and associated scores. The working group members from the Board included John Mendeloff, Bill Kojola, Bob Harrison, and Darryl Hill. Dr. Mendeloff provided the summary to the BSC. This report contains the scores and justifications provided by the NIOSH Board of Scientific Counselors on the Construction Program's progress toward implementing select National Academies recommendations.

### **Discussion**

Dr. Mendeloff noted that only one score fell below a 4: integration efforts with OSHA. It was noted that integration depends as much on OSHA as NIOSH, and there is a possibility that the work group did not have visibility on all the integration efforts. Dr. Christine Branche, Principle Associate Director, noted that some areas are not within NIOSH's purview, for instance NIOSH would not have a role in OSHA's enforcement or regulatory efforts. Dr. Branche noted that NIOSH and OSHA have been identifying topics where NIOSH and OSHA can work together, and are actually doing quite a bit of work together. For instance, NIOSH and OSHA released a Spanish version of the nail gun guide. Jim Platner, Board Member, noted that OSHA has more website visits for documents, so these documents would then receive more visibility if they are on the OSHA website. Regarding fall prevention, Dr. Mendeloff asked if there is an evaluation component. Dr. Branche answered "Yes." Dr. Kosnett, Board Member, asked about the silica standard. Discussion ensued, and it was noted that there is a draft OSHA silica standard. The draft standard is with the Office of Management and Budget, but issues related to the standard are within OSHA's purview (and not NIOSH's). It was noted that organizations representing labor have been proponents to move the draft standard forward.

Another construction review item was related to the Research to Practice (R2P) program; but the work group was not clear about the perspective and pipeline, looking ahead. Dr. Branche will send will send a list of R2P items. A discussion ensued regarding how strong the evidence base should be before initiating a campaign.

## **Traumatic Injury Program Review**

Kitty Gelberg, Board Member, presented the Review of Progress Implementation for the NIOSH Traumatic Injury Program. The BSC working group members were Kitty Gelberg, Cori Peek-Asa, and Jim Platner. The written report was finalized November 30, 2012. This report contains the scores and justifications provided by the NIOSH Board of Scientific Counselors on the Traumatic Injury Program's progress toward implementing select National Academies recommendations.

### **Discussion**

Dr. Gelberg, Board Member, summarized the results of the review and discussed areas where the work group had recommendations, including those related to better working with other federal agencies that support traumatic injury research, ways to identify emerging issues, strategies for setting research goals, and triaging research findings that are ready for R2P.

## **Respiratory Disease Program Review**

David Bonauto, Board Member, presented the Review of Progress Implementation for the NIOSH Respiratory Disease Research program with a slide show. The BSC working group members were David Bonauto, Jackie Nowell, Michael Larranaga, and Carol Rice. The written report was finalized November 30, 2012. This report contains the scores and justifications provided by the NIOSH Board of Scientific Counselors on the Respiratory Diseases Program's progress toward implementing select National Academies recommendations.

### **Discussion**

The discussion is summarized in the slide set. Areas that were not addressed by the work group included sustainability and prioritization of activities. All of these scores were good, 4 or above. Areas of note included (1) how the respiratory disease program will have long-term surveillance plan and (2) how to quantify impact. David Weissman, Director, Division of Respiratory Disease Studies, indicated that electronic health records are part of a long-term plan.

## **Nanotechnology Research Program Review**

Dr. Carol Rice, Board Member, provided an update on the nanotechnology research program review (on-going). A few slides summarizing the progress were provided in briefing book. NIOSH is proposing 5 major goals, focused on (1) Increased understanding of new hazards and related health risks to nanomaterial workers, (2) Expanding the initial hazard findings, (3) Supporting the creation of guidance materials, (4) Supporting epidemiologic studies, and (5) Assessing and promoting national adherence with risk management guidance. Ten critical research areas have been identified (see briefing book slides). Eight specific questions were developed for the peer review panel (see briefing book). The review team was assembled and the review was conducted; at this stage, the report needs to be drafted (See process and reviewers in briefing book). Because the report is still being assembled, no definitive findings are available at this time. However, the general consensus of the reviewers is that NIOSH has taken a sophisticated approach and has garnered good cooperation from the industry. Recommendations for improvement or adjustment included enhanced emphasis on epidemiology and human studies. Most existing research has involved animal models and mechanistic studies. Some comments related to strengthening the translation of scientific findings to the workplace. Given that there are over 400 publications, there is a need to translate these research findings to the work place

practice. A suggestion was that NIOSH could possibly be more involved in safety data sheets. For example, some safety data sheets for carbon nanomaterials still refer to graphite criteria. The relationship between measurement, instrumentation, exposure metrics, and health was discussed; the advice was to avoid devoting resources on instrumentation that are not predictive of health outcomes. The BSC continued discussion on a variety of issues, including making information more accessible to workers, tracking of recommendations that actually are implemented (and also the road blocks to implementation), and R2P. BSC members also discussed the percent of the work force that has contact with nanomaterials, which industries and where such workers are located, and challenges in finding the population at risk.

### **Vote of BSC on the Three Reports National Academy Implementation Reports**

The BSC voted unanimously in favor of the Construction, Traumatic Injury, and Respiratory Diseases Implementation Reports; there were no opposing votes.

### **Formation of BSC Work Group on Structuring Labor-Management Participation in Contemporary Research Partnerships**

Dr. Howard requested that the BSC conduct analysis and provide recommendations on structuring labor-management participation in research partnerships (additional information is provided below). The BSC voted to form a work group to conduct analysis and draft findings for discussion at the next BSC meeting, anticipated in the autumn of 2013. BSC Board Members who volunteered to form the work group were as follows: Bill Kojola and Bob Harrison (Work Group Co-Chairs), Bonnie Rogers, Corinne Peek-Asa, Jacqueline Nowell, and Michael Larranaga. Dr. Howard provided the following charge to the BSC:

#### **Structuring Labor-Management Participation in Research Partnerships: Request for Analysis and Recommendations**

The National Institute for Occupational Safety and Health (NIOSH) conducts research in various work settings with differing labor-management structures. Because these structures may impact the conduct of research and possibly introduce bias that can affect results, NIOSH is interested in measures to ensure the best possible research outcomes within the context of these labor-management structures.

In partnership with Toyota Motors Engineering & Manufacturing North America, Inc., NIOSH has initiated a research study to evaluate interventions to reduce the risk of shoulder injuries in overhead automotive assembly work. This research study, along with other research studies deemed appropriate, present an opportunity for case-study analysis by the Board of Scientific Counselors (BSC).

*Charge:* The BSC is charged with providing analysis and recommendations to the NIOSH Director on how best to conduct participatory research in contemporary work settings where workers have a legal representative and those where workers do not. The NIOSH Director is especially interested in recommendations about how best to structure labor-management participation to obtain quality data. In addition, the NIOSH Director would welcome any recommendations that would further enhance the scientific quality of the planned intervention study while ensuring that worker participation in the study is entirely voluntary and that the results of the study pertaining to individual workers remain confidential. The BSC may form a work group to conduct the analysis. After developing initial recommendations, the BSC will present their recommendations to the Director in a public meeting.

#### *Background on the Study:*

The purpose of the above mentioned research study is to evaluate the efficacy of two interventions. One is an articulating tool support to unload the weight of the tool that is otherwise supported by the employee and the other is an exercise program to increase employee shoulder and upper arm strength and endurance.

The study proposal was peer-reviewed by occupational safety and health experts external to NIOSH and selected for funding through the National Occupational Research Agenda intramural competition. The study protocol has been approved by the NIOSH Institutional Review Board (IRB) for human subject research and the questionnaire for use in the study is undergoing review by the Office of Management and Budget (OMB). Pending OMB approval of the survey instrument, recruitment for the field study will begin in April, 2013. NIOSH expects data collection to conclude in December, 2013.

### **NIOSH Influenza Research Program**

David Weissman, Director of the Division of Respiratory Disease Studies, provided an overview influenza research at NIOSH, as well as introductions for subsequent speakers for this session. He provided an overview of the current influenza season and seasonal patterns, the emergence of the H3N2 variant, the association of influenza with work, and those individuals at high risk if they contract influenza. He offered several questions to the BSC for consideration (see slide set).

John Noti, Associate Service Fellow, NIOSH Health Effects Laboratory Division, gave a presentation titled "Occupational Influenza Transmission: An Overview of Past and Ongoing Projects." He discussed the NIOSH influenza sampler and projects involving evaluation of healthcare workers exposure to influenza virus. Project discussed included (1) studies involving a simulated patient exam room and spread of influenza throughout the room, (2) the relative effectiveness of N95s and surgical masks in filtering influenza particles, effectiveness of a face shield in preventing exposure when cougher and recipient were close together, (3) the effect of humidity on virus infectivity, (4) the amounts of influenza virus emitted in coughs of patients, (5) identification of aerosol generating medical procedures, (6) evaluating modes of influenza transmission using a human challenge model.

Ron Shaffer, Supervisory Physical Scientist, from the NIOSH National Personal Protective Technology Laboratory provided an overview of recent research, including (1) Project BREATHE, involving development of a B95 respirator (respirator for healthcare workers), (2) the ResPECT trial, and (3) "Why healthcare workers catch the flu" study.

Marie de Perio, Medical Officer, from NIOSH Division of Surveillance, Hazard Evaluations, and Field Studies, presented on NIOSH Research on implementation of influenza preventive measures in the workplace. The discussion included review of the 2009 Pandemic Influenza in Physicians in Training study, a NIOSH Health Hazard Evaluation involving influenza vaccination in child care workers, and a surveillance study on influenza vaccination among nursing assistants.

### **Agriculture, Forestry, Fishing Sector Update**

Brad Husberg, Senior Program Management Officer, from the NIOSH Office of Agricultural Safety and Health (OASH) provided an overview of current activities. OASH develops the research agenda and also works with the NIOSH extramural office on NIOSH offices and funded centers for agricultural disease and injury research, education, and prevention. Mr. Husberg discussed recently devised research goals for surveillance, outreach & communications, and fishing. He also discussed program reviews of the National Research Council and Institute of Medicine, as well as an independent panel review. John Mendeloff, Board Member, commented on the primary achievements of the program, including tractor rollover protection.

### **Potential Future agenda items**

The BSC members expressed thoughts, future directions, and support for the NIOSH-funded Education and Research Centers. Michael Kosnett, Board Member, volunteered to draft a letter to Dr. Howard with assistance from Bonnie Rogers.

Bonnie Rogers revisited potential topics for future BSC meetings, included the following.

- Challenges in in conduct of field research
- NORA evaluations
- Innovative ways to conduct surveillance, to reduce costs of large, traditional-type surveillance studies.
- Electronic health records
- Green jobs
- Integration of NIOSH intramural and extramural research
- Center for Motor Vehicle Safety
- Use of data from worker compensation databases
- Safe, skilled, ready workforce initiative
- Climate change
- Hydraulic fracturing

Other potential topics discussed by Bonnie Rogers:

Workforce development, education of practitioners: It was noted that NIOSH is preparing a report on workforce development.

Hydraulic fracturing: Associated exposures include silica and volatile organic compounds. It was noted the workforce is difficult to track (it is largely a contingent work force) and is unrepresented by labor unions. A question was how NIOSH and other researchers should conduct research in this setting. It was noted that the topic area interfaces with the mining sector, but NIOSH has another federal advisory committee that focuses on mining. There was also discussion about an update of a 1983 publication on safety in the oil and gas industry. The BSC members expressed interest that this would be a priority topic for the BSC to examine.

Interest was expressed in pandemic preparedness, and the occupational aspect of pandemic influenza would be an important issue. Dr. Howard noted that pandemic influenza was a large national issue involving critical infrastructure.

Safe, skilled, ready workforce: Carol Rice, Board Member, noted that if the workforce knew more about health and safety, the work force could give a lot of leverage. Dr. Howard: Paul Schulte, Director of the Education and Information Division & Rebecca Guerin, NIOSH Health Communication Specialist, could give a presentation to the BSC. It was noted that every person who enters workforce should have basic knowledge of occupational safety and health, which could be conveyed, for example, in career counseling, high schools, and apprenticeship programs. It was noted that the time may be right to see if there could be a national attention on the topic. The topic could include texting while driving, distracted driving, and excessive noise from iPods. Jim Ramsey noted that some organizations, such as the National safety council, have been working on initiatives in this area. It was also noted that there are tremendous gaps in training of practitioners, that is, the competencies of occupational safety and health professionals on the issue.

David Bonauto, Board Member, suggested a presentation from NIOSH on the 3<sup>rd</sup> decade of NORA, in particular, what would it look like. John Mendeloff, Board Member, suggested discussion on approaches to surveillance in this austere era.

Bonnie Rogers summarized the following topics as being of greatest interest to the BSC:

- Hydraulic fracturing
- Safe, skill ready workforce
- NORA evaluation and the 3<sup>rd</sup> decade
- Research integration and best use of scarce dollars
- Use of workers compensation data
- Motor vehicle safety update

The plan was to have at least 3 topics discussed for each of the next 2 upcoming meetings. NIOSH will line-up speakers. It is anticipated the next BSC meeting will be in either June or September, and then the next meeting after that in January. NIOSH staff will gather background topics on the various topics for the BSC. There is a possibility of BSC members developing work groups for each of the topics.

The BSC expressed desire to draft a letter on the impact of OMB requirements affecting quality of research. However, given the mission of the BSC, the letter would need to be directed to Dr. Howard. Additionally, interest was expressed in drafting a letter on the topic of budgetary restrictions on travel affecting research and collaboration.

The meeting officially ended at approximately 3:30 pm ET.