

2011 APHL ALL-HAZARDS LABORATORY PREPAREDNESS SURVEY DATA

APHL Report



MAY 2012

The following data were collected in September and October of 2011 when APHL fielded its 5th annual All-Hazards Laboratory Preparedness Survey to the 50 state and District of Columbia (DC) public health laboratories to assess the laboratories' capability and capacity to respond to biological, chemical, radiological and other threats, such as pandemic influenza. The survey covered the 12-month period from August 10, 2010 to August 9, 2011, representing the CDC PHEP Cooperative Agreement Fiscal Year (FY) 2010, also known as Budget Period 10, Continuation Year. Forty eight responses were received, representing 47 states and DC public health laboratories for a response rate of 94%.

Aggregate findings were summarized and released at the 2012 APHL Annual Meeting in a report titled, *Response by the Numbers: The Nation's Public Health Laboratories Protect the Country*. The report serves as an educational tool that can assist in educating policy makers, public health partners and the public on the important role laboratories play in public health preparedness. An electronic copy of the report is available at www.aphl.org. To obtain a hard copy of the report, please contact APHL's main office at 240.485.2745.

For questions on the data or APHL survey methodologies, please contact Brent Waddington, associate specialist, Survey & Research at 240.485.2710 or brent.waddington@aphl.org.

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Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

TABLE OF ACRONYMS

<u>Acronym</u>	<u>Definition</u>
AHRF	All-Hazards Receipt Facility
ALI	Annual Limit of Intake
APHL	Association of Public Health Laboratories
ASPR	Assistant Secretary for Preparedness and Response
BSC	Biological Safety Cabinet
BSL	Biosafety Level
BT	Bioterrorism or Biological Terrorism
CAP	College of American Pathologists
CDC	Centers for Disease Control and Prevention
CLIA	Clinical Laboratory Improvement Amendments
CST	Civil Support Team
CTLCD	Chemical Terrorism Laboratory Coordinator
CT	Chemical Terrorism
DHS	Department of Homeland Security
DOD	Department of Defense
ELC	Epidemiology Laboratory Capacity
EPA	Environmental Protection Agency
FBI	Federal Bureau of Investigation
FERN	Food Emergency Response Network
FTE	Full Time Employee
FTIR	Fourier-Transform Infrared spectroscopy
HazMat	Hazardous Materials
HPLC	High Performance Liquid Chromatography
HSEEP	Homeland Security Exercise and Evaluation Program
ICP	Inductively Coupled Plasma
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
LCMS	Liquid-chromatography mass spectrometry
LIMS	Laboratory Information Management System
LPX	Laboratory Preparedness Exercise

LPHL	Local Public Health Laboratory
LRN	Laboratory Response Network
LRN-B	Laboratory Response Network for Biological Terrorism Preparedness
LRN-C	Laboratory Response Network-Chemical Terrorism Preparedness
NRC	Nuclear Regulatory Commission
OPHPR*	Office of Public Health Preparedness and Response
PCR	Polymerase Chain Reaction
PHEP	Public Health Emergency Preparedness
PHER	Public Health Emergency Response
SPHL	State Public Health Laboratory
TRF	Time Resolved Fluorescence
USPS	United States Postal Service

*Formerly the Coordinating Office for Terrorism Preparedness and Emergency Response (COTPER)

2011 All-Hazards Laboratory Preparedness Survey Questions

Note: Unless otherwise noted, 48 responses were received for all questions; thus, the denominator for all percentages is 48. Similarly, for questions requiring a numeric answer, unless otherwise indicated, the table will display totals only.

For the purposes of this data report, the term “states” or “state public health laboratories” refers to all respondents including DC.

1. Who is the primary contact in your laboratory for this survey?

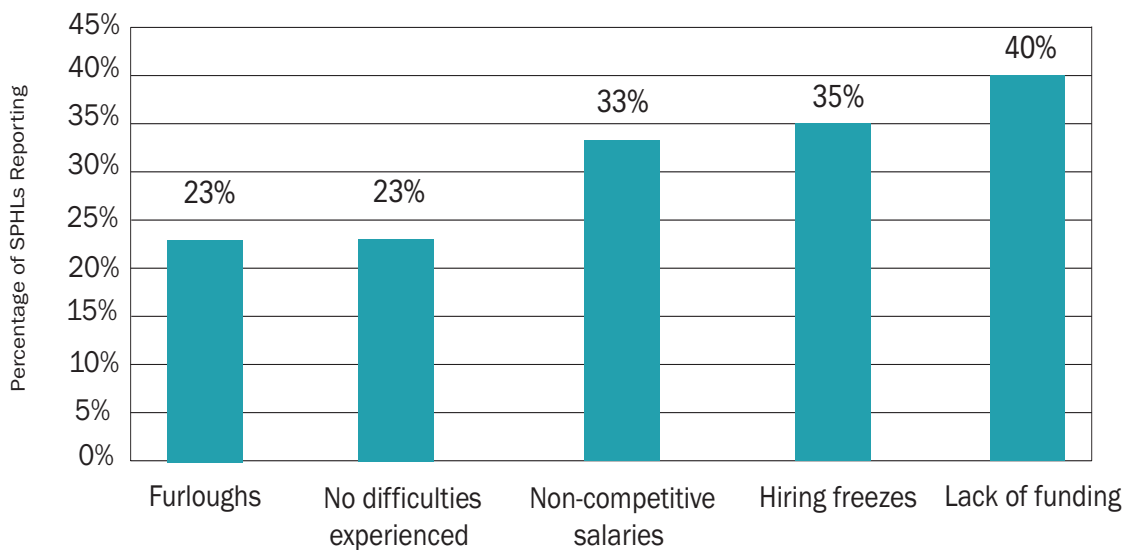
	Number of SPHLs	Percentage of SPHLs
Chemical Threat (CT) Laboratory Coordinator	2	4%
Other	3	6%
Bioterrorism (BT) Laboratory Coordinator	15	31%
Public Health Laboratory Director	28	58%

17 SPHLs (35%) reported having a cross-border contact

2. For preparedness specific positions, what factors affected your SPHL's ability to carry out preparedness activities from August 10, 2010 to August 9, 2011?

	Number of SPHLs	Percentage of SPHLs
Lay-offs	4	8%
Other	10	21%
Lack of qualified applicants	11	23%
Furloughs	11	23%
No difficulties experienced	11	23%
Non-competitive salaries	16	33%
Hiring freezes	17	35%
Lack of funding	19	40%

Top Five Factors Impacting SPHLs Ability to Perform Preparedness Activities



3. Please indicate whether or not your SPHL has a dedicated full-time staff person for the following roles.

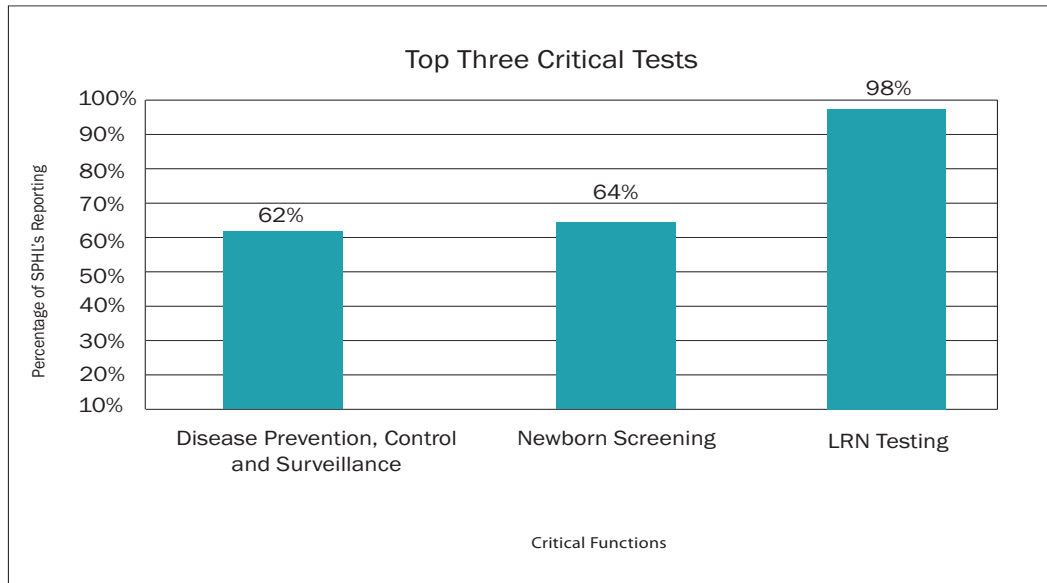
	Yes, full-time staff	No, staff works fewer than 35 hours per week	No, functions combined with other duties	No staff
State Training Laboratory Coordinator (STC)	11 (23%)	0 (0%)	37 (77%)	0 (0%)
Biological Terrorism (Threat) Laboratory Coordinator (BT)	21 (44%)	0 (0%)	27 (56%)	0 (0%)
Chemical Terrorism (Threat) Laboratory Coordinator (CT)	22 (46%)	3 (6%)	23 (48%)	0 (0%)
Assistant Chemical Terrorism (Threat) Laboratory Coordinator (CT)	18 (38%)	1 (2%)	18 (38%)	11 (23%)
Liaison to hospitals/sentinel laboratories	10 (21%)	0 (0%)	37 (77%)	1 (2%)
Coordinator for first responders (e.g. HazMat, CST, law enforcement officials, etc.)	0 (0%)	0 (0%)	36 (75%)	12 (25%)

4. Does your laboratory have a documented Continuity of Operations Plan (COOP) consistent with National Incident Management System (NIMS) guidelines? You may find more information about NIMS at <http://www.fema.gov/nims>.

	Number of SPHLs	Percentage of SPHLs
No, and the state does not have a COOP plan which includes laboratory operations and plans	0	0%
No, but the laboratory or state is developing a COOP	6	13%
Yes, a laboratory specific COOP	18	38%
Yes, a state agency or department-wide COOP that includes the laboratory	24	50%

4a. If your laboratory had to shut down and only a portion of the staff were available to work, in terms of COOP, which test(s) do you regard as critical for your laboratory? Please check all that apply. (n=42)

	Number of SPHLs	Percentage of SPHLs
Other- please specify:	10	24%
Reference and Specialized Testing	14	33%
Food Safety	17	40%
Environmental Health and Protection	20	48%
Disease Prevention, Control and Surveillance	26	62%
Newborn Screening	27	64%
LRN Testing	41	98%



5. Does your SPHL maintain a list of active sentinel clinical laboratories? For the purposes of this survey, the term “state” refers to all 50 states and the District of Columbia (DC).

	Full Time	Percentages
No	0	0%
Yes, for your jurisdiction only (may not be the entire state)	3	6%
Yes, for the entire state	45	94%

6. Please list the reason(s) for not maintaining a sentinel clinical laboratory database.

N/A

7. How many sentinel clinical laboratories are included in your database?

Status	Total	Mean	Maximun	Number of SPHLs
Active	4415	92	444	48
Inactive	69	1	33	10

8. Please indicate what information is captured in your sentinel clinical laboratories database. Please check all that apply.

	Number of SPHLs	Percentage of SPHLs
Other	15	31%
Testing capabilities, please specify which areas e.g. bioterrorism, influenza, chemical terrorism, etc.	26	54%
CLIA/CAP certification status	27	56%
Biosafety level	33	69%
Main Telephone Number	41	85%
Physical Address	43	90%
Fax Number	45	94%
Mailing Address	46	96%
Telephone for Primary Contact	46	96%
Name of Primary Contact	48	100%
Email Address of Primary Contact	48	100%
Name of Laboratory	48	100%

9. How do you identify sentinel laboratories? Please check all that apply.

	Number of SPHLs	Percentage of SPHLs
We do not identify sentinel laboratories	3	6%
Use other definition- please specify:	8	17%
Use advanced ASM, CDC LRN and APHL definition	32	67%
Use basic ASM, CDC LRN and APHL definition	33	69%

10. Has your SPHL awarded a certificate of recognition to sentinel clinical laboratories in your state?

	Number of SPHLs	Percentage of SPHLs
Yes, awarded a state developed certificate	9	19%
Yes, awarded the LRN Joint Leadership Committee (JLC) approved certificate	19	40%
No	20	42%

11. How many sentinel clinical laboratories received a certificate?

Status	Total	Mean	Maximun	Number of SPHLs
LRN JLC Basic Certificate	480	17	76	16
LRN JLC Advanced Certificate	429	15	62	15
State Certificate	734	26	118	11

12. Which performance measurement system do you have in place to assess the competency of sentinel laboratories to rule-out and refer BT agents? Please check all that apply.

	Number of SPHLs	Percentage of SPHLs
None of the above	1	2%
Other	3	6%
Wisconsin State Laboratory of Hygiene Proficiency Testing (WSLHPT)/Challenge Set for Sentinel Laboratories	4	8%
State developed	13	27%
College of American Pathologists (CAP) Laboratory Preparedness Exercise (LPX)	44	92%

12a. Do these competency assessments impact the renewal status or certification of sentinel laboratories? (n=47)

	Number of SPHLs	Percentage of SPHLs
Yes	5	11%
No	42	89%

13. Have you utilized a rapid method (Health Alert Network (HAN), blast e-mail or fax) to send messages to your sentinel clinical laboratories and other partners? Please check all that apply.

	Number of SPHLs	Percentage of SPHLs
No	1	2%
Other	14	29%
For routine updates	37	77%
For training events, such as providing training calendar	38	79%
For outbreaks	41	85%

14. From August 10, 2010 to August 9, 2011, did your laboratory sponsor any sentinel clinical laboratory training in your state?

41 SPHLs (85%) reported sponsoring sentinel laboratory training in their state.

14a. Please indicate in the table below how many classes, facilities and laboratorians received training in rule-out testing, packaging and shipping, biosafety and a combination of subjects. (n=41)

	Rule-out Testing Only	Packaging and Shipping Only	Biosafety Only	Combination of Prior	Other
Number of classes	91	154	16	119	97
Number of facilities that received training	543	1,274	82	569	719
Number of sentinel clinical laboratorians trained	1,078	2,746	170	1,438	2,928

15. Please indicate the number of preparedness exercises your SPHL conducted or participated in from August 10, 2010 to August 9, 2011. The number of labs reporting at least one of each section will noted in parenthesis.

	Table-Top Exercises	Drills	Functional Exercise	Full-Scale Exercise	Real-Life Events
Biological Threat	41 (22)	81 (25)	32 (22)	14 (11)	50 (12)
Chemical Threat	12 (9)	25 (12)	45 (22)	8 (8)	12 (3)
Radiological Threat	4 (4)	8 (3)	5 (4)	7 (6)	7 (6)
Multi-Hazards (e.g. an exercise testing a combination of biological, chemical or radiological threats)	8 (8)	36 (8)	17 (10)	9 (7)	7 (2)
Pandemic Flu	1 (1)	0 (0)	2 (2)	1 (1)	3 (3)
Continuity of Operations Plan (COOP)	8 (8)	10 (2)	5 (3)	3 (3)	9 (6)
Other	6 (4)	13 (5)	6 (5)	0 (0)	1 (1)

16. Please enter the number of specimens and samples submitted to the LRN section of your laboratory for threat agent testing by the following agencies from August 10, 2010 to August 9 2011.

Agency	Total	Mean	Maximum	Number of SPHLs
FBI	386	8	64	36
Local or Branch Public Health Laboratory	618	13	576	5
Local/State Law Enforcement	203	4	53	24
Civil Support Team	56	1	54	3
Hazmat	64	1	28	13
Senitel Clinical Laboratories	1,800	38	322	38
Other	897	19	605	14

16a. From August 10, 2010 to August 9 2011, please enter the total number of samples and specimens you accepted and tested in the LRN sections of your laboratory.

Clinical Specimens

	Total	Mean	Maximun	Number of SPHLs
Total Number Samples/Specimens <u>Accepted</u>	2,771	58	797	44
Biological Threat Agents <u>Tested</u>	2,369	49	576	44
Chemical Threat Agents <u>Tested</u>	714	15	500	6
Radiological Threat Agents <u>Tested</u>	106	2	100	2
Other Analysis	19	0	19	1

Environmental (non-clinical) Samples

	Total	Mean	Maximun	Number of SPHLs
Total Number Samples/Specimens <u>Accepted</u>	1,359	28	713	44
Biological Threat Agents <u>Tested</u>	1,425	30	689	42
Chemical Threat Agents <u>Tested</u>	215	4	45	16
Radiological Threat Agents <u>Tested</u>	50	1	23	5
Other Analysis	54	1	49	3

16A. Continued

Food Samples

	Total	Mean	Maximum	Number of SPHLs
Total Number Samples/Specimens <u>Accepted</u>	1,359	28	713	44
Biological Threat Agents <u>Tested</u>	1,425	30	689	42
Chemical Threat Agents <u>Tested</u>	215	4	45	16
Radiological Threat Agents <u>Tested</u>	50	1	23	5
Other Analysis	54	1	49	3

17. Of the total number of **environmental (non-clinical) samples** tested in question 16a, how many were from the following categories?

	Total	Mean	Maximum	Number of SPHLs
Threat letter/package with unknow powder	450	9	84	43
Threat letter/package with other sample type	112	2	60	11
Food/beverage sample	150	3	54	9
USPS samples (clean-up, Biohazards Detection Systems (BDS), etc.)	2	0	1	2
Other	784	16	604	15

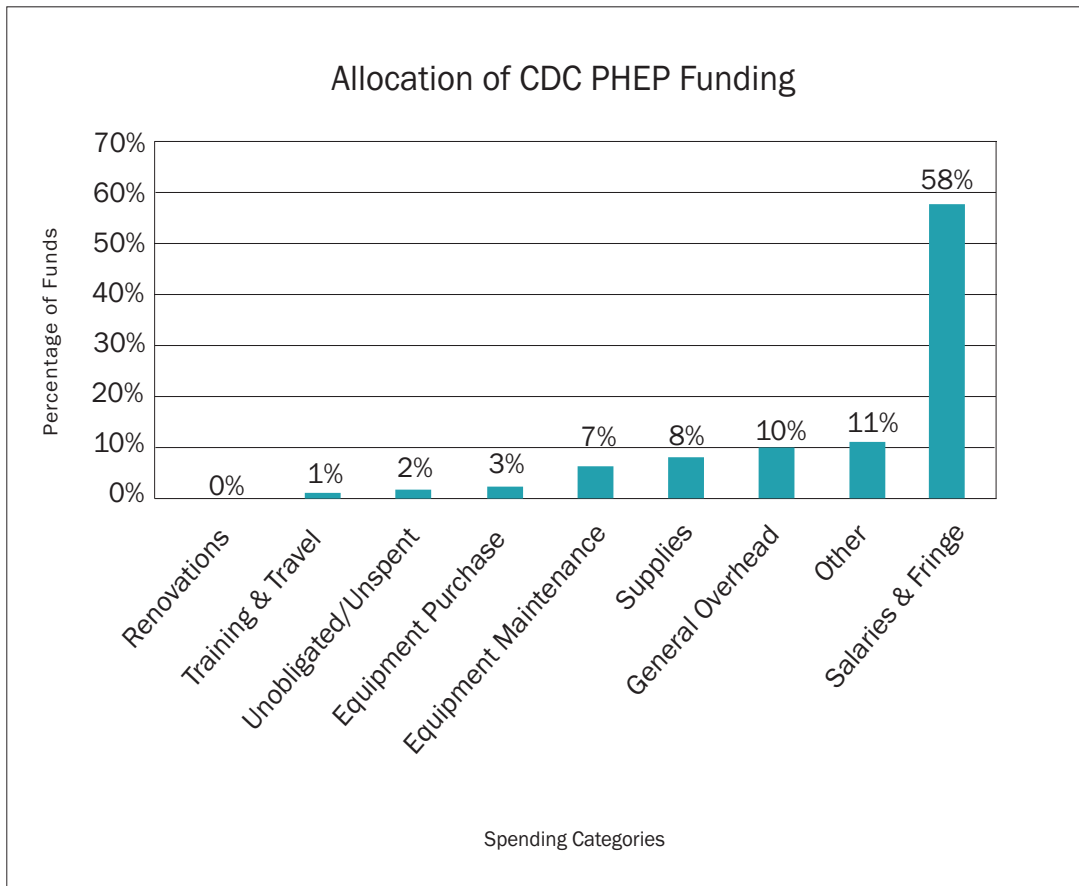
18. From August 10, 2010 to August 9, 2011, how much biological threat preparedness funding did your laboratory receive from your state?

	Funding
Total	2,291,550
Mean	47,741
Max	522,656

19. From August 10, 2010 to August 9, 2011, how much of the CDC Public Health Emergency Prepared-ness (PHEP) Cooperative Agreement funding did your laboratory receive to maintain and enhance capa-bilities to test for biological agents?

	Funding
Total	42,888,977
Mean	893,520
Max	2,890,928

19a. From August 10, 2010 to August 9, 2011, how much of the allocated CDC biological laboratory threat preparedness funds were used for the following activities? Do not include funds received for influenza preparedness or carryover funds from previous years. Please enter "0" if none. Note your total from 19a must match your answer in 19.



20. From August 10, 2010 to August 9, 2011, how much CDC biological laboratory threat preparedness funding did you provide to the following types of laboratories in your state?

	Total	Mean	Max	Number of SPHLs
Branch state public health laboratory (SPHL)	5,196,430	108,259	2,784,175	6
Local public health laboratory (LPHL)	2,872,706	59,848	1,694,143	5
Clinical (hospital, university or private) laboratory	350,116	7,294	315,000	4
Veterinary laboratory	186,125	3,878	117,125	4
Agricultural laboratory	204,221	4,255	106,753	3
Food laboratory	20,000	417	20,000	1
Other laboratory	0	0	0	0

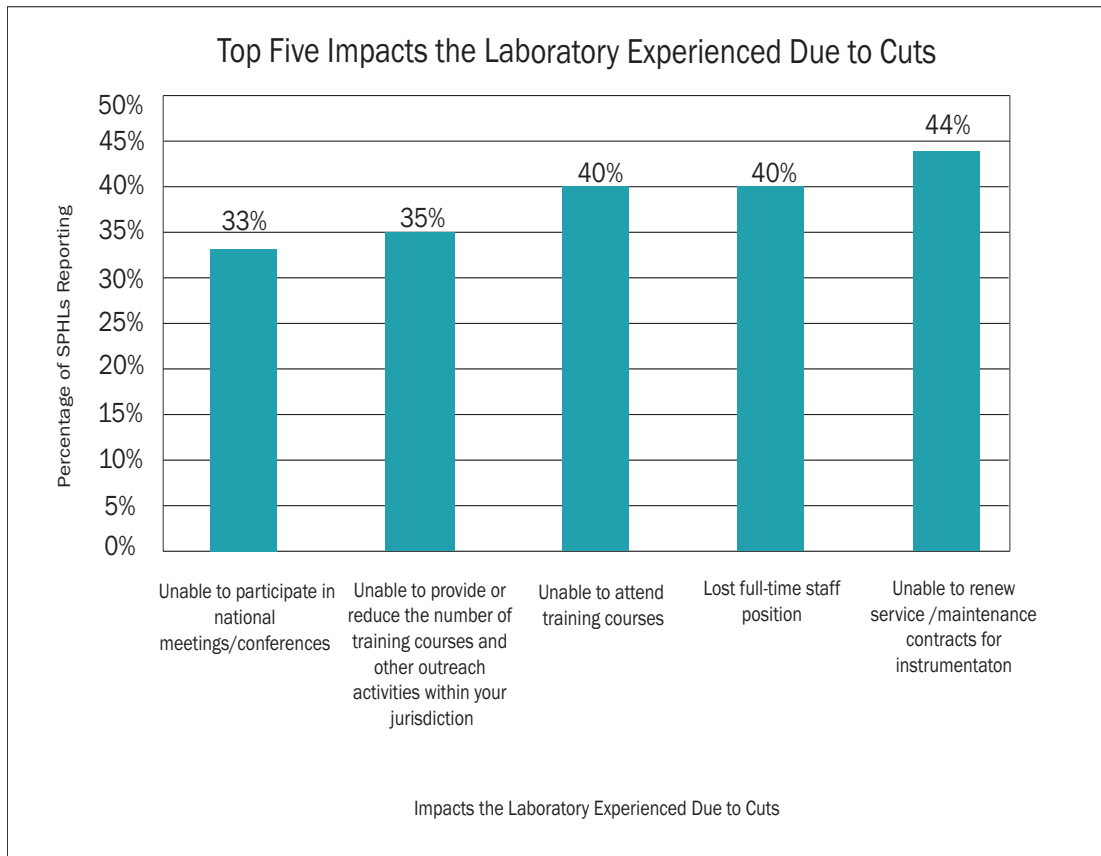
21. Do you receive non-CDC federal funding for bioterrorism preparedness activities?

13 SPHLs (27%) reported receiving a total of \$4,134,427 in non-CDC federal funding for bioterrorism activities.

22. Please choose the top five impacts of any funding cuts your laboratory has experienced from August 10, 2010 to August 9, 2011.

	Number of SPHLs	Percentage of SPHLs
More than double the overtime from the previous fiscal year	0	0%
Unable to participate in exercises	1	2%
Unable to respond to an event	2	4%
Lost part-time staff position	5	10%
Reduced 24/7 capability	5	10%
SPHL did not experience any preparedness funding cuts from August 10, 2010 to August 9, 2011	5	10%
Experienced no change in laboratory operations	6	13%
Unable to purchase and upgrade Laboratory Information Management System (LIMS)	8	17%
Delayed or cancelled planned facility improvements	8	17%
Increased staff turnover	8	17%
Increased sample turnaround time	8	17%
Other—please specify:	8	17%
Unable to purchase critical equipment (e.g. PCR instrumentation, Automated Extractors, Biosafety Cabinets)	13	27%
Unable to purchase reagents and supplies	13	27%
Unable to expand capabilities for new assays/tests	14	29%

Unable to participate in national meetings/conferences	16	33%
Unable to provide or reduce the number of training courses and other outreach activities within your jurisdiction	17	35%
Unable to attend training courses	19	40%
Lost full-time staff position	19	40%
Unable to renew service/maintenance contracts for instrumentation	21	44%



23. For August 10, 2010 to August 9, 2011, what source of funding did you use to provide support to the sentinel clinical laboratories? Please check all that apply.

	Number of SPHLs	Percentage of SPHLs
Other—please specify:	1	2%
State funding	4	8%
HHS/ASPR Hospital Preparedness Program (HPP) Cooperative Agreement	17	35%
CDC Public Health Emergency Preparedness (PHEP) Cooperative Agreement	18	38%
Did not provide funding to sentinel clinical laboratories	19	40%

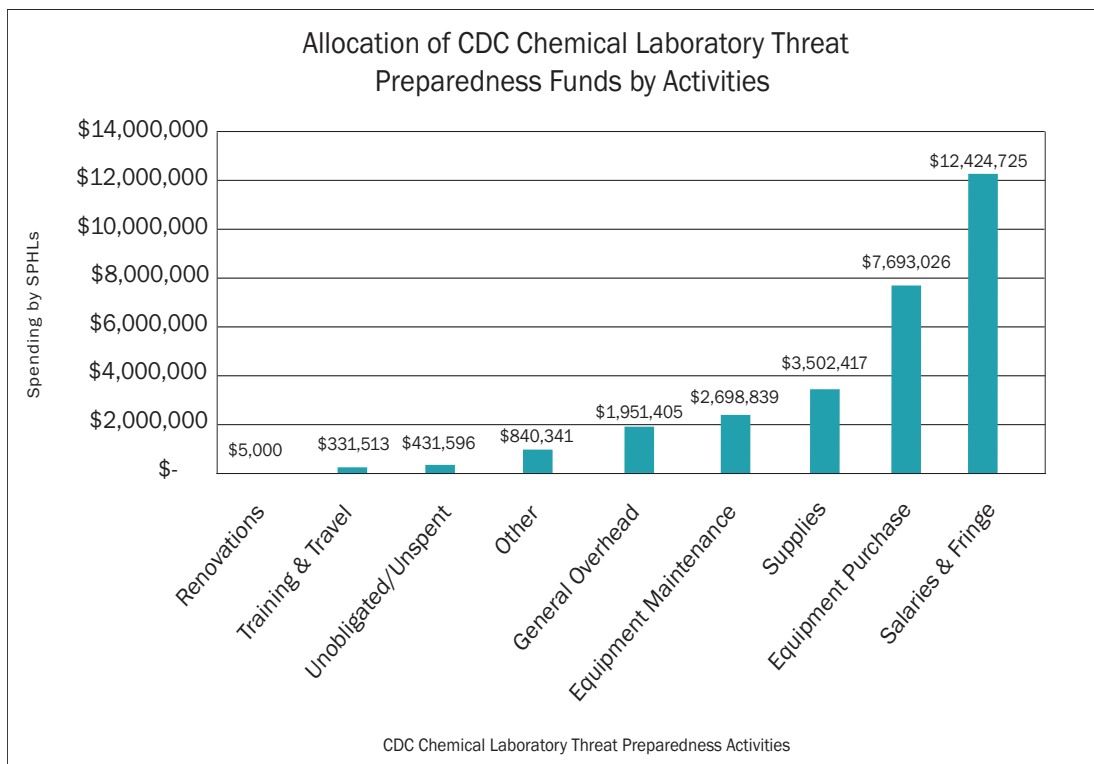
24. From August 10, 2010 to August 9, 2011, how much chemical threat preparedness funding did your laboratory receive from your state?

	Total	Mean	Max	Number of Labs
Funding	1,366,370	28,466	523,952	7

25a. From August 10, 2010 to August 9, 2011, how much CDC Public Health Emergency Preparedness Cooperative Agreement funding did your SPHL receive to maintain and enhance chemical threat activities?

	Total	Mean	Max	Number of Labs
Funding for Level 1 Activities	12,657,309	263,694	2,077,584	9
Funding for Level 2 Activities	14,809,374	308,529	730,564	36
Funding for Level 3 Activities	2,412,179	50,254	639,448	22

25b. From August 10, 2010 to August 9, 2011, how much of the allocated CDC chemical laboratory threat preparedness funds were used for the following activities? Please do not include carryover funds received from previous years. Please enter "0" if none.



26. From August 10, 2010 to August 9, 2011, how much CT PHEP funding did you provide to the following types of laboratories in your state?

	Total	Mean	Max	Number of Labs
Branch state public health laboratory (SPHL)	1,432,380	29,841	1,432,380	1
Clinical (hospital, university or private) laboratory	0	0	0	0
Veterinary laboratory	0	0	0	0
Agricultural laboratory	4,646	97	4,646	1
Food laboratory	0	0	0	0
Other laboratory	0	0	0	0

27. Do you receive non-CDC federal funding for chemical threat preparedness activities?

6 SPHLs (13%) reported receiving non-CDC federal funding for chemical threat preparedness activities.

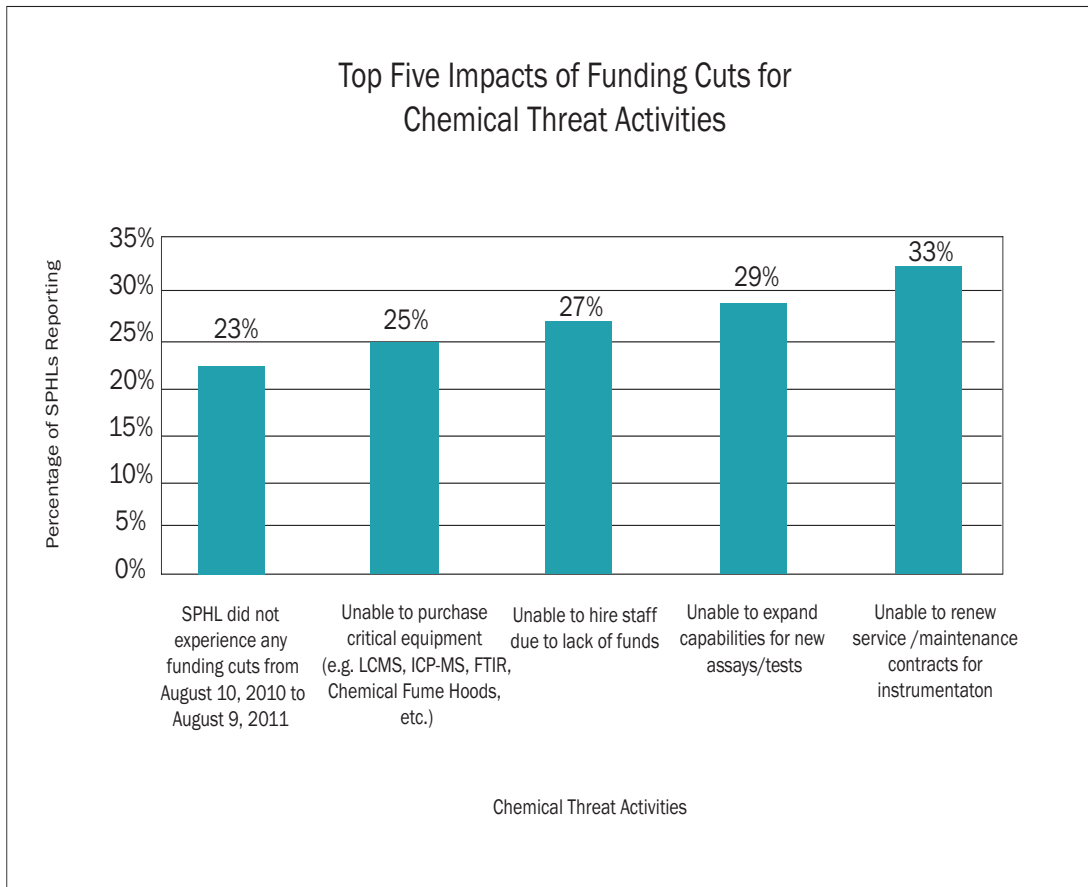
27a. How much non-CDC federal funding did you receive? (n=6)

	Total	Mean	Max
Funding	3,064,188	510,698	819,488

28. From August 10, 2010 to August 9, 2011, for chemical threat activities, please select the top five impacts of any funding cuts your laboratory has experienced.

	Number of SPHLs	Percentage of SPHLs
Unable to participate in exercises	0	0%
Significantly increased overtime	1	2%
Dropped an LRN-C CT Level	1	2%
Increased sample turnaround time	2	4%
Reduced state courier services	2	4%
Unable to respond to an event	2	4%
Lost part-time staff position	3	6%
Delayed or canceled planned facility improvements	3	6%
Unable to provide or reduced the number of training courses and other outreach activities within your jurisdiction	6	13%
Other -please specify:	6	13%
Unable to purchase and upgrade Laboratory Information Management System (LIMS)	6	13%
Unable to meet the LRN-C Level 2 requirements/qualifications	7	15%
Experienced no change in laboratory operations	7	15%
Lost full-time staff position	8	17%
Increased staff turnover	8	17%
Unable to purchase reagents and supplies	9	19%

Reduced ability to provide 24/7 analysis coverage	9	19%
Unable to participate in national meetings/conferences	11	23%
Unable to attend training courses	11	23%
SPHL did not experience any funding cuts from August 10, 2010 to August 9, 2011	11	23%
Unable to purchase critical equipment (e.g. LCMS, ICP-MS, FTIR, Chemical Fume Hoods, etc.)	12	25%
Unable to hire staff due to lack of funds	13	27%
Unable to expand capabilities for new assays/tests	14	29%
Unable to renew service/maintenance contracts for instrumentation	16	33%



29. From August 10, 2010 to August 9, 2011, did you increase, decrease or maintain your LRNC chemical capability?

	Number of SPHLs	Percentage of SPHLs
Increase	27	56%
Decrease	2	4%
Maintain	19	40%

29a. How did you increase your capability? Please check all that apply. (n=27)

	Number of SPHLs	Percentage of SPHLs
Added more than two LRN-C methods	1	4%
Added two LRN-C methods	2	7%
Other-please specify:	2	7%
Added CT Personnel	4	15%
Added CT Equipment	13	48%
Added one LRN-C method	18	67%

29b. How did you decrease your capability? Please check all that apply. (n=2)

	Number of SPHLs	Percentage of SPHLs
Dropped one LRN-C method	0	0%
Lost CT Personnel	0	0%
Lost CT Equipment	0	0%
Unable to maintain service agreement(s) on current equipment	0	0%
Dropped two LRN-C methods	1	50%
Dropped more than two LRN-C methods	1	50%
Unable to purchase new equipment required to add methods	1	50%
Dropped a CT level	1	50%
Other -please specify:	1	50%

30. As of August 9, 2011, your CT laboratory qualified for which appropriate proficiency tests administered by the CDC National Center for Environmental Health? Please check only 2 answer options.

	Number of SPHLs	Percentage of SPHLs
Not qualified	1	2%
Qualified for only 8 Core Methods	6	13%
Qualified for less than 8 Core Methods	13	27%
Qualified for more than 8 Core Methods	24	50%
Qualified for SCPaS	33	69%

31. Has your CT laboratory been certified or accredited by any of the following? Please check all that apply.

	Number of SPHLs	Percentage of SPHLs
ISO	0	0%
CAP	6	13%
None	16	33%
CLIA	29	60%

31a. Is your CT laboratory planning to become certified or accredited within the next 12 months by any of the following? (n=16)

	Number of SPHLs	Percentage of SPHLs
ISO	0	0%
CAP	2	13%
No	6	38%
CLIA	8	50%

32. In your laboratory, how many radioanalytical chemists or other analytical chemists work on methods for the analysis or research of radionuclides in CLINICAL samples?

	Full time	Part Time
Total	4.5	7.9
Mean	0	0
Max	2	2
Number of Labs	3	7

32a. Which of the following funding sources are used to fund radioanalytical chemists in your laboratory? Please check all that apply.

	Number of SPHLs	Percentage of SPHLs
PHEP	1	2%
Other Federal	7	15%
State	19	40%
Other- please specify:	30	63%

Popular responses for other include:

utilities	Consultants
state funds used to fund our partner lab staff from the Division of Public Protection and Safety	fee-for-service work
Dedicated revenue	Grant from Nuclear Power Plants



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