BOARD OF SCIENTIFIC COUNSELORS (BSC)
OFFICE OF PUBLIC HEALTH PREPAREDNESS AND RESPONSE (OPHPR)
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

SUMMARY REPORT
JANUARY 3, 2012 WEB CONFERENCE

Table of Contents	Page
Welcome and Introductions	3
OPHPR Strategic Plan: Update & Discussion	3
Review of Federal Advisory Committee Act (FACA) Conflict of Interest Issues	5
Report to BSC on External Peer Review of Preparedness and Emergency Response Research Centers (PERRCs)	5
Discussion and Recommendations	7
Comments from Liaison Representatives	9
Public Comment Period	10
BSC Vote on Recommendations for PERRC Review	10
Adjourn / Certification	12
Appendix A. OPHPR BSC Membership Roster	13
Appendix B. Participant List	16
Appendix C. OPHPR Strategic Plan: Objective 4	19
Appendix D. OPHPR Strategic Plan: Objective 5	21
Appendix E. Acronyms	23

Tuesday, January 3, 2012

Welcome and Introductions

Daniel M. Sosin, MD, MPH; Deputy Director and Chief Medical Officer, OPHPR and the Designated Federal Official (DFO) for OPHPR's BSC called the BSC web conference to order.

Ali S. Khan, MD, MPH, U.S. Assistant Surgeon General (Ret) and Director, OPHPR welcomed all participants to the web conference and stated that the purpose of the meeting was to deliberate and vote on recommendations from the external peer review of OPHPR's Preparedness and Emergency Response Research Centers program. He indicated that there are big plans for the year, and he looked forward to hearing the program responses to the Board's summary recommendations .

Dr. Sosin then took roll call of the BSC Members and Ex Officios to determine if there was quorum. BSC and Ex Officio members participating by phone and web conference and in-person CDC and other attendees and their affiliations are listed in Attachment A.

OPHPR Strategic Plan: Update & Discussion

Dr. Sosin asked voting BSC participants to share their thoughts on the working group process intended to detail feasible strategies and initiatives to address Objectives 4 (Advance surveillance, epidemiology, and laboratory science and service practice) and 5 (Increase application of science to preparedness and response practice) of the OPHPR strategic plan released September 2011 (available at: http://esp.cdc.gov/sites/OPHPR/OD/CO/Published%20Documents/A_Natl_Strategic_Plan_for_Preparedness_20110901A.pdf) and on the draft strategies for the two objectives (Attachments B and C). Meeting participants had been given copies of the strategic plan and Attachments B and C prior to the web conference.

Dr. Sosin reviewed the strategic plan implementation working group process. Each strategic plan objective is being addressed by a specific workgroup with a designated senior CDC leader to increase agency buy-in, an OPHPR sponsor, and 8 to 12 workgroup members representing subject matter experts from across CDC. Each workgroup will prioritize and develop feasible strategies and initiatives for the coming year that can be tracked. Each workgroup's product will be individually reviewed by external experts and revised before it is shared with CDC leadership. This workgroup process will all be completed over the next 2 to 3 months. A portion of OPHPR funds will be competitively awarded to address these science opportunities.

Dr. Sosin welcomed comments on process or information provided describing each Objective from Board Members, Ex Officios, and then Liaison Representatives. Their comments were as follows:

- Objectives 4 ("Advance surveillance, epidemiology, and laboratory science and service practice") and 5 ("Increase application of science to preparedness and response practice") should address the need to improve the capacity for feedback to local, states and national

levels for ongoing events. For example, How are you going to dynamically decide where resources need to be sent across the country or in states, in the wake of an event? More attention should be paid to the supply side.

- The content for Objective 4 is missing a dynamic perspective. During an epidemic, pandemic, or other outbreaks, there are emerging events and unanticipated data regarding effectiveness of strategies or risk. The dynamic perspective needs to be more salient. There needs to be improved capacity to identify, analyze and communicate about anomalies or unexpected data from surveillance and epidemiology activities. This dynamic component also relates to social disparities in groups; a process to identify effectiveness of intervention was recommended. There is a need to respond dynamically to training needs with respect to preparedness.

- Three members reported that the strategies provided for Objectives 4 and 5 were good or very good, and "well thought out".

- More clarification is needed regarding how point of care rapid diagnostics are purposed.

- Strategy 4.1.b "Leverage Meaningful Use provisions of ARRA/HITECH to increase electronic laboratory reporting and completeness of surveillance reporting from clinical sources." is a great idea. There's a lot of money in the system for this but it's all going to clinical care and not public health. In a time of scarce funds, this could be a good way to get better access to information during outbreaks.

- Regarding Strategy 4.1.d., "Improve validation of volume surveillance signals. (BioSense)", has BioSense been reduced in its ability to do new things given the budget cuts?

- Strategy 5.2.b.," Establish a process to identify practice-driven priorities for research (to include consideration of threat assessment, epidemiology/surveillance/laboratory sciences and service, medical countermeasure uptake, and community resilience)," is really important. It would be useful to know by what means do we set up our research requirements in this area of work. I think the PERRC Program is already strong in this area, but it's a very important tenant for a science program.

- One member commented that leveraging the meaningful use of electronic health records and rolling-out the benefits of EHRs to regional, state and national levels in lieu of the funding cuts still needs to be figured-out.

- Question to CDC: Can you share with us where in the timeline you see using more vigorous external partner opinion and influence?

CDC's Response: Implementation of strategic planning is ongoing. This process to define feasible strategies and initiatives is designed to give us some idea with regards to our fiscal allocation process and identify areas of priority for near term and short term. We will have representative input from national organizations and subject matter expertise at the individual level to comment on areas that we've chosen to focus on in the next year.

Review of FACA Conflict of Interest Issues

Dr. Sosin reviewed the description of the duties of the BSC Board per the charter. Dr. Sosin confirmed with the BSC Members whether they had identified any conflicts of interest with the external peer review of the PERRCs. Prior to the web conference, Dr. Sosin did discuss with CDC leadership the issue of potential conflicts of interest that BSC members with different affiliations to PERRCs might have. Dr. Burke did have a conflict of interest and therefore was not participating on the call. Drs. Palacio, MacKenzie, and Inglesby were not considered to have conflicts of interest based on their affiliations with the PERRCs or their academic institutions.

Dr. Sosin indicated that the workgroup will not be deliberating on funding for any individual PERRCs thereby limiting the risk of a conflict of interest for this review. Dr. Sosin asked that if in the process of the day's deliberations, a BSC Member believed that they did have a conflict of interest, s/he should draw that to his attention so that it can be resolved.

Report to BSC on External Peer Review of Preparedness and Emergency Response Research Centers (PERRCs)

Ellen J. MacKenzie, PhD, OPHPR BSC Member and Co-Chair, BSC Ad Hoc PERRC Mid-Course Review Workgroup provided an overview of the findings of the Committee and their recommendations. The PERRCs were established as a result of mandates by PAHPA to improve public health preparedness systems. In 2008, CDC awarded $10.9 million a year to seven accredited schools of public health for a five-year program. In 2009, they awarded an additional $2.7 million a year to two additional schools; therefore nine schools have received PERRC funding.

The PERRC Funding Opportunity Announcement (FOA) asked for a mid-course review between years 3 and 4, and the Workgroup was charged with that review. They looked at seven PERRCs, who were 2.5 years into their funding cycle and two PERRCS, who were at 1.5 years. Also, during the review, the Workgroup was informed that funding for the PERRC program may end after FY2012.

Dr. MacKenzie reviewed the objectives of the mid-course review (Attachment D).

The Workgroup was comprised of seven members, who are both researchers and end-users of research. Workgroup Members were Drs. Ellen MacKenzie (Co-Chair), Louis Rowitz (Co-Chair), Henry Anderson, Gregory Evans, Linda Kupfer, Jane Kushma, and Randolph Rowel. The Workgroup had a Pre-Meeting Webinar on July 29, 2011 and an in-person meeting on August 9-12, 2011. Post-meeting activities include today's web conference vote on the recommendations; an April 2012 BSC meeting at which the PERRC program will provide a formal response to recommendations, and, annually, the PERRC Program will report to the BSC on implementation of recommendations until the BSC votes that all recommendations have been adequately addressed.

Workgroup Members found that the in-person meeting, in August 2011, was extremely well-organized. They had quite a bit of time for discussion with PERRC representatives,

stakeholders, and were given a comprehensive review prepared by Dr. Mildred Williams-Johnson and staff that the Workgroup found to be very helpful.

Overarching Findings

- The PERRCs are the only research program in the U.S. Department of Health and Human Services that uses a public health systems approach to address complex and rapidly changing issues in preparedness and response. They are also unique in that they conduct multidisciplinary research to yield results for near-term improvements in preparedness and response in areas recommended by the IOM.
- Public health preparedness and response research is a relatively new area of investigation and as such requires core funding to grow research capacity. For young investigators who commit to a research career in this field, funding opportunities are needed to encourage their work and keep them engaged.
- It seems clear that the cost related to emergencies will increase in the future. In the view of the working group, research in this area can help control and even reduce costs.
- Research being done by the PERRC Centers will benefit the public health system as a whole in that many of the research findings have relevance for the field of public health in general.

Nineteen recommendations (Attachment D) were presented in one overarching category (recommendations 1 and 2) and eight topical areas: PERRC pilot projects (recommendations 3 and 4), new investigators (recommendations 5-7), advisory committees (recommendations 8 and 9), collaboration across centers (recommendation 10), progress in individual research projects and evidence of impact (recommendation 11), impact of the research (recommendations 12-15), dissemination and translation of research (recommendations 16-18) and metrics used for evaluating the PERRCs (recommendation 19).

During the review of the recommendations, the following comments were shared:

- Although the PERRCs are to be commended for establishing highly effective Advisory Committees, several gaps in membership across several of the PERRCs were identified.
- Individual PERRCs have been productive. Moving forward, additional cross-center collaboration and communication will enhance the overall impact of the program.
- Overall, survey data indicate that the PERRCs are and will continue to generate a high volume and variety of policy and practice tools, some of which have already demonstrated impact, although largely at the local level.
- Although initial results from several of the research projects are promising in terms of potential impact, there is a need to assess sustained impact over time and scalability to other regions and diverse populations.
- A focused effort at dissemination and translation is required to ensure effective transfer and uptake of research findings and tools.

Louis Rowitz, PhD, OPHPR BSC Member and Co-Chair, BSC Ad Hoc PERRC Mid-Course Review Workgroup PERRC Workgroup, indicated that there were also some concerns about the young investigators coming in to work on projects and being unable to find positions that would help support the continuation of their research in the area of preparedness and response.

Also there is now a shift to public health system research versus the more traditional research. He indicated that public health preparedness in the future may be more of a systems perspective, and the field hasn't quite adapted all of the methodologies for that.

The Workgroup also talked about the inability to continue longitudinal research activities in light of the fiscal limitations.

Discussion and Recommendations

Thomas V. Inglesby, MD, Chair of the OPHPR BSC opened the web conference for BSC Members (BSC) and Ex Officios (ExO) discussion of the recommendations. Their comments were as follows:

BSC Comment: I found this to be an excellent report. I have one question, which is in terms of the investigators. How receptive were the investigators? Did they see a path forward and is that path dependent on funding or do they think that there might be other opportunities?

Workgroup Response: I think the investigators were receptive and very engaged. In looking forward, there needs to be funding. It's not clear where that will come from. There were discussions of center models versus individual projects and that the center model may be replaced by the individual project model. There was an advantage to both models per the investigators. It is also very difficult to move into systems-based research in a short-term project.

BSC Comment: You have confined these centers to schools of public health, but we need talent from other areas of universities as well. We should be broader and bring in schools other than those just in public health. I also see areas where you were hedging and you said a little more needs to be done. Could you comment on that?

Workgroup Response: It is clear that the PERRCS are reaching out to other parts of the university. They were using health science, liberal arts, and engineering, for example, and felt that they were critical to their work. You may get the impression of hedging because of the funding issue, which is still uncertain. It's difficult to say go ahead and do this, when there may be no funds available.

CDC Response: The PERRC funding was received specifically for schools of public health.

BSC Comment: The only comment is whether or not all of the centers are performing as well as others. So I want to put a bookmark for accessing the strengths of all the centers.

Workgroup Response: That was brought up. And given what we had and our time constraints, we didn't have the time or data to dig deep into the quality of work the centers were doing.

BSC Comment: Can that be done by the Board?

CDC Response: In the drafting of the FOA, it was our intent to have a mid-cycle review that could influence funding. You saw the metrics recommendation. The challenges of providing quantitative, comparative data presented an issue. If there's a need to address the quality of work, in the future, we will have to figure out a way to do that in the future, but we have not done that.

Workgroup Response: As we looked at the projects, the PERRCs are at different places in their research, and are at different stages of development.

BSC Comment: The ability to put together a response in a small amount of time is still of great concern. So how to sustain and have some stability is still on the table I think.

BSC Comment: I agree this is a comprehensive and excellent report. What is the likelihood that funding will be discontinued in 2012? Should the recommendations be reorganized by those that can be done immediately or regardless of funding from those that are dependent on funding?

CDC Response: The funds that would support the PERRCs through 2012 were reduced, but there were some funds provided. We are in the process of getting our budget marks, and it appears that some funds will be available, but it's even less money for PERRCs than provided in the current funding cycle.

BSC Comment: Do you divert funds to do certain things as opposed to continuing on to get ongoing work done, in light of PERRCs having less funding moving forward?

CDC Response: We will have to figure out how much funds are available and develop the smartest way to employ those funds.

BSC Comment: This is an excellent report and got strong input. I am persuaded that the PERRC should continue to be funded. I do think it will be possible to improve the value proposition of the PERRCs. I would make the research briefs even more direct and convey the good work of the PERRCs in more detail and the consequence of eliminating the PERRCs. I think a listing of the projects, their value at the regional and national levels, and having them displayed on a websites are useful. Can you say anything further about the PERRCs' ability to bring cost savings benefit in light of fiscal constraints?

Workgroup Response: It's not a simple answer. Processes will be improved by some of the research activities, but there's no simple answer to that.

ExO Comment: I'm not clear on the recommendation of the databases under #10. Was that to be grant funded or a self-hosted database?

Workgroup Response: In general, we were thinking that the Office of Economical Research could do some of this, but I don't know if that's doable. It would have to be a collaborative effort. There were also some comments that the existing website could be made stronger.

ExO Comment: One of the strongest ways to advocate for the PERRCs is to link the work to metrics and cost savings to public health preparedness. We have to make a strong case to continue the research, in order to have good measures for the future.

ExO Comment: The PERRCs are not the only funder of this kind of research. It is scattered across the government. I don't know what thoughts you have about connecting PERRC

investigators to other agencies. We are all dependent on the outcomes of these types of research. The Department of Energy, for example, is a big funder of this type of research. There is some Department of Defense (DOD) and Veteran's Affairs research going on in this area.

ExO Comment: But are they addressing it from a public health perspective? I think that's really what the issue is.

ExO Comment: All the agencies I'm familiar with are facing similar cuts. But there's no place where all the agencies get together. The Army has the broadest base with their work in mental health outbreaks.

CDC Response: We look forward to working with ASPR/HHS and BSC members to build some of these relationships with other agencies.

Comments from Liaison Representatives

Liaison comment: I was very impressed with the report. I think analyzing the outcomes of the various projects that are ongoing, advertising them, giving feedback to people, celebrating the outcomes and utilizing the outcomes in broader ways are very important parts of the report. I would like to commend the Committee for that effort.

Liaison comment: Recommendation 11 is very important. Having an agreed upon robust, research agenda is essential. I think the PERRCs are doing excellent work. I would like to see it continue.

Liaison comment: I want to reinforce the points of the enhanced packaging and presentation of the good work the PERRCs are doing. All of the work products, whether complete or in process, are important to the practice community who can benefit from the PERRCs work.

Liaison comment: I would like to thank you all for the excellent report. It was concise and clear. We're happy that the report called for continued funding. Funding for research that links universities, heath departments, and the business community has been very rare and difficult to come up with. I was encouraged by thoughts about interdepartmental work. The National Institutes of Health (NIH) and DOD have worked very closely before, and NIH and CDC have worked closely in jointly funding projects. So we need joint funding and joint collaboration, and we hope this can be sustained.

Liaison comment: These kinds of centers will take us all a long way.

Public Comment Period

The Public was afforded the opportunity to make comments regarding the recommendations. Their comments were as follows:

Public comment: I take special note and interest in the comments and questions raised for evidence that the research findings of the PERRCs may make the case that research may bring about a cost savings. The PERRCs were not carrying out demonstration projects exclusively. I think the comment has to be placed in context with what the PERRCs were charged to do.

Public comment: We really appreciate the Subcommittee's positive review. We provided information that our PERRC has saved our state health department about $3 million, and there's been discussion of demonstrating the financial benefit. I was wondering if that could be included in the report as it goes forward. Also, these were five-year cooperative agreements. If the Board suggests that these programs be funded for the entire length of the original award, that would be five years. This is a technical point, but one that I think is important.

Workgroup Response: We did discuss the return on investment, but we were trying to not be specific about the findings from one particular center and maybe it can be added into the introductory piece.

Workgroup Response: Yes, we do make reference to the cost savings in the full report but we may need to emphasize that more.

CDC Response: The BSC provides advice to CDC. We do our best to address that advice. If we are able to, fiscally, we will do that. If not, we will justify why we can't.

Public comment: Systems research is having a huge impact. I see so many possibilities and look forward to doing more systems research.

BSC Vote on Recommendations for PERRC Review

Dr. Inglesby prepared to take a vote on whether to propose that the Workgroup's recommendations be forwarded to CDC. He asked if there were any recommendations that should not be moved forward. There was no opposition to moving forward on all 19 recommendations.

Jack Muckstadt motioned to move to a vote. John Lumpkin seconded the motion. The motion on the table, per Jack Muckstadt, was to accept all the recommendations. All in favor of the motion were as follows:

- Ellen MacKenzie
- Herminia Palacio
- Jack Muckstadt
- Sharona Hoffman
- Tom Inglesby
- Elaine Vaughn
- Lou Rowitz
- Bob Ursano
- John Lumpkin
- Michael Butel
- Lisa Kaplowitz

Dr. Inglesby clarified the timeline for the next in-person BSC meeting, which will be either in April or May. Dr. Sosin agreed and said that the agenda was currently being worked on for that meeting. It will allow for more targeted briefings and interactive discussions.

As far as a timeline for the sharing of the report, it will be sent to CDC and from CDC to the Department. The process of approving and acknowledging the report takes about two months.

Dr. Khan, Dr. Sosin, and Dr. Inglesby thanked everyone for their time and input.

Adjourn / Certification

With no further business raised or discussion posed, Dr. Tom Inglesby officially adjourned the BSC meeting.

I hereby certify that to the best of my knowledge, the foregoing minutes of the January 3, 2012 BSC meeting are accurate and complete:

2/28/12
Date

Thomas V. Inglesby, MD
Chair, OPHPR BSC

Appendix A. OPHPR BSC Membership Roster

Chair

Thomas V. Inglesby, M.D.
CEO and Director
Center for Biosecurity – UPMC
Baltimore, MD

Designated Federal Official

Daniel M. Sosin, M.D., M.P.H., FACP
Deputy Director and Chief Medical Officer
Office of Public Health Preparedness and Response
Centers for Disease Control and Prevention

Board Members

Sharona Hoffman, J.D., L.L.M
Professor of Law and Bioethics
Case Western Reserve University
School of Law
Cleveland, OH

John R. Lumpkin, M.D., M.P.H.
Senior Vice President and Director
Health Care Group
Robert Wood Johnson Foundation
Princeton, NJ

Ellen MacKenzie, Ph.D.
Professor and Chair
Department of Health Policy and
Management Johns Hopkins University
Bloomberg School of Public Health
Baltimore, MD

John (Jack) Muckstadt, Ph.D.
Professor
School of Operations Research and
Industrial Engineering
Cornell University
Ithaca, NY

Herminia Palacio, M.D., M.P.H.
Executive Director
Harris County Public Health and
Environmental Services
Houston, TX

Louis Rowitz, Ph.D.
Director
Mid-America Regional Public Health
Leadership Institute
University of Illinois at Chicago, School of
Public Health
Chicago, IL

Robert J. Ursano, M.D.
Chairman, Department of Psychiatry
Uniformed Services University of Health
Sciences
Bethesda, MD

Elaine Vaughan, Ph.D. (By Phone)
Research Professor and Professor Emerita
Department of Psychology and Social
Behavior
School of Social Ecology
University of California, Irvine
Irvine, CA 92697

Ex Officio Members

RADM Nicole Lurie, M.D., M.S.P.H.
Assistant Secretary for Preparedness and Response
U.S. Department of Health & Human Services
Washington, DC

Lisa Kaplowitz, M.D., M.S.H.A
Deputy Assistant Secretary for Policy
Office of the Assistant Secretary for Preparedness and Response
U.S. Department of Health & Human Services
Washington, DC

Alexander Garza, M.D., M.P.H.
Assistant Secretary for Health Affairs and Chief Medical Officer
U.S. Department of Homeland Security
Washington, DC

COL Michael G. Butel, D.V.M., M.P.H.
Assistant Secretary of Defense (Health Affairs) Force Health Protection and Readiness;
Director, Global Health Surveillance
U.S. Department of Defense
Arlington, VA

Liaison Representatives

Association of Public Health Laboratories (APHL)
Mary J. Gilchrist, Ph.D., D(ABMM)
Consultant, Public Health
Solon, IA

Association of Schools of Public Health (ASPH)
James W. Curran, M.D., M.P.H.
Dean, Rollins School of Public Health
Co-Director, Emory Center for AIDS Research
Emory University
Atlanta, GA

Association of State and Territorial Health Officials (ASTHO)
Jean O'Connor, J.D., DrPH
Deputy Director, Public Health Division
Oregon Health Authority
Portland, OR

Association of State and Territorial Health Officials (ASTHO)
James Blumenstock
Chief Program Officer, ASTHO
Arlington, VA

Council of State and Territorial Epidemiologists (CSTE)
Patricia Quinlisk, M.D., M.P.H.
Medical Director and State Epidemiologist
Iowa Department of Public Health
Des Moines, IA

National Association of County and City Health Officials (NACCHO)
Karen Smith, M.D., M.P.H.
Public Health Officer and Director of Public Health
Napa County Health and Human Services Agency Public Health Division
Napa, CA

National Indian Health Board (NIHB)
Stacy A. Bohlen, M.A.
Executive Director, NIHB
Washington, DC

Appendix B. Participant List

Board of Scientific Counselors (BSC)
Office of Public Health Preparedness and Response (OPHPR)
Centers for Disease Control and Prevention (CDC)
Tuesday, January 3, 2012
1:30 – 4:00 pm (EDT)

Voting Members

	First Name	Last Name	Affiliation
1	Thomas	Inglesby	BSC
2	Sharona	Hoffman	BSC
3	Jack	Muckstadt	BSC
4	Ellen	MacKenzie	BSC
5	Herminia	Palacio	BSC
6	Elaine	Vaughan	BSC
7	Louis	Rowitz	BSC
8	Robert	Ursano	BSC
9	John	Lumpkin	BSC
10	Alexander	Garza	Ex Officio (DHS)
11	Michael	Butel	Ex Officio (DoD)
12	Nicole	Lurie	Ex Officio (HHS)
13	Lisa	Kaplowitz **Alternate**	Ex Officio (HHS)

Liaisons

	First Name	Last Name	Affiliation
1	Mary	Gilchrist	APHL
2	Karen	Smith	NACCHO
3	Jean	O'Connor	ASTHO
4	Jim	Blumenstock **Alternate**	ASTHO
5	James	Curran	ASPH
6	Patricia	Quinlisk	CSTE
7	Stacy	Bohlen	NIHB

In-Person Attendees

	First Name	Last Name	Affiliation
1	Ali	Khan	CDC/OPHPR/OD
2	Dan	Sosin	CDC/OPHPR/OD
3	Samual	Groseclose	CDC/OPHPR/OSPHP
4	Jeffrey	Nemhauser	CDC/ OPHPR/OSPHP

5	Bill	DiGioia	CDC/OPHPR/FRO
6	Mark	Wooster	CDC/OPHPR/DEO
7	Angela	Schwartz	CDC/OPHPR/OPPE
8	Joan	Cioffi	CDC/OPHPR/LO
9	Dave	Daigle	CDC/OPHPR/CO
10	Mildred	Williams-Johnson	CDC/OPHPR/OSPHP/ERPO
11	Mary	Leinhos	CDC/OPHPR/OSPHP/ERPO
12	Shoukat	Qari	CDC/OPHPR/OSPHP/ERPO
13	Sarah	Henderson	CDC/OPHPR/OSPHP
14	Tangela	Love	Writer-Editor

Call-In Attendees

	First Name	Last Name	Affiliation
1	Tomas	Aragon	UC Berkley
2	Ed	Baker	University of NC
3	Ben	Bass	FDCH
4	Ruth	Berkelman	Emory University
5	Laura	Biesiadbcki	National Association of City & County Health Officials
6	Gail	Brinkmeier	University of MN
7	Sara	Crawford	CDC/OPHPR/OSPHP
8	Stephanie	Dopson	CDC/OID
9	Rachel	Eisenstein	ASPH
10	Connie	Evashwick	ASPH
11	Sherrianne	Gleason	University of Pittsburgh
12	Todd	Graham	CDC/OPHPR/OSPHP/ERPO
13	Andrea	Hickle	University of Minnesota
14	Valerie	Kokor	CDC/OPHPR/OSPHP
15	Jim	Lando	CDC/OPHPR/OSPHP
16	Gladys	Lewellen	CDC/MASO
17	Leesa	Lin	Harvard University
18	John	Links	Johns Hopkins University
19	Robert	Margetta	CQ
20	Felicity	Marun	Johns Hopkins University
21	Colleen	Monahan	University of IL Chicago
22	Linda	Neff	CDC/OPHPR/OSPHP
23	James	O'Neal	GA Department of Public Health
24	Lumarie	Polivka-West	PERRC
25	Beryl	Schulman	MW PERRC
26	Kimberley	Shoaf	UCLA
27	Christine	Siador	UC Berkley
28	Karen	Smith	National Association of City & County Health Officials
29	Tara	Strine	CDC/OPHPR/OSPHP

30	Geraldina	Villabos-Quezada	CDC/OPHPR/OSPHP/ERPO
31	Vish	Viswanath	Harvard University
32	Ron	Voorhees	University of Pittsburgh
33	Robbin	Weyant	CDC/OPHPR/DSAT
34	Ellen	Whitney	Emory University

Appendix C. OPHPR Strategic Plan: Objective 4

Objective 4 (Advance surveillance, epidemiology, and laboratory science and service practice): Strategies and Initiatives

Objective:
This objective enhances CDC's core public health mandate, including preparedness and response activities, by providing direction in health monitoring and surveillance, epidemiology (e.g., outbreak investigations), and laboratory science and service practices. CDC will work with state and local health departments, and other partners, to strengthen surveillance, epidemiology, and laboratory practices to improve integrated situational awareness, enabling decision makers at all levels take efficient and effective action.

Examples of achievements for this objective include:
- Defined areas for improvement specific to public health preparedness and response in surveillance, epidemiology, and laboratory capacity are identified and addressed.
- The surveillance, epidemiology, and laboratory systems are working in concert and are providing good, solid, rapid information that informs decision making during emergencies.
- CDC, HHS, state and local health departments, and other partners' decision makers are confident that CDC is providing the most accurate and timely surveillance, epidemiologic, and laboratory information possible for decision making

Surveillance, epidemiology, and laboratory science priorities during response:
- Anticipating trends, size, and severity of event according to the agent, host, and environment as they relate to mitigating the health impact.
- Distinguishing those needing intervention (most) from those not (or least).
- Giving the public and elected officials actionable information to protect themselves and those they are responsible for (balancing intervention risk and cost with impact).
- Optimizing resources for response.
- Assuring interventions are safe and effective.

Impediments to producing practice-relevant science include:
- National capability is dependent on thousands of local systems to provide quality data with near-complete coverage.
- Surveillance failures can arise from numerous system nodes/perspectives:
  - Coverage gaps
  - Variability in data capture (e.g., coding)
  - Time lags
  - Indicator data with low predictive value
- There is heavy reliance on human effort in collection and human judgment in analysis.
- Funding is limited.

Draft Strategies and Initiatives:

4.1. Improve case detection (at multiple levels of certainty) during a response.

Examples of potential initiatives that could support this strategy include:

a. Develop point-of-care rapid diagnostics (assays/panels) to distinguish early infection or exposure from non-cases.

b. Leverage Meaningful Use provisions of ARRA/HITECH to increase electronic laboratory reporting and completeness of surveillance reporting from clinical sources.

c. Provide tools to expedite distributed epidemiologic investigations in a standardized manner. (Epi-Info)
d. Improve validation of volume surveillance signals. (BioSense)
e. Develop tools that allow self-triage and reporting by the public.

4.2. Improve situational awareness.

Examples of potential initiatives that could support this strategy include:

a. Develop tools for automating the capture of unstructured information (e.g., text, pictures, audio, gels) in quantitative format.
b. Develop user interface tools to provide a tailored view of multiple data/information streams (of different data structures) with simply query capabilities (e.g. cross-tabulations).
c. Increase information exchange between public and public health, particularly for at-risk populations (relates to leveraging crowd-sourcing and ground-truthing events from those on the ground).

4.3. Improve effectiveness of interventions.

Examples of potential initiatives that could support this strategy include:

d. Develop rapid susceptibility tests of agents to medical countermeasures (e.g., antibiotic sensitivity, predictive tools for assessing vaccine effectiveness).
e. Develop tools to exchange information with those receiving medical countermeasures to increase compliance and track adverse events.

4.4. Increase analysis and use of public health data through improved information exchange.

Examples of potential initiatives that could support this strategy include:

a. Bioinformatics: Improving access to and analysis of pathogen genomic and phenotypic data for diagnosis (e.g., MicrobeNet).
b. Develop tools to efficiently share and integrate laboratory and epidemiologic data within CDC and with our partners for large multistate outbreak investigation and response.
c. Develop a system for leveraging analytic methods/modeling subject matter expertise from outside CDC as needed for effective response.
d. Review existing IT preparedness and response resources for surveillance, epidemiology, laboratories at CDC, grantees, and partners in order to better utilize resources and to target gaps.
e. Reduce the time lag in reporting and notification of critical information requirements between state, local, and federal public health (requires establishing those requirements at all levels for clarity of what needs to be shared).
f. Implement an information exchange platform (e.g., SharePoint) that is common across our partners and has automated alerts and centralized information resource (simplify notification)
g. Encourage adoption of electronic laboratory records (ELRs) and electronic medical records (EMRs).

Appendix D. OPHPR Strategic Plan: Objective 5

Objective 5 (Increase application of science to preparedness and response practice): Strategies and Initiatives

Objective:
The science base for public health preparedness is necessary but not sufficient for effective translation of science to practice. In additional to major gaps in scientific knowledge, the science within the field of public health preparedness and response is not easily accessible for use by practitioners. CDC will collaborate with partners and stakeholders to increase the availability and use of applied research, evidence-based practice, and lessons from responses to improve public health practice for preparedness and response. The application of scientific knowledge to practice has multiple components, including relevance, timely availability, diffusion, adoption, implementation, scalability, and sustainability. CDC will support and sustain research to build the evidence base for public health preparedness and response, including continuing a process through which research needs are continually identified and addressed. CDC will also collaborate with and enable partners and stakeholders to access and incorporate research findings into public health practice.

Impacts of achievements for this objective include:
- Improved capability[1] for CDC and state, local, tribal, and territorial health departments in public health preparedness and response.
- Increased productivity (return-on-investment) of funding for public health preparedness and response.

Impediments to applying science to practice include:
- Relevant research findings can be difficult to access and to validate for practitioners.
- Research may not be directed to the most important practice questions.
- Public health and medical preparedness and response research is underfunded and is distributed across many domains and multiple authorities.

Draft Strategies and Initiatives:

5.1. Support practitioners to identify and use research findings

Examples of potential initiatives that could support this strategy include:

a. Define evidence-based practice and assess the barriers to practitioner identification and use.
b. Create tools to increase access to the science base by practitioners.
c. Establish the capacity to proctor the science base for practitioners (e.g., develop and disseminate a "Guide to Community Preparedness Services").
d. Improve clarity and timely availability of after-action reviews and corrective action plans so they can more readily contribute to the practice-based evidence of public health preparedness and response.

5.2. Establish practice-relevant research agendas consistent with available resources.

Examples of potential initiatives that could support this strategy include:

[1] Capability refers to effective use of knowledge obtained from research to improve practice, (e.g., effective use of epidemiologic and laboratory data for preparedness and response).

a. Identify and track active research underway in priority areas to support the development of relevant research agendas and support regular updating.
b. Establish a process to identify practice-driven priorities for research (to include consideration of threat assessment, epidemiology/surveillance/laboratory sciences and service, medical countermeasure uptake, and community resilience).
c. Establish infrastructure and procedures to implement research to address practice-driven priorities during emergency responses.

5.3. Better coordinate the research pipeline to attract resources and meet common priorities.

Examples of potential initiatives that could support this strategy include:

a. Convene governmental and non-governmental sponsors of preparedness and response research to identify common interests and existing investments in research.
b. Define a field of preparedness and response systems research that cuts-across domains of public health, national security, emergency response, and law enforcement and the necessary competencies for researchers in this field.
c. Increase sharing of and mechanisms for input to active research endeavors across organizations.
d. Create tools and products to promote awareness of coordinated research accomplishments and persistent gaps in applied science.
e. Develop methods to measure the impact of research investments.

Appendix E. Acronyms

APHL	Association of Public Health Laboratories
ARRA/HITECH	American Recovery and Reinvestment Act/Health Information Technology for Economic and Clinical Health Act
ASPH	Association of Schools of Public Health
ASPR	Assistant Secretary for Preparedness and Response (HHS)
ASTHO	Association of State and Territorial Health Officers
BSC	Board of Scientific Counselors
CDC	Centers for Disease Control and Prevention
CO	Communications Office (CDC)
CQ	Congressional Quarterly
CSTE	Council of State and Territorial Epidemiologist
DEO	Division of Emergency Operations (CDC)
DHS	U.S. Department of Homeland Security
DOD	Department of Defense (also DoD)
DSAT	Division of Select Agents and Toxins (CDC)
EHR	Electronic Health Record
ERPO	Extramural Research Program Office (CDC)
ExO	Ex Officio
FACA	Federal Advisory Committee Act
FDCH	Federal Document Clearing House
FOA	Funding Opportunity Announcement
FRO	Financial Resources Office (CDC)
HHS	U.S. Department of Health and Human Services
IOM	Institute of Medicine
IT	Information Technology
LO	Learning Office (CDC)
MASO	Management Analysis and Services Office (CDC)
NACCHO	National Association of County and City Health Officials
NIHB	National Indian Health Board
NIH	National Institutes for Health
OD	Office of the Director
OID	Office of Infectious Diseases (CDC)
OPHPR	Office of Public Health Preparedness and Response (CDC)
OPPE	Office of Policy, Planning, and Evaluation (CDC)
OSPHP	Office of Science and Public Health Practice (CDC)
PERRC	Preparedness and Emergency Response Research Center
PAHPA	Pandemic and All-Hazards Preparedness Act (PL 109-417)
UCLA	University of California, Los Angeles