

NATIONAL BIODEFENSE SCIENCE (ADVISORY) BOARD MINUTES

The National Biodefense Science Board (NBSB) was convened via WebEx/teleconference call (phone line: 1-888-469-1549, leader passcode: 84692; international line: 1-773-799-3992, leader passcode: 84692) and in accordance with the provisions of Public Law 92-463, the meeting was open to the public. The public was encouraged to [provide comments](http://www.phe.gov/NBSBcomments) to be posted on the NBSB website www.phe.gov/NBSBcomments. As of 2:05 P.M. EST on December 13, 2018, no comments have been received.

Call to Order (Dr. Kellman)

Dr. Maxine Kellman called the meeting to order at 2:00 P.M. EST on December 13, 2018. She conducted a roll call to ensure there is a quorum and recited the Federal Advisory Committee Conflict of Interest Rules. She also announced the two key topics of discussion for the meeting:

1. Implementation of the National Biodefense Strategy (NBS)
2. Improvements to the National Disaster Medical System (NDMS)

Alternate Designated Federal Official, National Advisory Committees: Maxine Kellman, DVM, PhD, PMP

NBSB Voting Members Present: Prabhavathi Fernandes, PhD, NBSB Chair; Carl Baum, MD, FAAP, FACMT; John Benitez, MD, MPH; Virginia A. Caine, MD; Mark Cicero, MD; H. Dele Davies, MD, MSc, MHCM; Donald G. Heppner, MD; Elizabeth Leffel, PhD, MPH; David Schonfeld, MD, FAAP; and Joelle N. Simpson, MD, MPH

Ex-Officio Members/Alternates: Randall L. Levings, DVM, PhD; Joanna Prasher, MD, PhD for RADM Stephen Redd, MD

HHS/ASPR Participants: CAPT Theresa Lawrence, PhD; Daniel Dodgen, PhD; Thomas Greer, MSW; Diana Hadzibegovic, MD, MPH; Jose Velasco, MSW; CDR Christopher Purdue, MD, MPH; Mallory Epting, MS; Matt Sharkey, PhD; Robin Moudy; Mark Libby; Tara Holland; Torrance Brown, DrPH, MPH; Ana Ayala; LCDR Clifton Smith, MPA; Darrin Donato; David Howell, PhD; CDR Ibrahim Kamara, HSc.D, MPH, MSc ; John Tarangelo, MS; Paul Petersen

Public Attendees:

Allison Mistry	Booz Allen Hamilton
Amy Nevel	HHS ASPE
Jason Baker	SNS
Kelly Ferguson	Venn Strategies
Laura	Lewis Berk
Madeline Curvis	American Academy of Pediatrics
Monique Mansoura	Mitre

Natalie Sullivan	George Washington Hospital
Norma Quintanilla	National Center for Disaster Medicine & Public Health
Randy	Wire Patton
Rebecca Wolskiel	Ridge Policy Group
Robert Bradley	Study on Biodefense
Ryan Harmonick	Booz Allen Hamilton
Thomas Phillips	Batelle
Tom	National Laboratory
Victor Schneider	NASA
William Neely	Williams & Jensen
Zaida Ricker	Blue Ribbon Study Panel

Opening Remarks (Dr. Fernandes)

Dr. Prabha Fernandes announced that the President released *the National Biodefense Strategy (NBS) Report* and a Presidential Memorandum entitled “Support for National Biodefense” in September 2018. The report describes the background, the vision, the goal, and the process of the NBS and the Presidential Memorandum lays the next steps, the milestones, and the governance of the NBS. The strategy defines the way the United States (U.S.) will combat bioterror attacks and emphasizes capacity building to ensure the U.S. can adequately prevent and rapidly respond to bio-incidences.

The Assistant Secretary for Preparedness and Response asked NBSB to review the 2018 *NBS Report* and Presidential Memorandum and respond to a number of questions. The NBSB’s All Hazards Science Response Science Working Group and Disaster Medicine Working Group took up the task. Their responses/recommendations will be presented today and their draft reports will be posted on the NBSB website.

NBSB Report on the Implementation of the NBS (Dr. Leffel)

On behalf of the NBSB’s All Hazards Science Response Working Group, Dr. Leffel presented the responses/recommendations to the three (3) HHS/ASPR inquiries.

Question #1: How can the federal government best coordinate with non-federal stakeholders?

Working group members recommended **Option # 1** out of the three (3) potential responses (listed below), as it is the most cost-effective, most quickly executed, and most likely to reach the largest and most diverse group of stakeholders. An appendix with three (3) examples of scenarios for Option # 1 was included in the report.

Options:

1. *Issue a Request of Information (RFI) to solicit feedback from non-federal stakeholders (e.g. local government, academia, etc.) utilizing a posited scenario to focus responses.*
2. Open up a targeted outreach campaign to seek feedback from industry, academia, state and local governments, and public non-governmental groups.

3. Sponsor an in-person stakeholder's meeting with streaming webinar capability to review the NBS, learn what others are doing, and solicit input on how to best coordinate across federal stakeholders.

Question # 2: What are the most significant challenges related to implementation of the NBS?

Working group members identified the following challenges:

1. Developing a comprehensive communication plan to promote awareness of the NBS among all levels of stakeholders (e.g. federal, state, and local).
2. Identifying both minimal and optimal resources and the processes that will be required to access those resources during implementation.
3. Defining metrics of success for each objective that are specific, quantifiable, and timely; and eventually using these metrics to monitor and report implementation progress.

Using the metrics devised to identify and resolve gaps and assist in problem-solving.

Question #3: What are the highest priority actions necessary to implement the objectives of the NBS?

Working group members concluded that it is too premature to make recommendations on prioritization of implementation actions and recommended two (2) action-items to be completed before actual prioritization should occur.

1. Focus on the completion of the Biodefense Coordination Team's (BCT) strategic goals and objectives metric mapping process, tentatively to be completed in January.
2. Utilize a tiered approach in the metric mapping process.

Questions, Answers, and Comments (Dr. Kellman)

- **Question:** Does the final recommendation (option # 1) for question # 1 include local public health or just the government public health? (Dr. Caine)
- **Response:** It includes local public health well. (Dr. Leffel)
- **Question:** Can we assume that the state/local public health entities have the way to reach or work with different ethnic groups? (Dr. Caine)
- **Response:** Working group members suggested engaging not only with academia and state/local government, but also with professional and non-government organizations at all levels. (Dr. Leffel)
- **Comment:** The Presidential Memorandum "*Support for National Biodefense*" clarifies that this is a national strategy, not only a federal strategy, and it encourages engagement with our non-federal stakeholders. (CAPT/Dr. Lawrence)

NBSB Vote on the NBSB Report on the Implementation of the NBS (Dr. Kellman)

Recommendations passed by a majority vote.

NBSB Report on Strategic Improvements to the NDMS (Dr. Davies)

On behalf of the NBSB's Disaster Medicine Working Group, Dr. Davies presented recommendations to the seven (7) HHS/ASPR questions.

Question #1: What are the common data elements within an electronic medical record that can be collected and used to guide decision-making in a disaster?

Response/Recommendations:

The working group identified common data elements in four (4) groupings/categories:

1. Data for Identification, Long-Term Tracing, and Possible Family Reunification
2. Data for Specific Management of Current Illness, Infectious Disease Risk
3. Data Needed for Follow-Up
4. Database/Formulary Considerations

Question #2: How can NDMS data be useful to the broader disaster research community?

Response/Recommendations:

The working group recommended that a NDMS database can be useful to

- Predict medical and social outcomes of disasters
- Predict elements of an effective response strategy and response needs,
- Identify communication needs
- Manage the 'ripple effect' on patient transport to local/regional medical centers
- Measure time to care (throughput) and transfer times
- Identify different types of resources that may be needed during different types of disasters

The database should have editable fields that can be used for new research topic ideas that arise during disasters.

Question #3: Related to the September 12, 2018 NACCD/NBSB Joint Future Strategies for Children Report, Strategy 8, how does the Board define the "unique needs (and data sources) for children"?

Response/Recommendations:

The working group identified three categories of unique needs:

- Physiologic and anatomical needs
- Patient tracking needs
- Mental/emotional needs

Question #4: Does the NBSB have recommendations for the “creation of a pre-positioned data set” that could be incorporated with NDMS data?

Response/Recommendations:

The working group recommended including common data elements already mentioned in response to question # 1.

Question #5: What capability should NDMS have to export EMR/HIR data into healthcare facilities systems?

Response/Recommendations:

- There should be common use and adoption of known standards.
- NDMS should use communication protocols as defined by the Health Level 7 (HL7) International standards using Continuity of Care documents (CCD).
- NDMS should use robust application programming interface (middleware) to enable connection to different systems including eHealth and regional HIE systems.
- NDMS should use technology that will allow the mass queries that would likely be needed during disasters.
- There should be enough computing power to allow massive querying of multiple EHRs at once.
- Legal and technical considerations for data sharing should be addressed upfront.
- If linkage of NDMS to other databases is not feasible, NDMS should ensure that data is exported into a portable format (e.g., flash drive and print copy that can be provided to families).

Question # 6: Any additional data elements NDMS aims to collect is dependent upon the research questions we want answered. For example, does NDMS want information on diagnoses, lab results, etc. or the ability to identify gaps in services/care provided?

Response/Recommendations:

- Collect data that can help inform decision-making during disaster response.
- Enable access to insurance information databases to track different types of treatment associated with the catastrophe and track over the long-term.
- Track demographics (e.g., race, ethnicity, religion, zip codes) to help understand how different groups are managed and their long-term outcomes.
- Collect data elements that can help management of future disasters, including time to provide service, time to discharge, and time to get resources into disaster areas.
- Identify elements that were associated with successful implementation of disaster plans versus lessons that could be learned from plans that were not as successful.
- Clearly identify people with disabilities and others with access and functional needs (especially mobility, cognitive, and communication issues) as a special group.

- As separation from family pets can be traumatic, “chipping” the pets may be of value for successful reunion. The family/child’s barcode or chip should also be linked to the pet’s chip.

Question # 7: What are possible topics for ongoing research to help NDMS?

Response/Recommendations:

- ID tagging of children (similar to what is done in hospitals) to get downloadable information to link to their guardians in the future.
- Development/use of bar codes that facilitate information download on the child.
- Other methods of retrieving such data with an informal power source.
- How to link needs with available resources, especially at remote sites and deliver those needs in a timely fashion.
- Use of drones for moving goods, including food and water, when transportation mechanisms are disrupted.
- Could such materials be distributed while preserving the cold chain for vaccines or medications that need it?
- A low technology supply chain system should be developed to enable linking of resources to movement of such resources to where they are most needed.
- Provide resources to create and study opportunities for the best practice in managing “Dark Sky Events” (events in which there is total power disruption that could take weeks to months to restore)
- Study how such events impact medical care:
- What impact does sleep deprivation caused by displacement over an extended period have on behavioral health?
- What impact does such deprivation have on morbidity and mortality?
- What impact does the lack of food and fluids caused by displacement over an extended period have on behavioral health and long-term outcomes?
- Re-evaluate the need for specific countermeasures during disasters—do we currently have the right mix and right number of components?
- Members of the NBSB would be willing to help identify other potential research questions.

Questions, Answers, and Comments:

- **Question:** How do you envision the process of tagging children? During a disaster, at the hospital, at the emergency shelter, or at the parents’ house? (Dr. Fernandes)
- **Response:** The working group members reviewed all these as possibilities (e.g., ensuring that the technology is made available routinely for families in high risk regions so parents will be able to tag their kids if an emergency occurs. (Dr. Davies)

- **Question:** What happens to those communities in which English is not the primary language and which have low socioeconomic levels? (Dr. Caine)
- **Response:** The work group members addressed this issue somewhat by addressing demographics, and recommending identification of social workers who are culturally competent be made available during disasters. (Dr. Davies)
- **Comment:** It was recommended to include the following research question: “Study the economic/social/behavioral characteristics of individual staying in shelters for a long period of time.” (pending Dr. Davies’ final version)

NBSB Vote on the NBSB Report on the Strategic Improvements to the NDMS (Dr. Kellman)

Recommendations passed by a majority vote.

ADJOURNMENT (Dr. Kellman)

The meeting adjourned at 3:00 P.M. EST