

Meeting Community Health Needs Through Environmental Health Labs

A Strategic Forum



Date: Wednesday, September 19, 2012
Place: Fenton Room, [Courtyard Marriott in Downtown Silver Spring, MD](#)
Time: 9:00 am – 4:00 pm

Goal: Identify strategies to better meet community health needs utilizing the capabilities of public health laboratories

Objectives:

Share findings from environmental scan on current needs and future trends in environmental health

Discuss opportunities to meet community needs and environmental health goals using the broad capabilities of public health

Develop recommendations with APHL on how to support changes needed in the environmental health system and among laboratories

Agenda

- 8:30 Coffee and Registration**
- 9:00 Welcome + Introductions + Meeting Overview**
- 10:00 Capabilities and Capacities of Laboratories**
- 10:30 Findings from the Environmental Scan**
- 10:45 Break**
- 11:00 New Roles in Addressing Community Needs**
- 12:30 Lunch**
- 1:15 New Arenas and New Partners**
- 2:45 Break**
- 3:00 Moving Forward: Recommendations for Action**
- 4:00 Adjourn**



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DISCUSSION GUIDE

Overview of Environmental Health Labs

Small group discussion (15 min)

1. Take a few minutes to reflect on the following questions before engaging in conversation with others at your table. (3 min)
 - What is your personal experience with public health laboratories (PHLs)?
 - How does the work of the laboratories relate to your work? How relevant is laboratory capability to your work (scale 1-10)?
 - What are some of ways you currently use laboratories? Or, how could you imagine using laboratories that is not your current practice?
2. Take turns briefly introducing yourselves and sharing your responses to the questions (10 min)

Review of Environmental Scan – Key Questions for the Future

Take a couple of moments to individually and silently reflect on the key questions identified in the scan. We will revisit these in small group discussions as the day unfolds.

- *How can PHLs enhance testing for chemicals in people (biomonitoring), testing of environmental samples, and testing and analysis of consumer products?*
- *How can PHLs be part of a team that works to help concerned community members understand risks, interpret testing results, and take protective action?*
- *What efforts or relationships could be established to engage laboratories in applied research so that laboratory technologies are used to effectively inform public health decision-making?*
- *What new users could benefit from PHLs' capability and expertise at the federal, state and community levels?*

Addressing Community Concerns and Supporting Action

In small groups, we seek your ideas on how laboratories can work with others in partnerships to address community concerns.

The key question is: *How can PHLs be part of a team – gov't and community – that works to help concerned community members understand risks, interpret testing results, and take protective action?*

Small group discussion (30 min):

1. Take a few moments to silently reflect on the questions below and make some personal notes. The questions are meant to spark your thoughts and a good discussion; it is not necessary to answer each question.
 - What is in place right now that could make it possible for public health laboratories to better connect to and respond to community concerns? What strengths or current capabilities can be built on?
 - What opportunities are there for laboratory engagement as part of the public health system and community team?
 - What would be needed to move in this direction? Who would need to support PHL involvement?
 - How can I help?
2. Engage in conversation with others at your table. Be sure that everyone has time to contribute.

Recording for report out (10 min):

Prepare a brief report of the highlights of your discussion to share with others at the forum.

1. Identify someone who will record for the group and someone who will provide the verbal report out.
2. Identify the key pieces of information or strategies you would like to share with the other groups regarding how public health laboratories can be part of a team that works to address community concerns.

Possible Arenas for Public Health Laboratories

Small group discussion (30 min):

Public health leaders are considering how existing laboratory capabilities could be used in new ways, with new partners and for new issues. In small groups, we seek your ideas about these possibilities and how to realize them.

1. Take a few moments to silently reflect on the questions below and make some personal notes. The following questions are meant to spark a good discussion; it is not necessary to answer each.
 - How is this relevant to your work? How could this support the goals of your work?
 - Who else could benefit from laboratories' capability and expertise at the federal, state and local levels? Potential new users or customers? Potential new partners in testing, research or policy?
 - What is in place right now that could make it possible for public health laboratories to move in this direction?
 - What else would be needed to support this move politically or financially?
 - How can I help?
2. Engage in conversation with others at your table.

Recording for report out (10 min):

Prepare a brief report of the highlights of your discussion to share with others at the forum.

1. Identify someone who will record for the group and someone who will provide the verbal report out.
2. Identify the key pieces of information or strategies you would like to share with the other groups regarding opportunities to use laboratory capabilities in new ways, with new partners or for new issues.

Moving Forward

We have covered a lot of ground today and hope to get your best thinking on the most important priorities in moving forward.

Consider the following question to guide your answer: *What could have the biggest impact in addressing environmental health needs and community concerns?*

Small group exercise: (20 min)

The goal of this exercise is to identify three (3) top priorities from each of the small groups. Here are the instructions:

1. Write down your personal top three (3) recommended priorities on the small note paper provided. Please print so your card can be read from far away with only one idea per sheet (3 min).
2. Go around the table sharing one idea per person at a time. Place notes in the center of the table. Link like ideas together as they are shared. (7 min)
3. Once all ideas have been shared, discuss them and jointly identify the top three (3) that the group would like to bring to others at the forum. (10 min)



Public Health Laboratories

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UNIFIED
STATE
LABORATORIES
PUBLIC
HEALTH

Core Capabilities of a PHL

- Disease Prevention, Control & Surveillance
- Reference & Specialized Testing
- Environmental Health & Protection
- Food Safety
- Emergency Preparedness
- Integrated Data Management
- Lab Improvement & Regulation
- Policy Development
- Training & Education
- Partnerships & Communication
- Research

PLAYOFFS
**YANKS
SINK
MARINERS**



SPORTS
DAILY NEWS

NEW YORK'S MORNING NEWSPAPER

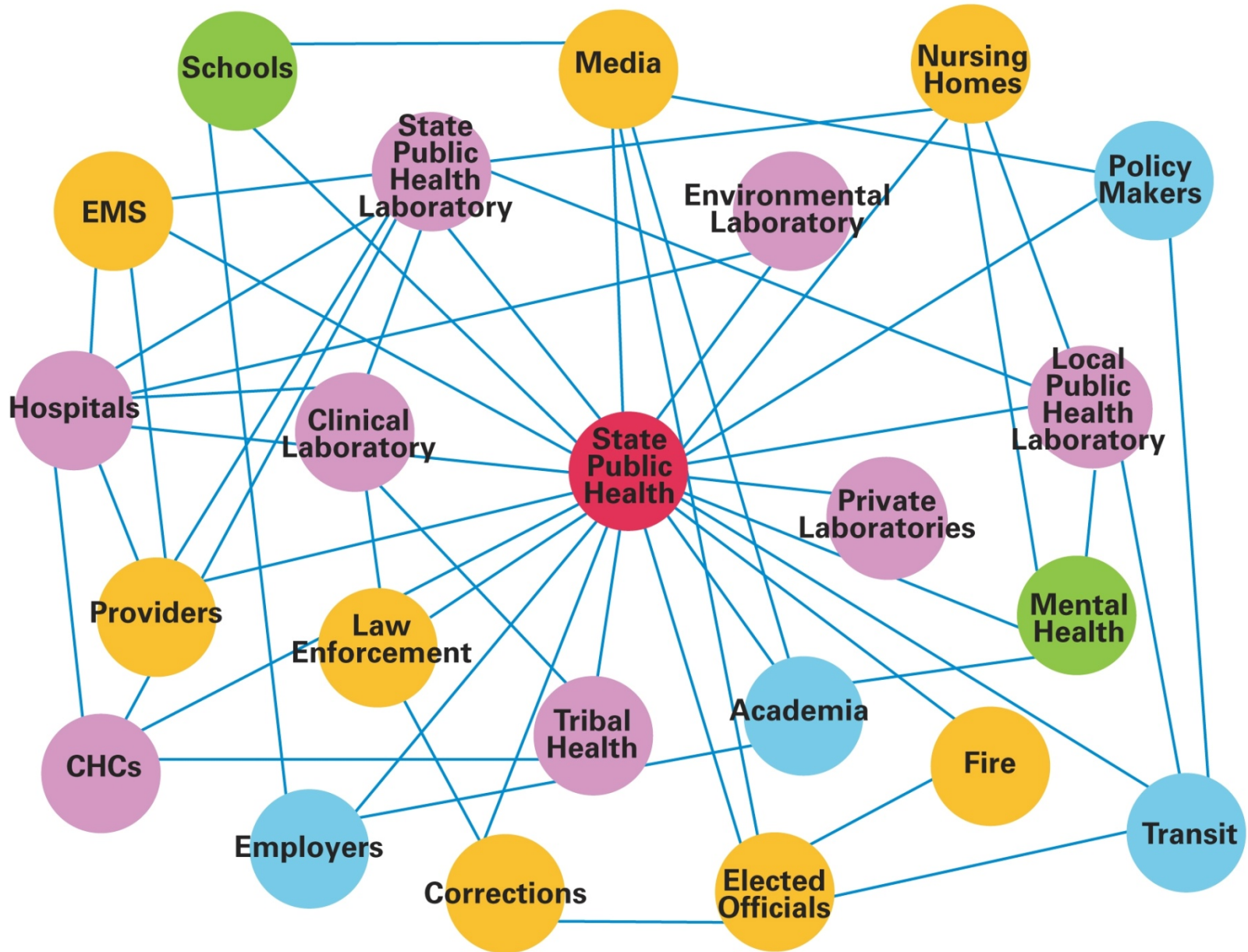
ANTHRAX NATION

Spores found in Pataki's offices
31 exposed at U.S. Senate
House shuts down for tests
New York & Florida strains match





State Public Health Laboratory System



Overview

- Public Health Laboratories (PHLs)
- Environmental Laboratories
- PHLs in Action

Environmental Laboratories

Detect, identify, & monitor contaminants
in people and the environment.



Detect, identify & monitor. . .



...
contaminants

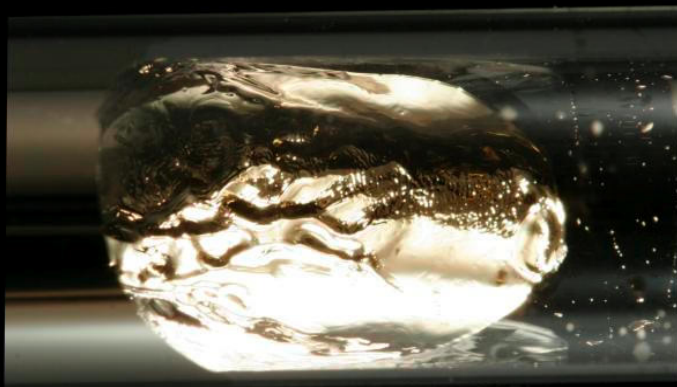
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Cs

55

132.90



Cesium



. . .in people. . .





... and the environment.



	Air	Drinking Water	Other Water	Soil/ Sediment	Blood/ Urine
Microbiology	1	33	33	7	3
Inorganic Chemicals	1	26	20	5	6
Metals	12	40	32	28	27
Organic Chemical Compounds	1	21	14	9	3
Toxic Chemical Elements	1	11	9	5	2
Radiation/ Radiochemistry	6	19	16	8	3

Overview

- Public Health Laboratories (PHLs)
- Environmental Laboratories
- **PHLs in Action**

The Two Faces of K2

Adapted from Jeffery Moran,
Arkansas Public Health Laboratory



Product Material & Packaging





* <http://www.nytimes.com/2010/07/11/us/11k2.html>

Arkansas K2 Research Consortium



- Statewide Surveillance
- K2 Product Testing



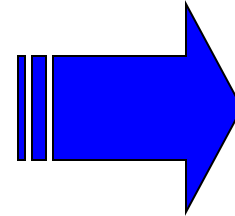
- Compiling Clinical Data & Samples



- Testing of Human Specimens
- State Regulations



- Basic Research
- Poison Control Center

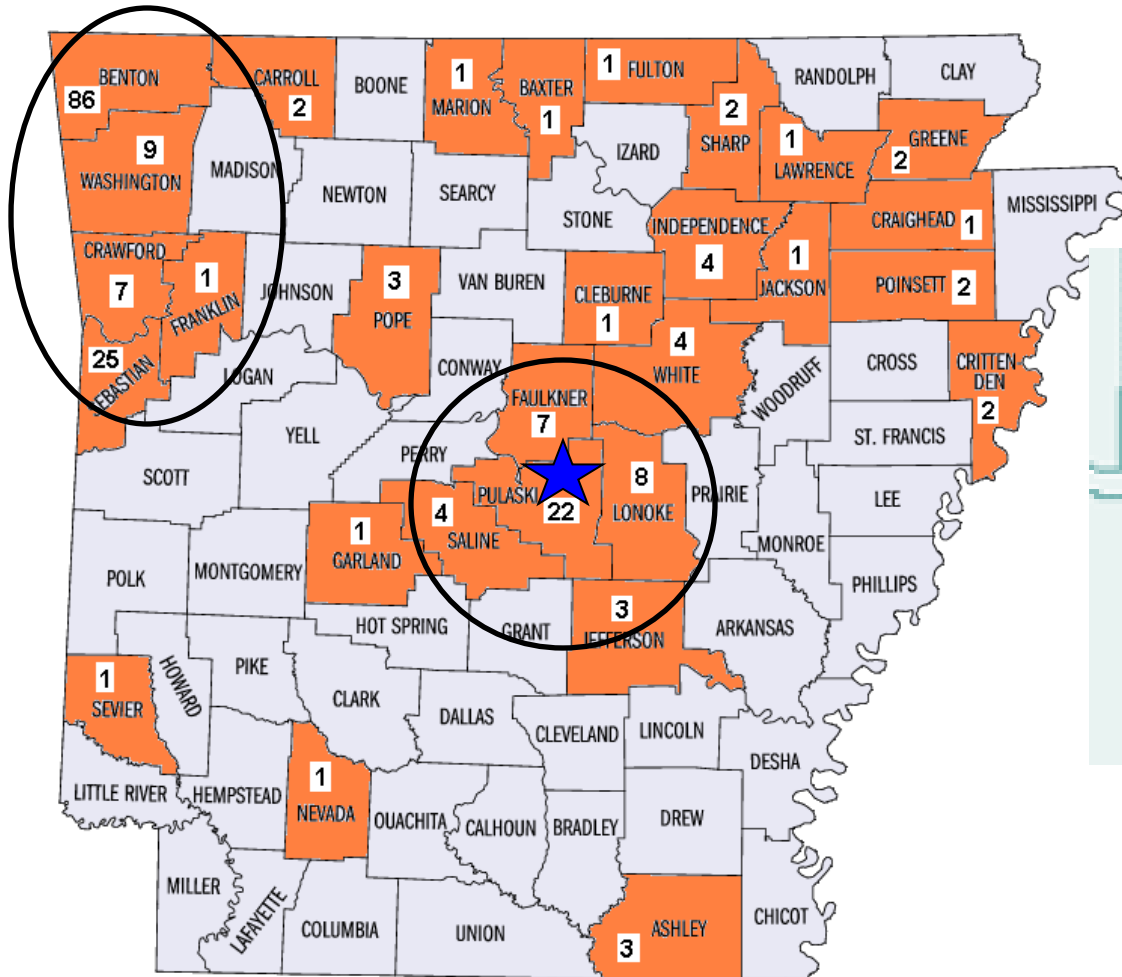


Translational Science

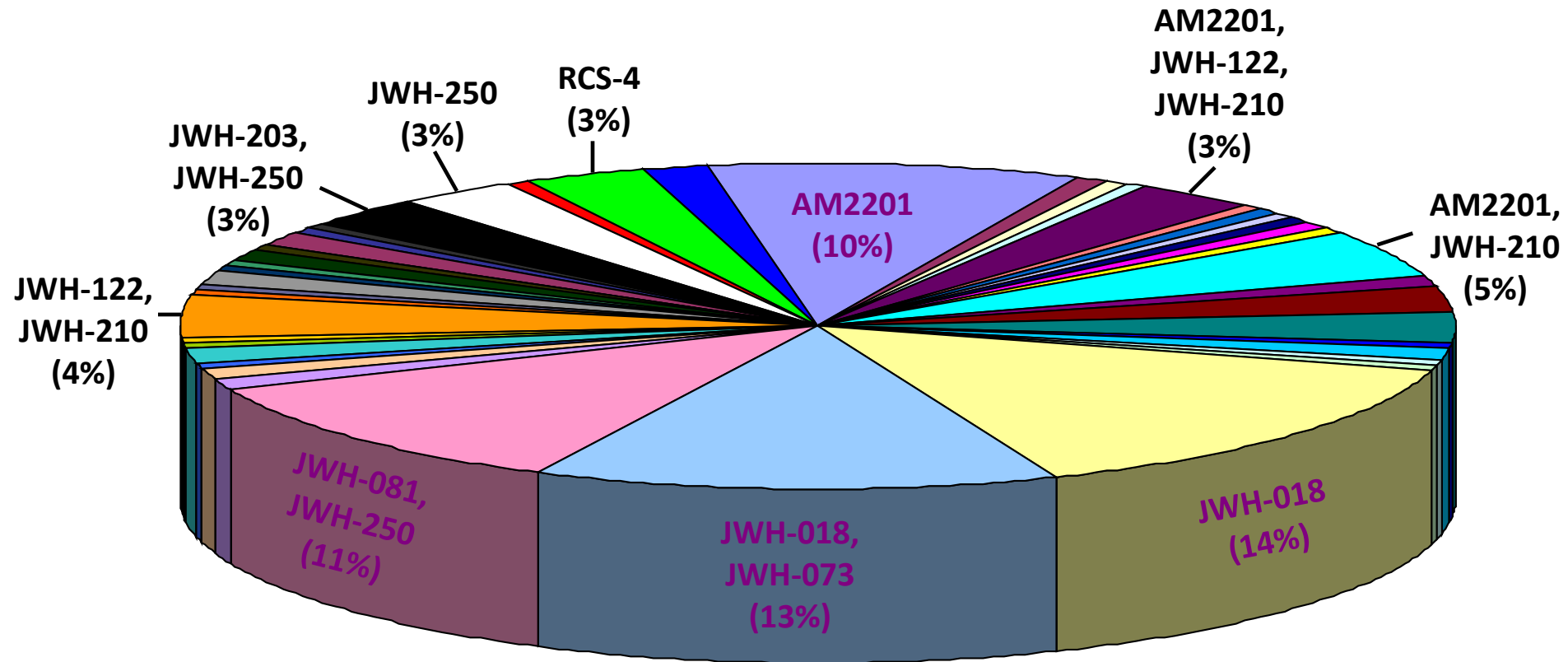
124 Different Products Submitted

- Armageddon
- Astral Blast
- Blue Fire
- Cloud 10
- Coma
- **Demon Ritual Botanical**
- **Funky Green Stuff**
- **Head Trip**
- Herbal Incense
- K2
- K2 Blonde
- K2 Blue
- K2 Blueberry
- K2 Cloud 9
- K2 Melon
- K2 Pink
- K2 Summit
- K2 Watermelon
- K3
- K3 Ultimate
- Kush
- Legal Eagle
- Super Kush
- Texas Kush
- Utopia
- Voodoo Spice
- **Zombie Twilight**

Forensic Surveillance of K2 Cases in AR



46 Different Combinations of Compounds



Public Health Laboratories

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APHL/CDC Laboratory Efficiencies Initiative (LEI)

September 19, 2012

Meeting Community Needs through Environmental Labs



Creating a Sustainable Public Health Laboratory System



**“Survival of the Public
Health Laboratory
System is the goal”**

**– Dr. Thomas Frieden,
CDC Director**

High-efficiency Management Practices

- Multi-state sharing of test services
- In-state reorganization of testing services
- Contractual services
- Standardization of testing platforms
- Purchasing & procurement cost-savings
- New revenue streams
- Laboratory informatics capabilities
- Workforce preparedness
- Managing workflow in the lab

Activities

- A guide to assessing and planning PHL service changes
- Test platform standardization strategies
- Joint purchasing strategies through APHL and multi-state agreements
- A joint APHL/CDC laboratory workforce strategy
- Streamlining CDC program support
- Improving access to APHL and CDC test service data
- A self-assessment tool for PHLs informatics systems
- Exploring revenue enhancement options (billing)

So what?



**LABORATORY
EFFICIENCIES
INITIATIVE**

Creating a Sustainable Public Health Laboratory System



Serving Communities

September 19, 2012

Meeting Community Needs through
Environmental Labs

Dr. Megan Latshaw



National Environmental Public Health Conference2



"Healthy People in a Healthy Environment"

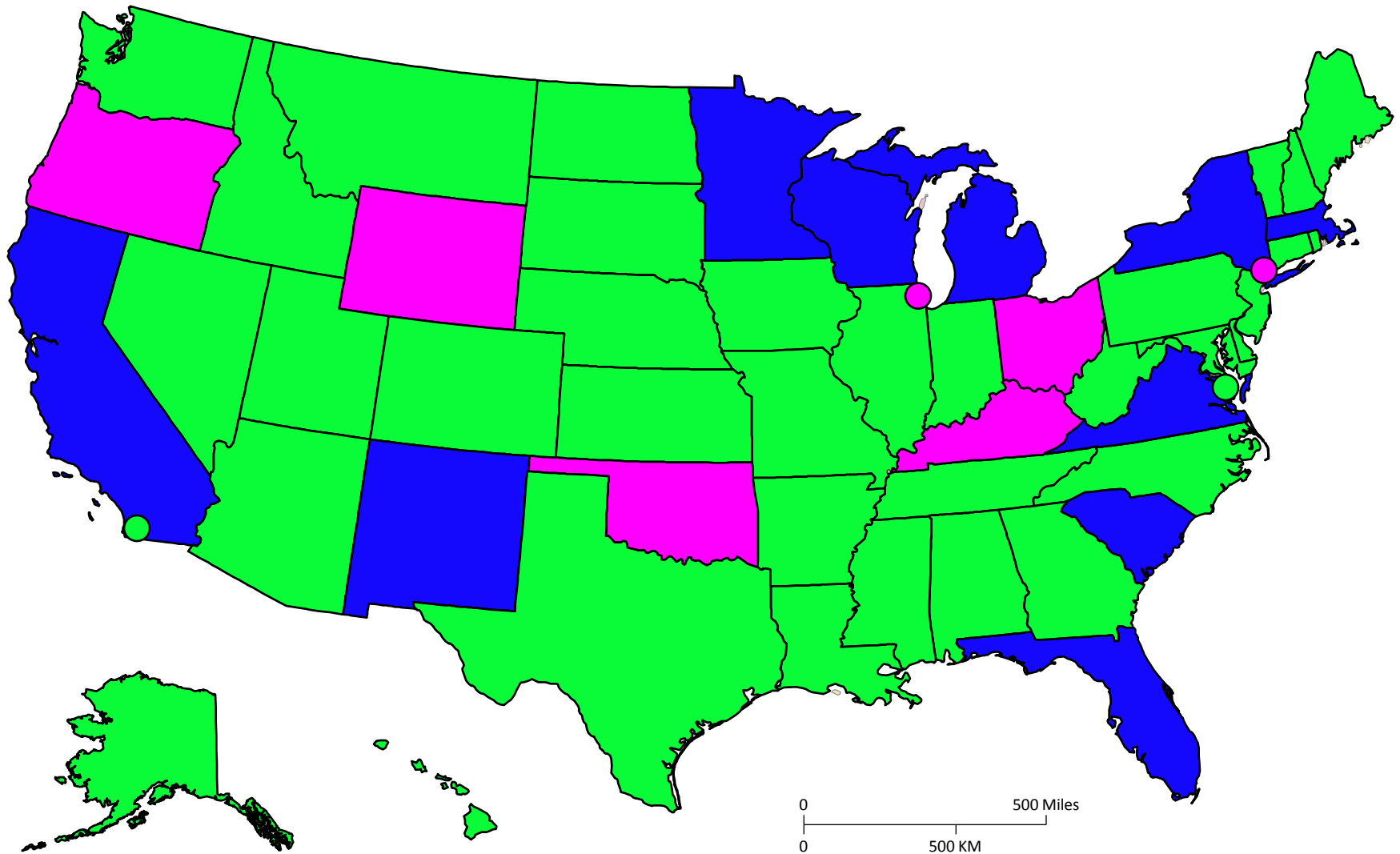
October 26-28, 2009 • Atlanta, GA

CDC's National Environmental Public Health Conference aims to improve the nation's environmental health capacity by enhancing the expertise of public health professionals, academic researchers, and representatives from communities and organizations from across the United States.

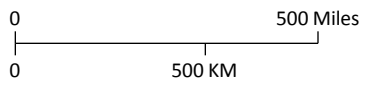
The most recent conference, Healthy People in a Healthy Environment, drew a national audience of 1,300 and took place in Atlanta, GA from October 26-28, 2009.

Hundreds of presentations and posters were discussed across each of the conference's six topical tracks.

Chemical Threat Level 1, Level 2, & Level 3 Labs



AK & HI not to scale





Addressing Public Health and Chemical Exposures

An Action Agenda

Urges the **“inclusion of vulnerable and overexposed populations** in the monitoring, testing, and regulation of chemicals in the environment, such as children, the elderly, low-income communities, communities of color, tribal communities, and those sensitive to or previously harmed by chemical exposures.”

Action Agenda: Include vulnerable and overexposed populations

- Can PHLs work with ATSDR to answer community health questions?
- Can PHLs conduct environmental health surveillance as part of a routine process?
- Can PHLs be part of a team that works to help concerned community members assess and understand exposures?

Other Action Agenda Questions

- Can PHLs act as subject matter experts, offering advice on the toxicity of chemicals & what testing to do?
- Can PHLs contribute data to risk assessments?
- Can PHLs play a larger role in occupational health surveillance?
- Can PHLs help assess whether interventions have led to decreased chemical concentrations, either in the environment or in humans?



Possible Arenas for Labs

Surili

Biomonitoring - Definition

Biomonitoring is a tool used to measure environmental chemicals in people's blood, urine, and other fluids. It is the standard for assessing people's exposure to chemicals and toxic substances, such as lead and pesticides, and provides critical information for responding to public health problems involving chemicals

Consumer Product Testing



Environmental Samples



New Users/Partners

- With **other agencies** within the state (beyond the health department) to provide services that may otherwise might be contracted out to others
- With **academia** in mutually beneficial relationships where laboratories offer testing capabilities and universities offer capabilities related to research and interpretation of results
- With **other states** through the regionalization of specialized selected services
- With the **private sector** to identify the differential strengths and domains between the public and private sectors
- With new **federal partners** seeking laboratory services including FDA, USDA, ATSDR and EPA.

Applied Research

- **For public health laboratories**, partnerships can establish a pipeline for new workers and future laboratory leaders.
- **For academic institutions**, state labs serve as excellent teaching labs and offer a CLIA-certified (Clinical Laboratory Improvement Amendments) option which is sometimes difficult to find at the university level. This partnership can assist in reporting and interpretation of results.



Meeting Community Health Needs Through Environmental Health Labs

A Strategic Forum

Introduction

On Wednesday, September 19, 2012, the Association of Public Health Laboratories brought together over 35 community, environmental health, and public health system leaders to identify strategies to better meet community health needs utilizing the rich capabilities of public health laboratories (PHL). This meeting was the final step in the APHL year-long strategic assessment and planning process to chart a path forward for environmental health laboratories to better meet community health needs in new ways, with new partners and for new issues.

Specifically, the day was designed to:

- Share environmental health needs identified in the environmental scan as well as reactions from laboratory directors.
- Discuss how to meet community health needs using the capabilities of public health laboratories.
- Develop recommendations for how APHL can work with the broader public health system and other stakeholders can best support a way forward.

The following is a brief reporting on the discussions and the recommendations for future focus and action. Information shared with participants to prime the discussions can be found in the final report from the strategic assessment and in the PowerPoint presentations conducted by Dr. Jane Getchell and Dr. Sanwat Chaudhuri.

Review of Strategic Assessment

The environmental scan identified the following questions for exploration. The forum was designed to engage a broader set of thinkers in helping APHL to answer them.

- *How can PHLs be part of a team that works to help concerned community members understand risks, interpret testing results, and take protective action?*
- *How can PHLs enhance testing of environmental samples for chemicals?*
- *How can PHLs enhance biomonitoring?*
- *What role is there for PHLs in the testing and analysis of consumer products?*

- *How can PHLs play a part in testing environmental and human samples for residues of nanotechnology?*
- *What efforts or relationships could be established to engage laboratories in applied research so that laboratory technologies are used to effectively inform public health decision-making?*
- *What new users could benefit from PHLs' capability and expertise at the federal, state and community levels?*

Environmental Health Laboratory Capabilities

Aside from APHL staff, laboratory directors and state environmental health directors, few in attendance had personal knowledge of or experience with public health laboratories. Broader outreach to potential partners and users of PHLs at the national, state and local level about the services available through laboratories is a key strategic recommendation to emerge from this forum.

Serving the Community

Participants noted that community members and advocates are deeply interested in understanding more about the chemicals in their communities and the potential health risks. Some key concerns include:

- Who decides for which chemicals to test? Who sets priorities?
- Who owns the data collected? How is this data used?
- How are risks weighed in decision-making?
- What do the results mean?

Participants identified a set of critical opportunities for laboratories to work as part of a team in helping communities understand risks, interpret testing results, and take protective action:

- Articulate who laboratories are, what they do, how they can help and the constraints within which they operate.
- Use PHLs to enhance scientific information and understanding in communities for science-driven policy and action.
- Make essential connections with both decision-makers and community members (e.g. create a combined science and community advisory committee like in MN).
- Engage with other agencies and organizations looking to solve community problems – e.g. state and local surveillance efforts, Agency for Toxic Substances and Disease

Registries (ATSDR) health assessment projects, NIH community-based participatory research.

- Connect with research institutions to share laboratory capabilities.

Possible Arenas for PHLs

Forum participants split into groups based on the following possible new arenas for laboratory engagement – environmental monitoring, biomonitoring, and consumer product testing.

Following are some of the key points recorded in the small group discussions.

Environmental Monitoring

Participants agreed that the expertise and equipment in public health laboratories could be used for a wider range of testing of environmental samples in order to improve public health policy and action. Additionally, participants recognized a number of opportunities and needs for laboratories to effectively engage in environmental monitoring to address community concerns including:

- New areas for testing might include unregulated contaminants.
- New partners and funders would include USGS, NOAA NIH, NIEHS, EPA, etc.
- At the policy and systems level a few critical changes could include:
 - Criteria for setting priorities on what laboratories should test in the way of environmental health indicators (similar to [CSTE format](#)).
 - Additional flexibility to take on new issues which will be dependent upon time of year and partnerships for external support (ECOS, ASDWA, etc.)
 - Data sharing between PHLs and among the state chemist, Vet/Ag lab, and DOH/DEQ/DEP/EPA.
- At the state and community level, participants recognized the need for:
 - Training of communities to better understand testing options, protocols, and limitations; explanation of what has been done already and results.
 - Engaging in targeted outreach and increasing communication both with existing partners as well as a broader set of stakeholders.

Consumer Products including Local and Imported Products

Participants at a second roundtable discussion considered potential roles for PHLs in testing consumer products. Overall, there was keen interest in utilizing the capabilities of laboratories:

- Communities need more information and better protection from exposure to potentially hazardous chemicals in consumer products.
- Laboratories need validated methods, standards, and quality systems in order to begin or expand testing.
- Advocates and policy makers need to engage laboratories to understand capabilities and limitations related to consumer product testing.

- Current scientific understanding of the potential risks these chemicals might pose is limited; however, we can begin to build a library or database, populated with testing results, to produce the body of knowledge needed for future decision-making.
- While there are huge gaps in policy and regulation of chemicals in consumer products, the public health system (and laboratories in particular) can inform and alert consumers about the contaminants in consumer products and potential health hazards.
- Some laboratories are already providing testing upon the directive of the health department or as part of an epidemiological investigation. Participants urged expanding the number of laboratories offering testing and the types of testing offered.
- Another potential arena for expansion might be laboratory participation in the certification or testing of consumer products.

Biomonitoring

Participants recognized that APHL and its member laboratories have been leaders in recognizing the need for increased biomonitoring at the state level. Participants identified a few key opportunities to link APHL and PHLs with others in the public health system:

- APHL should continue to promote good work already underway in PHLs.
- APHL could serve as link between Pediatric Environmental Health Specialty Units (PEHSUs) and academics for biomonitoring.
- APHL should connect with the National Children's Health study to determine potential collaboration opportunities.
- APHL may consider connecting with the Clinical Translational Research Grants program at NIH.

Explore newborn screening

The example of newborn screening was mentioned numerous times in the forum. It was noted as a successful method of collecting data for diagnosis, surveillance and for research. Data collected on all newborns might help to close some of the gaps in our scientific understanding about exposure to chemicals and health outcomes.

- Expand newborn screening testing to include environmental contaminants.
- Use the newborn screening system as model for engaging community groups and making biomonitoring a routine part of public health testing.

Moving Forward

Given all that had been discussed, participants were asked to select three top priorities they believed could have the biggest impact in addressing EH needs and community concerns.

- Communicate PHL capability — *who we are*
- Train the public on testing and testing issues — *how we do our work*
- Engage in priority setting with broad set of partners — not limited to APHL & PH labs — regarding what data needs to be collected — *what testing is most important*
- Provide information to help others advocate — *what information laboratories have that can help you*
- Increase communication within the PH system — *how we can work together, including state and federal agencies and academic institutions*
- Build a constituency for PHLs — *what we can do for you (based on examples of the good work and successes of the past)*
- Share data to inform community decisions — *what we know and can find out*
- Use a systems approach to engage partners, for example using Blue Ocean Strategy¹ — *where we can be more useful to more partners*
- Expand biomonitoring — *what you can know about yourself and your exposures*
- Innovate for new projects and programs — *how we can work with new partners*

There were a couple of ideas which garnered significant interest in the meeting which do not appear on the priority list but which warrant attention:

- Consider use of Newborn Blood Samples for a broader range of tests as part of on-going surveillance and research programs; special permission would be necessary
- Support laboratories in expanding consumer product testing.

Closing

We spent the day considering how the capabilities of laboratories could be more fully utilized in addressing environmental health and community needs. APHL now commits to culling the recommendations from the discussions, creating a plan for APHL action, and working in partnership on system issues. APHL hopes that participants will continue to partner with us, set up meetings in their own organizations about engaging laboratories, and work with us to enhance capacity for PHLs to better address community environmental health needs. Participants expressed great interest in the potential of partnering with and utilizing the capabilities of laboratories in new arenas in the future.

¹ The Blue Ocean Strategy is an integrated approach to strategy at the system level with the aim to create a new market space by making competition irrelevant. (*What is Blue Ocean Strategy? Ten Key Points*. Oct. 4, 2012. http://www.blueoceanstrategy.com/abo/what_is_bos.html.)

Evaluations

What did you like most about the Forum?

- Opportunity for discussion around tables.
- Opportunities to engage with a wide diverse network of partners. Hear all perspectives/awareness of different agencies.
- Networking, would love to brainstorm another day. Well organized. Useful presentations. Great facilities.
- The opportunity to meet and network with others who have an interest in environmental labs.
- Great meeting only positives. One day, well organized, mission accomplished.
- Liked interaction with agencies/advocates that I don't normally get to interact with.
- It was informative, totally new area that I'm sure communities the EH community specifically are not aware of; great potential for APHL being a resource; just a long way to go!
- The opportunity to network and brainstorm with thoughtful, passionate, diverse EH public health folks in a small group environment.
- Group discussions
- I really appreciate the opportunity to meet some of the community groups who have a need for the type of work we do in the lab.
- I liked the small group/breakout format. Big lectures make me sleepy.
- Meeting new people and learning about state labs.
- Meeting everyone
- All positive. Very worthwhile to bring together a broad range of partners on a difficult product.
- Good group of folks; good facilitator; good topics.
- The careful selection of participants. Meeting participants were well represented in difficult areas.
- Opportunity to interact with groups out of normal sphere of operations
- Hearing the various parties' desires to work on major public health concerns and find a way to optimize where it is going to happen.
- Great venue/opportunity to meet some of the community groups that impact environmental testing. Generate ideas on how to enhance my testing capacity as in partnering with universities. Awareness amongst partners.

What did you like least about the Forum?

- No real break to step outside or check-in at office except for lunch which was shortened.
- Would have preferred more background presentations.
- Needed more time.
- Range of focus very broad and frequently focus shifted and not sure got to bottom line.

Suggestions or Comments:

- Did a nice job setting the stage before the meeting and during the meeting. Good facilitation. Very obvious that a lot of preplanning went into this meeting.
- Great workshop. Have someone's teenager make a creative YouTube on what PH labs do. Thank you!
- Nice job!! Very productive.
- Use this forum as model for future meetings.
- Need more interaction with state environmental program staff – they are the ones that hold the purse strings and need to be convinced.
- It would be great to have “models” that might have worked in states and really demonstrate “partnerships” with the communities. More community representation.
- Excellent meeting, discussion on a vital issue.
- Great job!
- Well done!!
- Keep it up.
- Share consolidated notes with group.
- Have more time and more focused major questions.

Folks that want to remain in touch with this project:

- Carolyn Hanson
- Susie Zanto
- Lisa Conti
- Chuck Brokopp
- Suzanne Condon
- Joanne Bartkus
- Jalonne White-Newsome
- Lora Werner
- Sanwat Chaudhuri
- Andrew Stolbach
- Nancy Buermeyer
- Jim Taft
- Lovisa Romanoff
- Jack Bennett

Notes from Priority Setting Exercise

The following is direct transcription of the sticky notes created in the final prioritizing exercise. They are shared here as they offer additional specificity which will be helpful to APHL and its member laboratories.

Final Priorities:

- Building a constituency
- Communication PHL + community capability, needs
- Provide information and success to help others advocate
- Communication within PH system
- Reconcile the organization “Blue Ocean”
- Priority setting with broad set of partners – not APHL & PH labs
 - Develop list of reportable...
 - ID priorities for which chemicals & what info
- Data sharing to inform community
- Training the public on testing & testing issues
- Biomonitoring
- Innovate for new funding

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Share findings from environmental scan on current needs and future trends in environmental health

Discuss opportunities to meet community needs and environmental health goals using the broad capabilities of public health

Develop recommendations with APHL on how to support changes needed in the environmental health system and among laboratories

Agenda

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- 9:00** Welcome + Introductions + Meeting Overview
- 10:00** Capabilities and Capacities of Laboratories
- 10:30** Findings from the Environmental Scan
- 10:45** Break
- 11:00** New Roles in Addressing Community Needs
- 12:30** Lunch
- 1:15** New Arenas and New Partners
- 2:45** Break
- 3:00** Moving Forward: Recommendations for Action
- 4:00** Adjourn

