

**MINUTES**  
**NIOSH Board of Scientific Counselors**  
**395 E Street, SW**  
**Washington, DC 20201**  
**June 20, 2014**

---

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

Dr. Bonnie Rogers, Chair, called the sixty-first meeting of the NIOSH Board of Scientific Counselors (BSC) to order at 8:30 am on June 20th, 2014. Board members present were Dr. David Bonauto, Mr. Lamont Byrd, Dr. Bradley Evanoff, Mr. James Frederick, Dr. Michael Greenberg, Dr. Darryl Hill, Dr. Clarion Johnson, Dr. Michael Larranaga, Dr. John Mendeloff, Dr. James Platner, and Dr. Carol Rice. Dr. Kitty Gelberg was present by telephone and webcast. It was determined that a quorum was met to allow the meeting to proceed. The NIOSH Director (Dr. John Howard), Deputy Director for Program (Dr. Margaret Kitt) and other NIOSH staff were present in-person, including Mr. Fred Blosser, Dr. Christine Branche, Ms. Christy Spring, and Mr. John Decker (the Designated Federal Official). Several additional NIOSH staff members were present via Envision, webcast (Adobe Connect), or telephone bridge line. No members of public were noted, although members of the public were not required to identify themselves on the telephone bridge line. The minutes from the sixtieth meeting, convened on September 18, 2013, were reviewed and approved by the Board.

**Remarks from the Designated Federal Official**

Mr. John Decker, the Designated Federal Official and Executive Secretary for the NIOSH BSC, provided safety instructions in the event of a building evacuation or shelter-in-place. He extended a welcome to the members of the BSC with recognition of several new members (Mr. Byrd, Dr. Evanoff, Mr. Frederick, and Dr. Greenberg). Mr. Decker provided an overview of the NIOSH BSC mission, operating procedures under the Federal Advisory Committee Act, the nomination and selection process for Board members, terms for serving on the Board, the need to attain a quorum, public participation, conflicts of interest, and dates for future scheduled meetings.

**NIOSH Director Remarks**

Dr. Howard noted several personnel and organizational changes at NIOSH, including the creation of two new divisions at NIOSH (Spokane Mining Research Division and the World Trade Center Health Program), as well as a vacancy for the NIOSH Associate Director for Mining. Dr. Howard discussed the current year budget for NIOSH, noting that only \$292 million of the \$588 million is traditionally considered part of NIOSH (the remainder is World Trade Center Health Program and Energy Employees Occupational Illness Compensation Program). Board members discussed the rationale for eliminating the Education and Research Centers (ERCs) and Agriculture in the President's budget.

Dr. Howard highlighted the new NIOSH Center for Direct Reading and Sensor Technologies. The focus of the Center is to coordinate a national research agenda for direct reading methods and sensor technologies, develop guidance documents pertinent to direct reading methods and instruments, and establish partnerships to collaborate in the Center's activities. Many new

sensor technologies are available, including those that measure coal dust and explosive atmospheres in mines. Dr. Howard suggested that this could be a future BSC agenda topic. Another topic noted was the NIOSH climate change initiative, and a paper written by Dr. Paul Schulte of NIOSH was cited. The following items were also noted: The campaign to prevent falls in construction, Dr. Michael Flynn's paper in Professional Safety: Safety & the Diverse Workforce, Lessons from NIOSH's Work with Latino Immigrants, and the NIOSH document, The State of the National Initiative on Prevention through Design. Dr. Howard noted NIOSH's growing presence on social networks, including the NIOSH Science Blog, and social presence statistics for eNews, Total Worker Health subscribers, Facebook followers, Pinterest, Flickr images, Twitter, and You Tube. The science blog has been effective in condensing complicated topics into short overviews that will attract more readers compared to those who engage the full paper or topic. Board members discussed Total Worker Health™ and suggested that it would be a potential topic for a future meeting. Dr. Howard noted the 1st International Symposium to Advance Total Worker Health™, October 6-8, 2014 at the NIH in Bethesda. Board members complimented NIOSH on its participation at OSHA's silica hearings. Dr. Howard noted two new upcoming publications: A NIOSH Criteria Document on diacetyl and 2,3-pentanedione and an update to the NIOSH Criteria document on heat stress.

### **Overview and Charge to the BSC – Assessing Progress in Implementing National Academies' Recommendations in NIOSH Programs.**

Ms. Elizabeth Hofer of NIOSH presented a slide set summarizing the Charge to the BSC and a description of the process for scoring NIOSH programs. The BSC will be assessing the continued progress on select recommendations for six NIOSH programs, reviewed previously by the BSC in 2011/2012. At this meeting, the BSC will receive progress reports from the following programs: Personal Protective Technologies, Health Hazard Evaluations, and Hearing Loss Prevention. BSC work groups have been formed to reach consensus on scores, which will then be discussed and voted on by the BSC at the September 5, 2014 meeting. The following NIOSH programs will provide progress reports at the September 5, 2014 meeting: Respiratory Disease Research Program, Construction Research Program, and Traumatic Injuries. The work groups will likewise reach consensus on the scores, which will then be voted on at the November 7, 2014 conference call/on-line meeting. A list of the work group members can be found in Attachment 1 below; all work group members will consist of BSC members (that is, there are no non-BSC individuals participating on the work groups).

### **National Academies Implementation: NIOSH Hearing Loss Research Program**

Dr. James Thompson of NIOSH provided a review of NIOSH progress implementing National Academies' recommendations for the Hearing Loss Research Program.

A Board member commented that the program is missing a relationship with the Department of Transportation (DOT). The Board member asked if the program has any future plans to partner with DOT, and if they receive any data from DOT. Dr. Thompson responded that HLP has had several discussions with DOT, but they do not have any active partnership activities ongoing at this time. The program does receive data from DOT, however. Another Board member asked for a description of the engineering control technology developed by the program. Dr. Thompson indicated that the program initially identifies the component of the machinery that is the source of noise, and they use a variety of methods including matrix

inversion to analyze the transfer of that noise from machine to the worker. They then develop control technology that can be implemented in the machinery to reduce noise exposure. A Board member asked a question about the program's audiogram database, in particular regarding other data besides the audiogram recordings are being included in the database and the ultimate purpose of the database. Dr. Thompson responded that currently the database contains mostly audiograms and very little data on industry, noise source, worker information, etc. Future plans will be to collect more detailed information to include in the database. Another Board member asked if the program could provide more information on the impulse noise laboratory, and in particular, whether the program is exploring impulse noise from construction machinery. Dr. Thompson answered that research in the broader field of noise research has been very focused on continuous noise, while impulse noise has the potential to be much more damaging than continuous noise. This lab's research will allow NIOSH to measure impulse noise with much greater precision, and construction machinery will definitely be a focus for the lab. Regarding the Safe in Sound award, a Board member asked how NIOSH is involved in looking at noise from personal devices such as iPods or phones, and how the program is communicating to young workers. Dr. Thompson responded that NIOSH is looking into these devices, and this has been an ongoing effort for the Institute. The program is also working closer with the Young Worker Program to initiate early exposure prevention with young workers. In relation to a concern about audiograms, another Board member asked if there a plan for data analysis of the audiograms in the future, in particular, whether having a data analysis plan could guide the program in identifying the data they need to collect. Dr. Thompson responded that there is a data analysis plan for the audiogram database. This plan is described in publications for this project. The program also is working closely with the Department of Defense (DOD), since they have a similar database. In particular, DOD and the NIOSH Hearing Loss Prevention Program are working together to share data and explore on how to expand, structure and use this database in the future. A Board member commented that cross-sector programs can at times have issues when working with sector programs, asking whether the hearing loss prevention program has experienced this issue. Dr. Thompson noted that the HLP program focuses on 5 of NIOSH's 10 industry sectors rather than work with all sectors in order to find specific instances where support can be provided. This is a direct result of the program's National Academies Implementation Plan that the BSC approved. In relation to engineering control technologies, a Board member asked if the identified controls move to commercialization after they are developed. Dr. Thompson indicated that yes, once controls are developed for equipment, can they be manufactured and included in the sale of equipment. This has happened with several pieces of machinery in such a way that some controls become standard as part of the sale of machinery. Most examples of this happening are in mining equipment (for example, the continuous miner equipment). Finally, a Board member asked who is completing most of the work for recommendation #7 (Systematizing collaboration with regulatory partners). Dr. Thompson noted that this is mostly being done by the Division of Applied Research and Technology (DART) with assistance from others in the Hearing Loss Prevention program.

### **NIOSH Disaster Science Research Initiative to Enhance Responder Safety and Health**

Dr. Margaret Kitt, Deputy Director for Program, NIOSH, provided an overview of the new disaster science initiative (DRSI) at NIOSH. (Note: This program is not part of the National Academies review.) Dr. Kitt began the presentation with a summary of the Emergency Responder Health Monitoring and Surveillance (ERHMS) system, developed through an

interagency work group, lead by NIOSH, and ultimately published by the National Response Team. The core aspects of ERHMS are (1) covering workers in all phases (pre-deployment, during deployment, and post-deployment), (2) ensuring only qualified, trained, and properly equipped personnel are selected for deployment, (3) ensuring all receive sufficient health and exposure monitoring, (4) determining whether long-term monitoring or surveillance is needed, and (5) addressing potential long-term health effects of responders. Dr. Kitt further discussed the factors that need to be considered for longer-term studies and associated decision-making related to commencing disaster-related research. Various considerations related to biological monitoring as part of disaster research were reviewed, including a decision matrix to help evaluate when biological monitoring should be initiated. Dr. Kitt then reviewed the various types of research questions faced by NIOSH, and input needed from the BSC. This included the following questions: What additional research is needed? What are the respective roles for NIOSH and the extramural community in this effort? What is the best way to garner support from the responder community? A NIOSH-sponsored workshop on disaster science research will be held with experts in July.

A Board member initially commented that one of the greatest challenges is that the responder population is so vast and heterogeneous. With respect to focusing research, Dr. Kitt was asked how a disaster defined. Dr. Kitt responded that research could include in any of the phases of a response, but for the purposes of NIOSH's research planning, the focus could be on larger events with significant worker impact, although it is possible that initial efforts might be better targeted toward smaller events that are more amenable to initiating a research program. A Board member commented that the Department of Homeland Security (DHS) Science & Technology group is planning on conducting similar types of research and asked if NIOSH is represented on this group. Dr. Kitt and Dr. D'Alessandro indicated that Mr. Bill Haskell of NIOSH/NPPTL represents NIOSH on the group. A Board member asked how NIOSH would protect human subjects. Dr. Kitt indicated that this discussion is underway, and much of this discussion has been elevated to the Department level/Assistant Secretary for Preparedness and Response. A Board member asked if this initiative is funded by the World Trade Center Health Program (WTC). Dr. Kitt indicated that the initiative is not funded by WTC, but that input from WTC staff is being sought. A Board member asked if in-house legal counsel needs to be consulted prior to engaging in this research. Dr. Kitt indicated that legal counsel will probably need to review the initiative once it is better developed. A Board member asked how NIOSH will handle ethical issues and informed consent. Dr. Kitt indicated that NIOSH is considering these issues and have received a consult with the CDC ethics board. As part of the remaining discussion, the following items were discussed briefly: Whether disaster response includes clean-up and restoration, non-English speakers, mental health response, and the upcoming NIH-sponsored meeting on disaster research.

### **National Academies Implementation: Personal Protective Technologies**

Dr. Maryann D'Alessandro, Director of the National Personal Protective Technology Laboratory (NPPTL) of NIOSH, provided a progress update on the Personal Protective Technologies (PPT) program. The high priority issues selected for NIOSH BSC implementation tracking included (1) Participate in policy development and standards across all types of PPT, (2) Oversee certification of all PPT including an assessment of certification mechanisms, (3) Conduct outreach programs for optimal use and acceptance of PPT by workers, (4) Define

barriers to and facilitators of PPT, and (5) Develop innovative PPT designs and test methods to improve comfort, fit, and usability.

A Board member commented that there appears to be significant overlap in activities with those of the Department of Homeland Security (DHS) and asked if the program could leverage those resources in their work. Dr. D'Alessandro indicated that the program is already working with DHS to coordinate on several levels. A Board member asked if the program is partnering with the US Coast Guard. Dr. D'Alessandro indicated that the program is tying into the US Coast Guard's existing activities, but has not initiated new projects with the Coast Guard. A Board member asked if Dr. D'Alessandro could discuss the head forms. Dr. D'Alessandro indicated that the program collected head scans of thousands of workers (approximately 4,000). These scans were used to develop the new head forms that will be able to assist with more accurate respirator fitting. Over the years, the shape of US worker heads have changed (in particular, increased in size). These new head forms will be used to examine better respirator and eyewear PPE fitting. A Board member asked if respirator comfort is being considered currently in PPE research, and in particular if isolation gown integration with the glove is being examined. Dr. D'Alessandro indicated that currently no plan is in place at this time to incorporate glove fit into the isolation gown fitting. A Board member asked if there are other target groups/populations being examined for research partnering, such as LPN's and other user groups that ERC's will not reach. Dr. D'Alessandro indicated that ERC's are a new piece of the research puzzle for the PPT program. Currently worker organizations are the key to identifying issues that need research. Regarding research and engagement, a Board member commented that the closer to the direct user, the more feedback the program will receive. Dr. D'Alessandro indicated that this is a big effort for the program currently, especially at the training and education level. A Board member pointed out that the head form work that PPT is conducting could be broadly utilized by other industries, especially since the facial scans are of workers in the current population of the workforce. A Board member asked how the Office the Extramural Programs coordinates with the intramural research program in PPT. Dr. D'Alessandro indicated PPT keeps a pulse on all current grants related to PPE. Regular stakeholder meetings that include grant recipients help focus the intramural research program. PPT Program checks with grantees to ensure they do not duplicate research efforts in the intramural program. When NIOSH does not have the capability in-house to perform a needed piece of research, the program seeks to offer grants externally to complete the research.

### **NIOSH Center for Motor Vehicle Safety**

Dr. Stephanie Pratt of NIOSH provided an overview of the NIOSH Center for Motor Vehicle Safety. (Note: This program review is not part of the National Academies implementation review.) Motor vehicle crashes are the leading cause of workplace fatalities, accounting for 35% of the total. The vision for the program is "All workers who are exposed to hazards of motor vehicle traffic while working have the highest levels of protection from the risk of motor vehicle crashes and resulting injuries." The NIOSH Center for Motor Vehicle Safety recently published a new strategic plan. Its highest-level goals cover: (1) advancing identification of crash risk factors; (2) engineering and technology-based safety interventions; (3) comprehensive, evidence-based road safety management policies; (4) global collaborations; and (5) communicating prevention information to employers, workers, and other stakeholders. An executive summary of the strategic plan is included in the briefing book. The Center's strategies for impact include: (1) partnerships and information exchange with key government

partners in CDC and DOT, the NGO and research communities, and the private sector; (2) influencing management, testing, and manufacturing practices by participating on standards committees; and (3) translating research results into information products for our stakeholders.

A Board member asked if the Center for Motor Vehicle Safety also cover events involving farm equipment or other off-road equipment such as machinery used in highway work zones. Dr. Pratt indicated that when the Center cites statistics, for example that indicate that 35% of all workplace fatalities are the result of motor vehicle crashes, this includes all fatalities, on or off a public roadway, involving the driver or passenger of a motor vehicle or mobile equipment, or a pedestrian worker. However, the Center emphasizes events that occur on public roadways, which make up the majority of these fatalities. In emphasizing events on public roadways, we are still including machinery or mobile equipment being driven 'in transport' (i.e., being driven from one place to another, and not doing its usual task as a machine).

### **National Academies Implementation: Health Hazard Evaluation (HHE) Program**

Dr. Allison Tepper provided an update on progress in implementing selected National Academies' recommendations. An abbreviated slide set was presented (provided in Attachment 1), focused on five recommendations related to (1) requester diversity (need to reach underserved, small business; coordinate with agencies), (2) emerging hazards (need to be proactive), (3) HHE recommendations (ensuring quality & impact), (4) dissemination (innovation), and (5) policy (work with agencies, interaction with NORA). In terms of progress, three main points were made: (1) The program is making a good faith effort, (2) The program is responding to external factors, particularly the changing workforce demographics, including non-English speaking workers and communicating in Spanish, (3) Importance of learning and changing. The program is embracing research to practice, using that information to make adjustments. The program's most visible output, the HHE report, has changed considerably in response to the previously mentioned items. Additionally the program has embraced the concept of plain language in HHE reports. In terms of impact, the progress can be viewed through the following three considerations: (1) Impact on single workplace, where the program provides services one workplace at a time. The example cited was a poultry processing plant with a campylobacter problem. The program followed up with the plant 2 years later and learned incidence of campylobacter decreased 70%. (2) Workplace "ripples": What the program does in one plant has an effect in many others. The impact can be extended to the corporate level. Example cited was a recipient of HHE incorporated recommendations into a national training program. (3) Policy: HHE work in the area of flavorings is an example (diacetyl). In OSHA silica standard, OSHA reviewed HHEs, and HHE information also used in stakeholder input to OSHA. For the future, the following objectives for the HHE program were offered: (1) Recognize need to adapt and stay relevant, especially as it relates to changes in the workforce, (2) Monitor and evaluate impact, (3) Maintain the unique role of the HHE program as a public health resource for employers and employees.

A Board member commented that previously HHE requests were very concentrated in the Cincinnati area and asked if that stayed the same and what can we do to expand regional requests. Dr. Tepper indicated that the Midwest consistently has the most HHE requests, but she didn't necessarily agree that the requests are solely focused in Cincinnati. The program can provide more specific data to the BSC on where HHEs are occurring. A Board member asked how the program markets to the right requesters, and in particular, as the program

responds to requesters, what percent expect help because they think they have a problem, but do not. And how do you connect those requesters to the correct organizations? Dr. Tepper noted that no data are readily available on this specific issue. Referrals are made to connect agencies when warranted. For example, the program does make referrals to OSHA for consultation or enforcement, when issues are outside our expertise or authority. When recommendations are made, a Board member asked what the program does with their recommendations to affect the requesting industry as a whole, outside the one company that requests an HHE. Dr. Tepper indicated that this varies by HHE. The program does not send the HHE reports to all companies within an industry, but they do disseminate the report to the NORA sector councils, whose membership includes many industry leaders who can utilize the results. Additionally the program has begun publishing articles based on their HHE reports in trade publications that specifically target industries. A Board member asked if the mold assessment tool available online. Dr. Tepper noted that a link is available within the HHE Program's progress report submitted to the BSC. A Board member asked why some employers turn down the invitation for a follow back meeting. Dr. Tepper indicated that about 25% see no need for a phone call. A smaller percent refuse because they see no need to revisit the issues. The smallest percent don't ever respond to the program's invitation. The program has made efforts to better describe the follow-back process and give employers a heads up that they will be asked to participate in follow back activities. A Board member commended the HHE program for its work on flavorings. Another Board member asked what the for the program's procedure if during an investigation for one hazard, another separate hazard is identified that they were not originally asked to investigate. Dr. Tepper indicated that the program's investigators have an ethical responsibility to comment on hazards they identify whether they were noted in the original request. They may expand the investigation to include the new hazard if they have the appropriate experts with them, and the company and scheduling allow them to. A Board member asked if NIOSH's new Disaster Science Research Initiative might require a lot of manpower from the HHE program, and how do disaster investigations relate to the HHE program. Dr. Tepper responded that HHE staff remains a vital component to respond to disasters. The HHE staff members have experience relevant to response operations.

## **Closing Comments**

Dr. Howard: NIOSH is open to hearing BSC views on program evaluation. Dr. Paul Schulte perhaps could present at a future BSC on the model using external experts. NIOSH program staff commented that the current GPRA measures run through 2016, and it is a great time to consider program evaluation options for the future. In the next few months NIOSH will be looking at measures evaluated by OMB that would need to go into the budget request late next year. Question from BSC member: Is there a specific numerical goal on the current evaluation? Program staff: The average prior scores for the programs were about 4. Sometimes NIOSH will make allocations based on reviewers' comments. However, we don't want to cut something that is succeeding, rather than something that is not doing as well.

Future BSC meetings are scheduled for September 5, 2014 and November 7, 2014. The meeting was adjourned at 3:00 p.m.

## Certification Statement

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the June 20, 2014, meeting of the NIOSH Board of Scientific Counselors, CDC are accurate and complete.



M.E. Bonnie Rogers, MPH, DrPH, COHN-S  
**Chair, NIOSH Board of Scientific Counselors**

July 21, 2014  
**Date**



## Attachment 1

### BSC National Academies Workgroup Members

---

Each NA workgroup requires a minimum of three (3) members. This document includes a list of all workgroup members by program area. Each member's affiliation is listed under their name.

#### June 20th BSC Meeting:

##### Hearing Loss Prevention –

Michael Larranaga, C.I.H., C.S.P., P.E., Ph.D.  
Professor and Department Head  
School of Fire Protection and Safety  
Oklahoma State University

Clarion E. Johnson, M.D.  
Medical Director  
Exxon Mobil Corporation

James D. Ramsay, Ph.D., M.A., C.S.P.  
Chair, Department of Security Studies and International Affairs  
Embry-Riddle Aeronautical University

Mr. James Frederick  
Assistant Director, Health & Safety Department  
United Steelworkers

##### Personal Protective Technologies –

Michael I. Greenberg, M.D., M.P.H.  
Director, Division of Medical Toxicology  
Drexel University College of Medicine

Corinne Peek-Asa, M.P.H., Ph.D.  
Professor  
Departments of Occupational and Environmental  
Health and Epidemiology  
University of Iowa

Carol Rice, Ph.D., C.I.H.  
Professor Emerita  
Department of Environmental Health  
University of Cincinnati

Bonnie Rogers, M.P.H., Dr.P.H., C.O.H.N.-S.  
Professor and Director of Occupational

Safety and Health  
University of North Carolina  
School of Public Health

Health Hazard Evaluation –

Kitty H. Gelberg. Ph.D., M.P.H.  
Director, Bureau of Occupational Health and Injury Prevention  
New York State Department of Health

David K. Bonauto, M.D., M.P.H.  
Associate Medical Director  
Safety and Health Assessment & Research  
Prevention Program  
Washington State Department of Labor and Industries

Clarion E. Johnson, M.D.  
Medical Director  
Exxon Mobil Corporation

James D. Ramsay, Ph.D., M.A., C.S.P.  
Chair, Department of Security Studies and International Affairs  
Embry-Riddle Aeronautical University

**September 5th BSC Meeting:**

---

Construction –

Bradley Evanoff, M.P.H., M.D.  
Professor of Medicine and Occupational Therapy  
Washington University School of Medicine

Darryl C. Hill, Ph.D., C.S.P.  
Executive Director, Health & Safety  
Global Employee Relations  
Johnson Controls Inc.

John Mendeloff, Ph.D.  
Professor  
Graduate School of Public and International Affairs  
University of Pittsburgh

Traumatic Injury –

Kitty H. Gelberg. Ph.D., M.P.H.  
Director, Bureau of Occupational Health and Injury Prevention  
New York State Department of Health

Corinne Peek-Asa, M.P.H., Ph.D.  
Professor  
Departments of Occupational and Environmental  
Health and Epidemiology  
University of Iowa

James W. Platner, Ph.D., C.I.H.  
Associate Director for Science and Technology  
Center to Protect Workers' Rights: The Center for  
Construction Research and Training

*Respiratory Disease Prevention -*

David K. Bonauto, M.D., M.P.H.  
Associate Medical Director  
Safety and Health Assessment & Research  
Prevention Program  
Washington State Department of Labor and Industries

Carol Rice, Ph.D., C.I.H.  
Professor Emerita  
Department of Environmental Health  
University of Cincinnati

Michael Larranaga, C.I.H., C.S.P., P.E., Ph.D.  
Professor and Department Head  
School of Fire Protection and Safety  
Oklahoma State University