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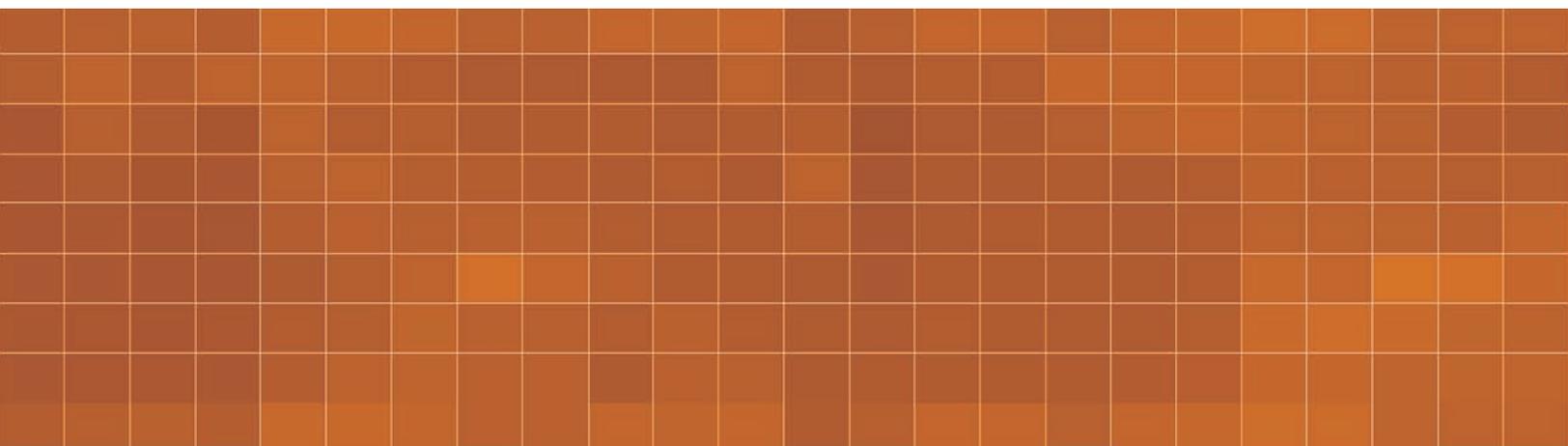


years



Ensuring Healthy Communities:

Results of the 2006 State Environmental Health Directors Survey



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Results of the 2006 State Environmental
Health Directors Survey

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Executive Summary

In April 2005, ASTHO convened a group of State Environmental Health Directors (SEHD) to begin developing a national identity for state environmental health practice. In promoting the growth of the SEHD group, ASTHO would foster relationships among the states, provide opportunities to share expertise and innovative practices, and enhance environmental health practice. In order to develop a picture of state environmental health services, the group recommended that ASTHO and SEHD conduct a survey of SEHD members.

ASTHO administered the State Environmental Health Services survey to SEHD members in November, 2006 and February, 2007. Data from forty-eight responding states and the District of Columbia were incorporated into the final report. States were asked to provide information about 16 environmental health programs and multiple activities conducted by state health agencies, either in the environmental health director's office or elsewhere in the agency. Survey results are intended to provide a snapshot of the environmental public health programs and activities, and to enhance communications among the SEHD - especially when making inquiries about specific programs. Results also provide a resource to states when considering program realignment and funding decisions.

Overall, results indicated that the programs administered by the designated SEHDs varied greatly among the states. Similarly, programs administered through state health agencies varied from state to state. Specifically, the survey results indicate that:

- The number of environmental health programs administered by SEHD units ranged from 1 to 13 (median 8).
- The number of environmental health programs administered by state health agencies ranged from 4 to 14 (median 11).
- The number of environmental health programs administered by other state agencies ranged from 0 to 15 (median 8).
- Food protection, risk assessment and communication, and general sanitation and monitoring programs were reported in SEHD units in more than 75% of responding states.
- All responders participate in emergency response planning; however, only 68% of responding SEHDs reported receiving funding for such activities.
- Less than one-fifth of responders (18%) reported outsourcing of program activities; however, over one-third (37%) reported discontinuing programs for lack of funding or other reasons.
- Two-thirds (67%) of responding states have added new programs. The most frequently reported was environmental public health tracking.

While there is no standard profile of environmental health programs and activities implemented in the states, the results can provide an understanding of environmental health services in the states. Results will also complement ongoing research at ASTHO to create a picture of all state public health services, as well as efforts at NACCHO and other organizations to profile local public health services.

Introduction

Purpose

A core group of state environmental health directors met in April, 2006 to discuss priority environmental health issues in the states. Participants agreed that there was a lack of knowledge about the environmental health programs administered in the states. The directors agreed that it would be useful to gain an understanding of typical state environmental health programs and to obtain a baseline to monitor how programs change over time.

The ASTHO State Environmental Health Directors (SEHD) group subsequently expanded to include representatives from each of the 50 states, the District of Columbia, and the Territories as designated by each of the State Health Officials. Four of the states (Colorado, Kansas, North Dakota, and South Carolina) have joint health and environmental agencies. In two states, Alaska and New Hampshire, the State Health Official has designated a representative from the state's environmental protection agency to serve as the SEHD for their state. A SEHD workgroup, chaired by Walter Combs (RI), developed the survey questions and analyzed the results.

The survey results are intended to provide a snapshot of the environmental public health programs and activities that are administered by the states. The data will enhance communications among the SEHD, especially when making inquiries about specific programs; aid in marketing environmental health and public health agencies; inform the SEHD and partners about other states' activities; and promote improved decisions about budgets and new legislation. Finally, data recorded here is intended to complement and update data collected by other organizations and entities such as the National Association of City and County Health Officials' (NACCHO) *National Profile of Local Health Departments**. ASTHO will continue to integrate efforts to illustrate the public health delivery system.

Environmental Health Systems

Historically, traditional environmental health programs have been implemented and overseen by state and local health agencies. However, with the creation of the Environmental Protection Agency (EPA) in 1970, state environmental health programs and activities began to move out of health agencies and become independent organizations, mirroring federal changes. The result of these changes was the splintering of environmental health programs across multiple agencies and programs. State departments of environmental quality, environmental protection, and environmental services began administering traditional environmental health programs along with environmental protection programs. Environmental health programs today reflect the impact of the restructuring in the 1970's. Many health agencies have robust environmental health programs and provide a host of environmental health services. However, there are others that only have responsibility for a few programs or activities or share most of them with other state agencies.

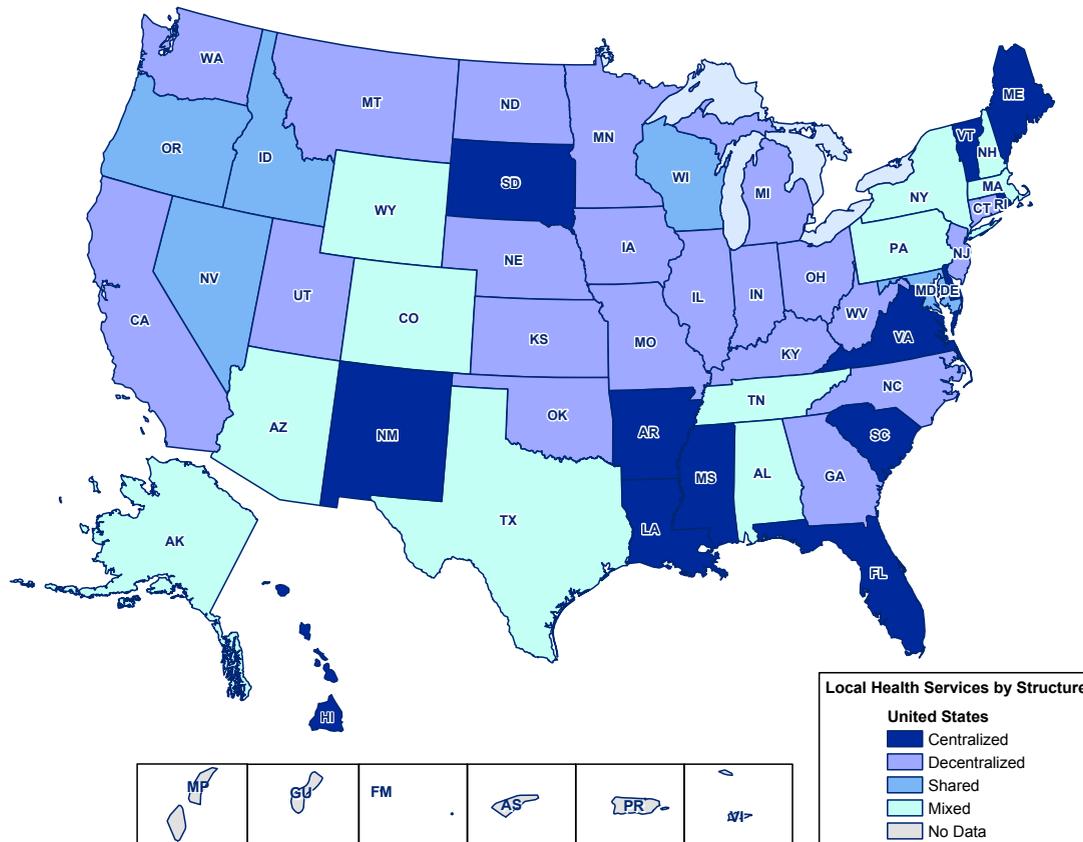
In addition to sharing responsibility for environmental health programs and activities with other state agencies, state health agencies also share responsibility with local health agencies. States are primarily organized into four different structures: centralized, decentralized, shared and mixed authority (see Figure 1).

* National Association of County & City Health Officials. National Profile of Local Health Departments. 2005. Available at http://www.naccho.org/pubs/product1.cfm?Product_ID=15. Accessed 12-10-06.

Figure 1: State Health Agency Structure	
Centralized:	The local health department is operated by the state health agency or board of health. Local health department functions directly under the state agency's authority.
Decentralized:	Local governments have direct authority over local health departments, with or without a board of health.
Shared authority:	The local health department operates under the shared authority of the state health agency, local government, and the board of health.
Mixed authority:	Services are provided by a combination of the state agency, local government, boards of health or health departments in other jurisdictions.

The state structure for local health services are displayed in the Figure 2; 27% of states have a centralized authority, 42% have decentralized authority, 9% share authority, 22% have mixed authority at the state and local levels. Survey respondents were asked to provide information on specific environmental health programs that were shared or delegated to local health agencies.

Figure 2. Local Health Services Structure by State



Previous Studies

National reviews of environmental and public health programs collected by ASTHO and other organizations were reviewed in the course of developing and analyzing the survey. The 2005 NACCHO *Profile* provides a national description of local health department infrastructure; including workforce, budget and program information. Data is collected periodically, and although the NACCHO *Profile* is not specific to environmental health, it does include results for a few environmental health programs. Tom Burke, Johns Hopkins School of Hygiene and Public Health, provided a snapshot of state environmental health programs in a 1997 article, *The Environmental*

on key programs to include in the survey (see Figure 4). The workgroup defined “programs,” based on “activities” administered or implemented through the “program” areas. As used in the survey, the word “activities” includes those specific components of the larger program. For example, foodborne illness investigations are a specific activity within a Food Protection program.

There was some initial concern about the length of the survey and the number of programs and activities that respondents would be asked to provide information about. However, the workgroup agreed to be as inclusive of all environmental health program activities as possible. The final survey requested data on 16 different program areas that encompassed up to 22 activities each. Included in the 16 programs are several that were traditionally in state health agencies prior to the creation of the EPA; now they are frequently part of state environment agencies. These were included in part because four of the states, Colorado, Kansas, North Dakota, and South Carolina, have consolidated public health and environment agencies, but also because they are not exclusively limited to environment agencies. A complete listing of the programs and associated activities used in the survey is included in Appendix A.

Figure 4. Environmental Programs Included in the Survey
Childhood Lead Poisoning Prevention
Consumer Protection
Drugs, Cosmetics & Medical Devices
Environmental Laboratory Testing
Food Protection
General Sanitation & Environmental Monitoring
Indoor Air Quality
Occupational Health
Outdoor Air Quality
Pesticides Control & Regulation
Plumbing Code
Private Wells
Public Water Supply
Radiation Control
Risk Assessment & Risk Communication
Waste Management & Control

The purpose of the survey not only included determining the programs and activities administered by state health agencies, but specifically those directly overseen by the SEHDs. Respondents were also asked to indicate the agency (ies) or jurisdiction responsible for a program if it was not in the state health agency. In order to obtain this information, respondents were provided with categories in which to place each of the program areas:

- In environmental health director’s unit
- In another unit in the state public health agency
- In another state agency
- In county and/or local agency
- Contracted out by state
- No program or unknown

The survey was designed to gather as much information as possible. Respondents were asked to check off all agencies that performed program activities. For example, the list of Food Protection programs are often conducted jointly by state health agency staff, as well as by state departments of agriculture and local health departments. In those cases, the respondent would select all four appropriate responses. The survey did not intend to distinguish between lead and support units for most of the programs.

If a program was identified as being administered in environmental health director's unit, or in another unit in the state public health agency, the respondent was asked to select all of the activities that were administered by the program. The survey did not inquire about activities in two of the programs: Plumbing Code and Drugs, Cosmetics and Medical Devices. The workgroup also determined that it would be too burdensome for respondents to provide information about specific program activities if they were outside the state health agency. Therefore, a skip pattern was employed using the Zoomerang survey tool so only respondents who selected "in environmental health director's unit," or "in another unit in the state public health agency," were asked to provide information about specific activities. If respondents selected "in another state agency," they were asked to name the agency (ies).

Finally, there was a short section of yes/no and short answer questions in the survey. Respondents were asked to answer five yes/no questions about receiving federal preparedness funding, and one yes/no question about the SEHD's involvement in preparedness planning. They were also asked five yes/no questions about changes to their programs or partnerships with academia in the past five years, and to provide a response if they responded positively. Respondents were also given an opportunity to list any programs or activities that were not already covered in the survey.

Analysis

Preliminary analyses of responses received in November, 2006 were presented at the 2006 National Environmental Public Health Conference in Atlanta on December 5, 2006. Subsequently, eight additional surveys were received, and the analysis was expanded and refined.

During the analysis of results, it became clear that the skip pattern employed by the survey did not work as intended. Respondents who selected responses for either "in environmental health director's unit," or "in another unit in the state public health agency," were shown a list of activities for both, rather than only for the category they had selected. This likely introduced some confusion, and as a result, a number of respondents had activities selected, but did not check yes to one of the two initial responses.

For example, an individual may not have selected that they had a Food Protection program in environmental health director's unit, but did select one or more activities, such as *foodborne illness investigations* as part of the environmental health director's unit. There are two possible reasons for these discrepancies. Respondents may have viewed the list of activities and realized that they should have selected the program, but neglected to go back and do so. Another possibility is that they reported out activities for programs that were actually in another state agency, as this response was also often selected. In these instances, the authors made the assumption that the former was true and made corrections to reflect that either in environmental health director's unit, or in another unit in the state public health agency, was selected. Revisions to surveys as submitted were made before data analysis and tabulation.

The results for the two respondents who are actually representatives from state environment agencies, Alaska and New Hampshire, are included with all other responses for in environmental health director's unit, but those programs are not included in counts for the state health agency. The results for consolidated health and environmental agencies were also not evaluated differently from other responders.

Other corrections were made as necessary, and in some cases, conversations with the SEHD or other state officials were used to make corrections.

Limitations

The survey results are a composite snapshot of how programs were administered at the time the surveys were completed by the SEHDs, and do not reflect any changes in program administration since the snapshot was taken. The survey also did not distinguish between lead and support agencies. However, because questions were asked about which program activities were performed both in environmental health director's unit, and in another unit in the state public health agency, results provide a more complete picture of where program activities are performed. Follow up surveys may make the distinction.

Results indicate under-reporting for the categories of "another state agency," and especially for the "in county and/or local agency," category. Comparison of the percentages reported by the SEHDs for program activities being performed at the county and/or local level with data on selected environmental health programs from the NACCHO *Profile* indicates that there was indeed under-reporting for county and/or local level agencies. This problem was particularly apparent in Environmental Health Laboratories. We also suspect under-reporting for programs that are contracted out, especially when we consider that even though whole programs may not be contracted out, some activities or services may be. Therefore, the data for county and/or local level agencies and for contracted out services was not analyzed in detail.

Activities were not always well-defined and future survey attempts may result in better data with consistent use of a verb form for each of the activities. Additionally, a separate response for "no program," and "unknown," would provide more accurate information.

Results

Overview of Where Programs are Administered

There is a wide range in the frequency with which environmental health programs are administered within each of the types of agencies surveyed. Seven programs – Food Protection (98%), Childhood Lead Poisoning Prevention (92%), Environmental Laboratory Testing (90%), Risk Assessment and Risk Communication (86%), General Sanitation and Environmental Monitoring (86%), Radiation Control (78%) and Indoor Air Quality (78%) – are found in more than 75% of the state health agencies. On the other hand, four programs – Consumer Protection (39%), Plumbing Code (18%), Pesticides Control and Regulation (18%), and Outdoor Air Quality (10%) – are found in less than 40% of the state health agencies. Of the 16 programs surveyed 11 of the programs are found in 50% or more of the state health agencies.

Figure 5. Frequency Distribution of Environmental Health Programs by Agency					
	In the State Public Health Agency	In Another State Agency	In County and/or Local Agency	Contracted Out By State	No Program or Unknown
Food Protection	98%	45%	39%	4%	0%
Childhood Lead Poisoning Prevention	92%	8%	27%	8%	8%
Environmental Laboratory Testing	90%	35%	10%	6%	0%
Risk Assessment & Risk Communication	86%	27%	8%	0%	8%
General Sanitation & Env Monitoring	86%	49%	43%	0%	6%
Radiation Control	78%	29%	2%	0%	2%
Indoor Air Quality	78%	27%	16%	0%	20%
Public Water Supply	61%	79%	15%	2%	2%
Drugs, Cosmetics & Medical Devices	59%	20%	2%	0%	22%
Occupational Health	57%	65%	2%	0%	12%
Private Wells	57%	43%	41%	0%	14%
Waste Management & Control	43%	84%	22%	2%	0%
Consumer Protection	39%	49%	8%	2%	29%
Plumbing Code	18%	53%	37%	0%	8%
Pesticides Control & Regulation	18%	90%	2%	0%	0%
Outdoor Air Quality	10%	86%	4%	0%	0%

Similarly, four programs – Pesticides Control and Regulation (90%), Outdoor Air Quality (86%), Waste Management and Control (84%), and Public Water Supply (79%) – are found in other state agencies in over 75% of the states. Pesticides programs were most commonly reported as being administered by the state departments of agriculture. The other three programs were reported as part of the state environmental protection agencies.

State Health Agency Programs

The program most frequently found in a SEHD’s unit is Food Protection (82%), followed closely by General Sanitation and Environmental Monitoring (78%), Risk Assessment and Risk Communication (76%), Childhood Lead Poisoning Prevention (71%), and Indoor Air Quality (71%). At the other end of the list for the SEHDs are Outdoor Air Quality (found in only 4% of the SEHDs’ units), Pesticides Control and Regulation (16%) and Plumbing Code (16%).

Programs found most frequently in other state health agency units include Environmental Laboratory Testing (86%), Food Protection (78%), Risk Assessment and Risk Communication (69%), Childhood Lead Poisoning Prevention (61%), and General Sanitation and Environmental Monitoring (63%).

Figure 6 outlines where programs are administered within the state health agency, providing the percentage of states in which the program is administered in environmental health director's unit, in another unit in the state public health agency and where the program is shared by both.

Figure 6. Frequency Distribution of Programs in the State Health Agency			
	In Environmental Health Director's Unit	In Another Unit in the State Public Health Agency	Shared by the Environmental Health Director's Unit & Another State Health Agency Unit
Food Protection	82%	78%	59%
General Sanitation & Environmental Monitoring	78%	63%	53%
Risk Assessment & Risk Communication	76%	68%	57%
Childhood Lead Poisoning Prevention	71%	61%	41%
Indoor Air Quality	71%	51%	43%
Public Water Supply	51%	43%	31%
Radiation Control	51%	45%	18%
Private wells	47%	20%	10%
Occupational Health	47%	22%	12%
Environmental Laboratory Testing	37%	86%	29%
Waste Management & Control	35%	18%	10%
Consumer Protection	33%	18%	12%
Drugs, Cosmetics & Medical Devices	27%	35%	2%
Plumbing Code	16%	4%	2%
Pesticides Control & Regulation	16%	6%	4%
Outdoor Air Quality	2%	8%	0%

Review of these results reveals that a high percentage of environmental health program activities are conducted in other state health agency units. However, only three of the programs are shared within the state health agency by the environmental health unit and another state health agency unit in at least 50% or more of the responding states. They include Food Protection, Risk Assessment and Risk Communication and General Sanitation and Environmental Monitoring. This is one indication of how very differently environmental health program services are organized in the state health agencies.

Discussions on the specific program activities are presented in the section on Program Activities below.

The number of programs in the state health agencies ranges from 4 to 14, with a median of 11 programs, while the number of programs in the SEHDs' units ranges from a minimum of 1 to a maximum of 13 with a median of 8. As reported by the SEHDs, the number of programs in other state agencies ranges from 0 to 15 with a median of 8. Figure 7 displays the number of environmental health programs by state and agency. This chart is perhaps one of the clearest pictures of how differently the environmental health programs are organized in the states. Analysis of the data reveals no strong regional patterns in the number of programs in the SEHDs' units.

Figure 7. Number of Programs by State and Agency					
State	In State Health Agency	In Environmental Health Director's Unit	In Another State Health Agency Unit	Shared by the Environmental Health Director's Unit & Another State Health Agency Unit	In Another State Agency
Alabama	8	6	8	6	6
Alaska	6	8	6	0	11
Arizona	6	6	5	4	9
Arkansas	14	8	13	7	0
California	9	9	1	1	6
Colorado	12	7	9	4	2
Connecticut	13	11	6	6	13
Delaware	12	11	2	1	6
District of Columbia	9	9	6	6	7
Florida	13	12	7	6	10
Georgia	9	8	6	3	9
Hawaii	6	6	2	2	3
Idaho	6	3	4	1	6
Illinois	14	10	8	4	9
Indiana	11	6	7	2	5
Iowa	12	11	4	3	9
Kansas	13	8	8	3	7
Kentucky	10	10	3	3	9
Louisiana	11	9	5	3	7
Maine	13	13	7	7	8
Maryland	7	2	7	2	12
Massachusetts	10	8	3	1	5
Michigan	10	6	8	4	12
Minnesota	9	9	5	5	7
Mississippi	9	8	3	2	1
Missouri	11	10	6	5	10
Montana	11	3	11	3	7
Nebraska	12	5	11	4	9
Nevada	6	6	1	1	8
New Hampshire	7	5	7	0	11
New Jersey	12	10	7	5	5
New Mexico	13	12	9	8	15
New York	11	9	7	5	5
Ohio	10	7	8	5	9

Figure 7. Number of Programs by State and Agency					
State	In State Health Agency	In Environmental Health Director's Unit	In Another State Health Agency Unit	Shared by the Environmental Health Director's Unit & Another State Health Agency Unit	In Another State Agency
Oklahoma	10	6	9	5	12
Oregon	9	9	6	6	9
Pennsylvania	3	2	2	1	10
Rhode Island	12	10	10	8	15
South Carolina	10	4	10	4	4
South Dakota	6	3	6	3	6
Tennessee	6	3	6	3	8
Texas	13	8	12	7	7
Utah	6	5	5	4	6
Vermont	10	8	6	4	7
Virginia	9	7	8	6	9
Washington	11	9	8	6	11
West Virginia	10	9	6	5	8
Wisconsin	7	7	2	2	10
Wyoming	3	1	3	1	7
Median	11	8	6	5	8
Maximum	14	13	13	9	15
Minimum	4	1	1	0	0

Additional figures that display specific programs, by state, administered within the state health agency, including those in the environmental health director's unit; those shared by the environmental health director's and another unit in the state health agency; and those which are in another state agency are available in Appendix B. The figures also include statistics on the number and percentages of states that administer the programs.

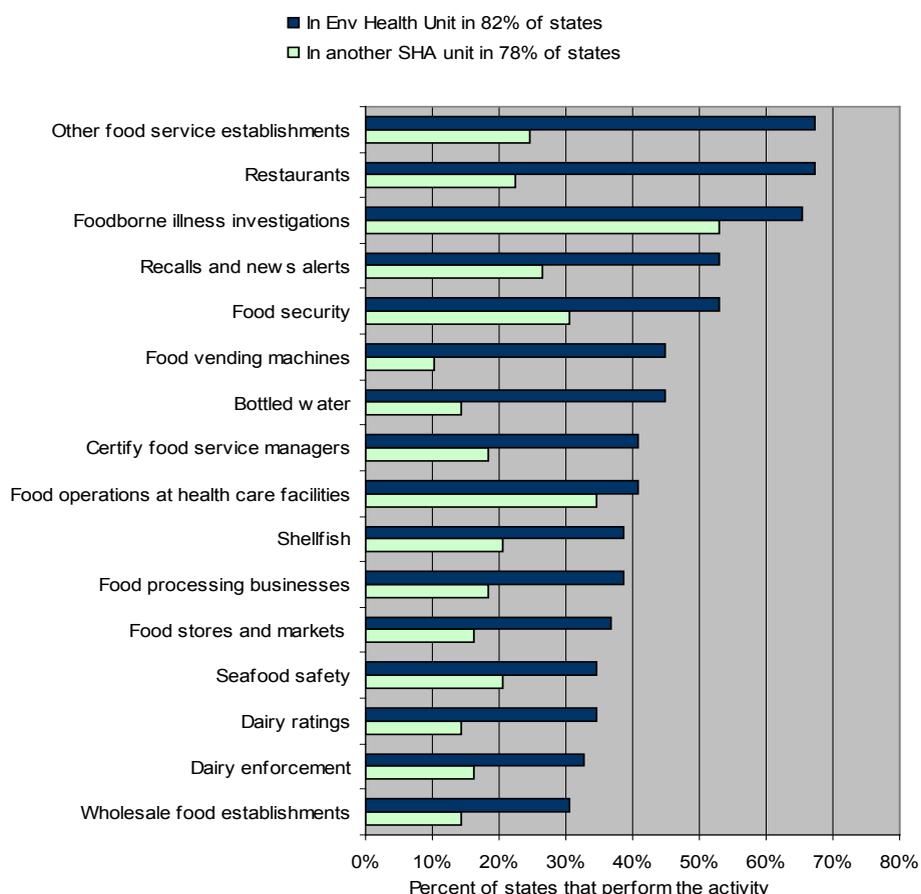
Program Activities

For each of programs, except Plumbing Code and Drugs, Cosmetics and Medical Devices, the survey asked respondents to identify the program activities that are performed by the environmental health director's unit and those performed by another unit in the state healthy agency. The following sections provide an overview of the responses by program area. Charts are included to illustrate the percentage of states performing each of the activities, either in the environmental health director's unit or in another unit in the state health agency. The sections are organized according to the frequency that the programs are found in the environmental health director's unit. For example, Food Protection, found in the environmental health director's unit in 82% of the states, is first; Outdoor Air Quality, which is found in the environmental health director's unit in only 2% of the states, is last.

Food Protection

Food Protection program activities are performed in the environmental health director's unit in 82% of the states and in another state health agency unit in 78% of the states (Figure 8). *Restaurants* and *other food service establishments* oversight are the most common activities in environmental health director's units, both of which are performed in 67% of the states. These activities are followed closely by *foodborne illness investigations* (65%), and *food security (terrorism prevention and response)* and *recalls and news alerts* (both in 53% of the states).

Figure 8: Food Protection Program Activities

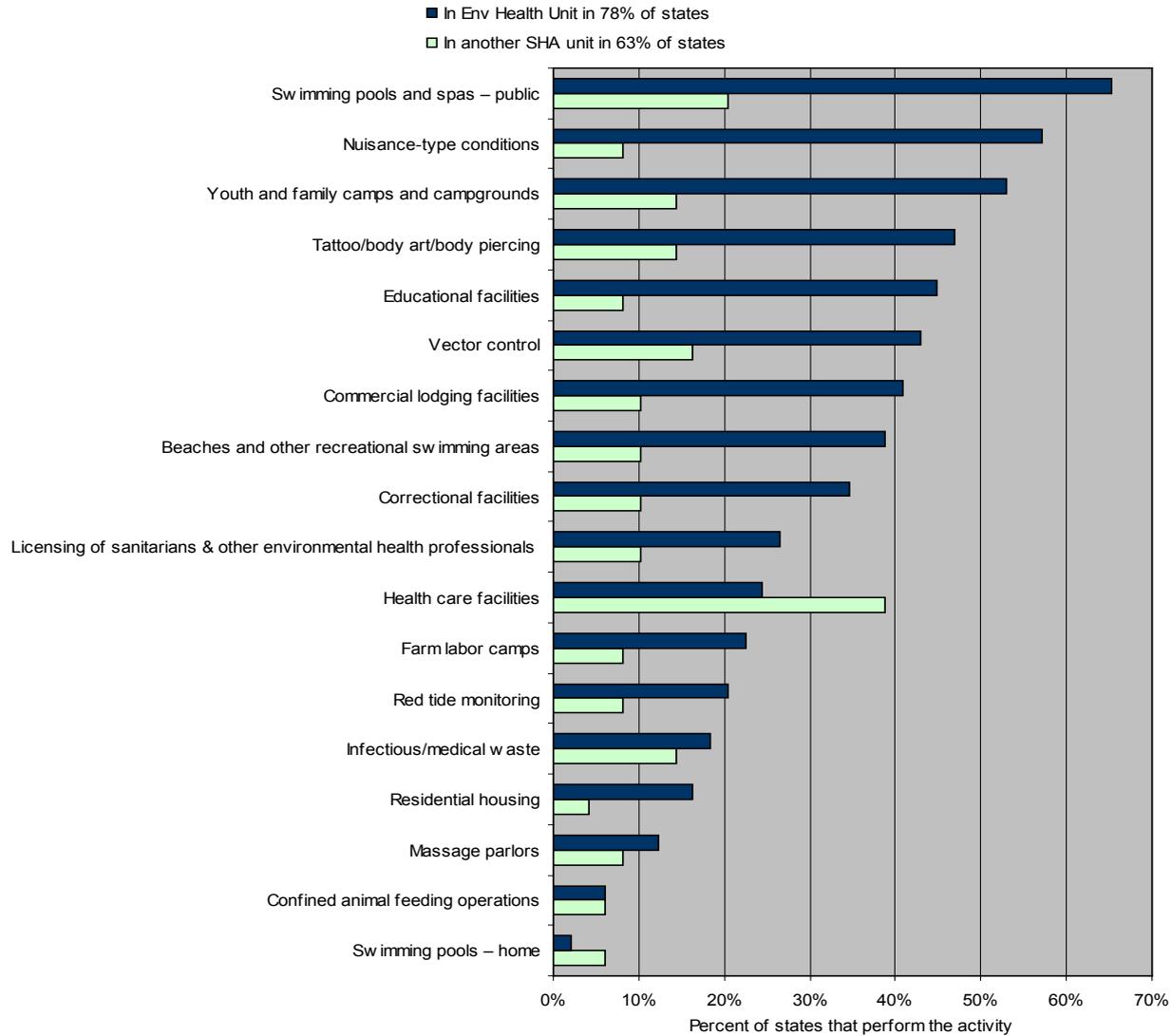


All food program activities are performed by environmental health director's units in at least 30% of the states. On the other hand, the only food program activities performed by more than 30% of the other state health agency units are *foodborne illness investigations* (53%), *food operations at health care facilities* (35%) and *food security* (31%). In general, Food Protection program activities are either in the environmental health director's unit or in another unit in the state health agency. However, *foodborne illness investigations* stood out as the one activity that is often shared in the state health agency; 11 respondents (22%), reported sharing responsibility for *foodborne illness investigations* within the state health agency.

General Sanitation and Environmental Monitoring

The General Sanitation and Environmental Monitoring program was a catch-all for many traditional environmental public health functions that did not fit under another program category. General Sanitation and Environmental Monitoring activities are performed in the environmental health director's units in 78% of the states and in another state health agency unit in 63% of the states (Figure 9). As with most programs, there is a wide range of involvement by environmental health director's units.

Figure 9: General Sanitation and Environmental Monitoring Program Activities

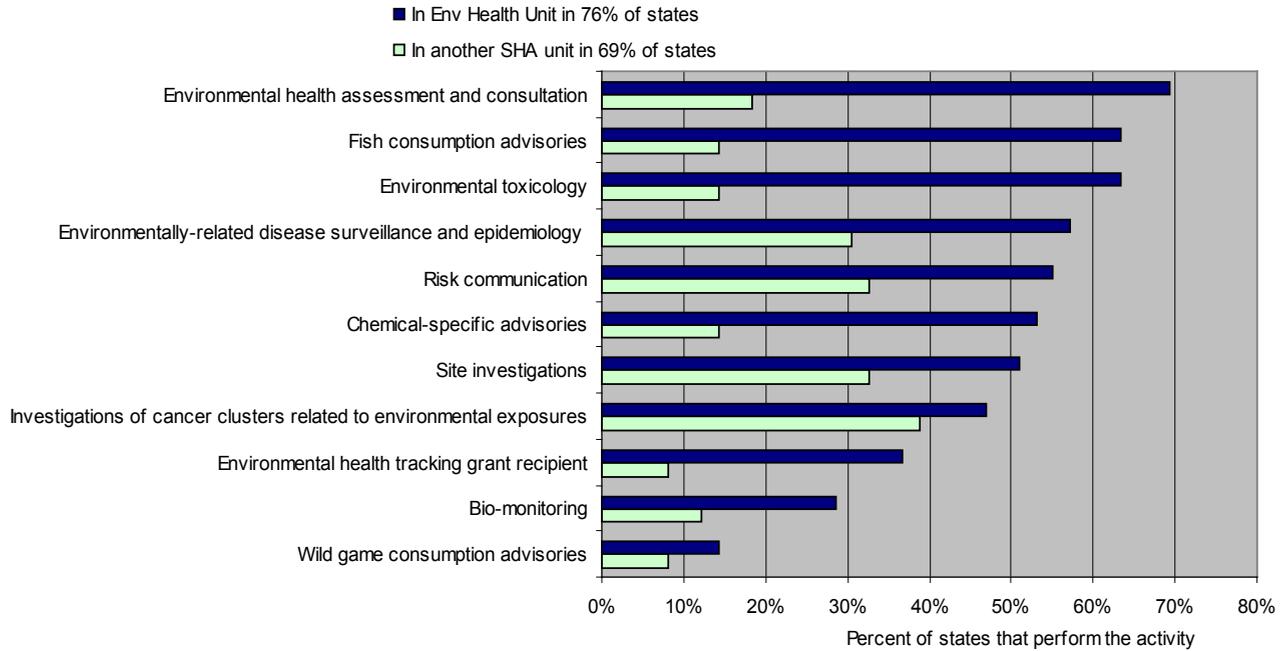


The most common activity performed by environmental health director’s units is *public swimming pools and spas* with 65% reporting activity. This is followed by *nuisance-type conditions* (57%) and *youth and family camps and campgrounds* (53%). Regulation of *residential swimming pools* was reported by only 2% of all states as a programmatic activity in the environmental health director’s units. The only activity performed by other state health agency units in more than 20% of the states involves *health care facilities* (39%).

Risk Assessment and Risk Communication

Risk Assessment and Risk Communication program activities are performed in the environmental health director’s units in 76% of the states and in another state health agency unit in 69% of the states (Figure 10). The most common activities performed by environmental health director’s units are *environmental health assessment and consultation* (69%), *fish consumption advisories* (63%), and *environmental toxicology* (63%) with most of the other activities also being performed in the environmental health director’s units in over 50% of the states.

Figure 10: Risk Assessment and Risk Communication Program Activities

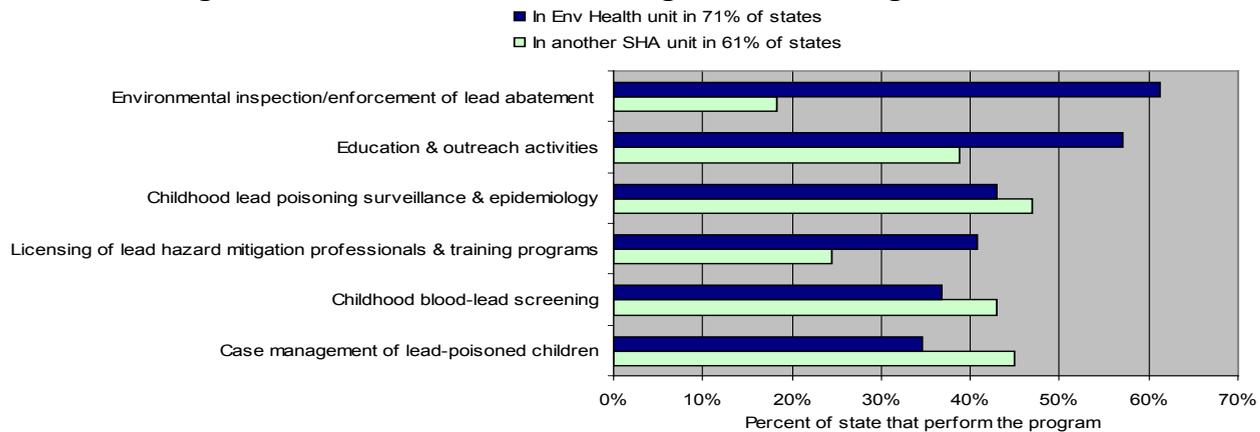


There is involvement by another state health agency unit in 4 of the 11 activities. These are *investigations of cancer clusters related to environmental exposure* (39%), *risk communication* (33%), *site investigations* (33%) and *environmentally-related disease surveillance and epidemiology* (31%). Risk Assessment and Risk Communication program activities were the frequently shared in state health agencies.

Childhood Lead Poisoning Prevention

Childhood Lead Poisoning Prevention program activities are performed in the environmental health director’s units in 71% of the states and in another state health agency unit in 61% of the states (Figure 11). Most of the program activities are carried out in roughly equal percentages by environmental health director’s units and other state health agency units.

Figure 11: Childhood Lead Poisoning Prevention Program Activities

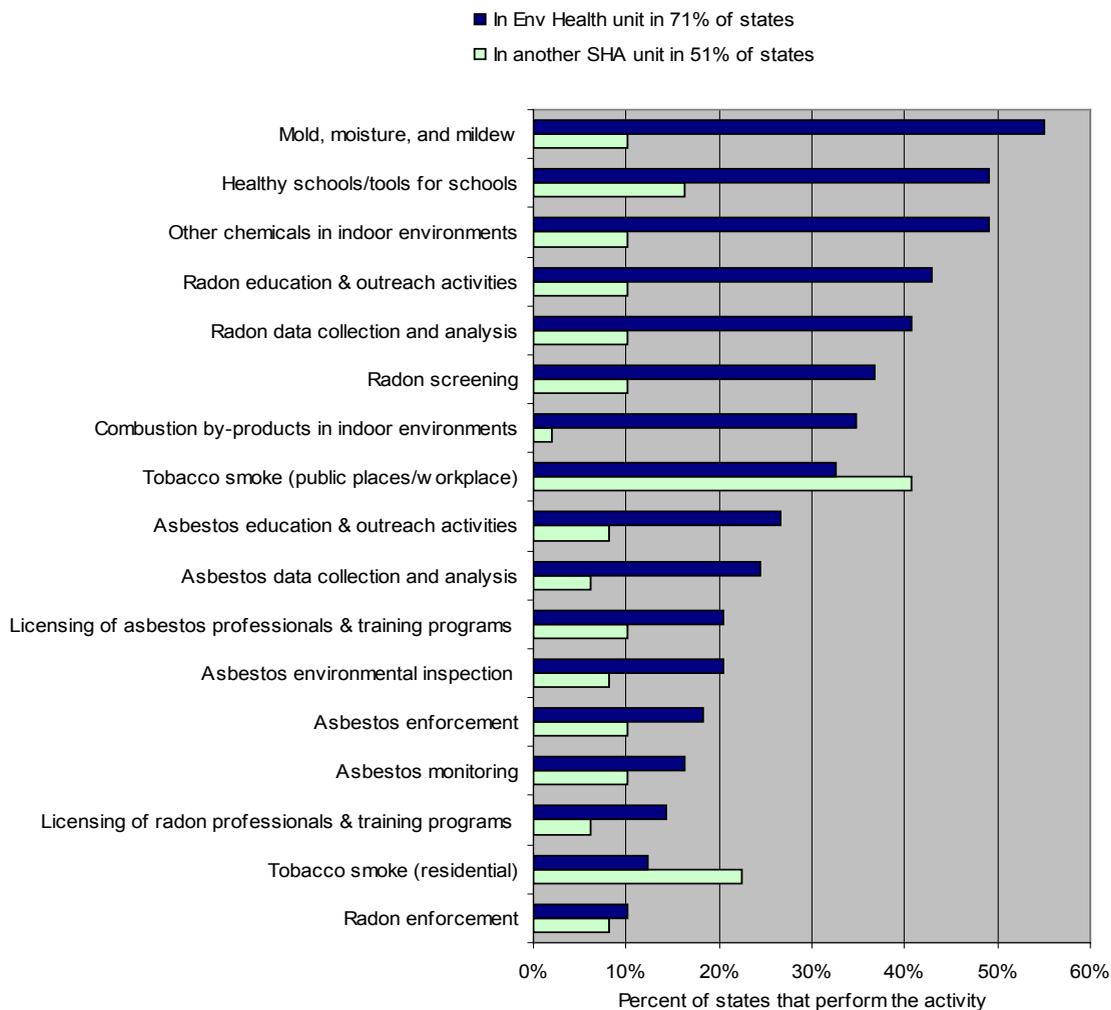


The activities that are performed most by environmental health director's units are *environmental inspection/enforcement of lead abatement* (61%), *education and outreach* (57%), *childhood lead poisoning surveillance and epidemiology* (43%), and *licensing of lead hazard mitigation professionals and/or training programs* (41%). Activities more commonly performed by other state health agencies include *childhood lead poisoning surveillance and epidemiology* (47%), *case management of lead-poisoned children* (45%), *childhood blood lead screening* (43%) and *education and outreach activities* (39%). *Education and outreach activities* for Childhood Lead Poisoning Prevention are shared within six of the state health agencies.

Indoor Air Quality

Indoor Air Quality program activities are performed in the environmental health director's units in 71% of the states and in another state health agency unit in 51% of the states (Figure 12). The survey asked multiple questions about activities in the areas of radon, asbestos, and tobacco smoke to get a more complete sense of how the SEHDs are involved in these indoor air issues.

Figure 12: Indoor Air Quality Program Activities



Again, the frequency with which the environmental health director's units perform these activities varies widely with 55% of the SEHDs reporting that they are involved with *mold, moisture, and mildew* but only 10% of the SEHDs conduct *radon enforcement*.

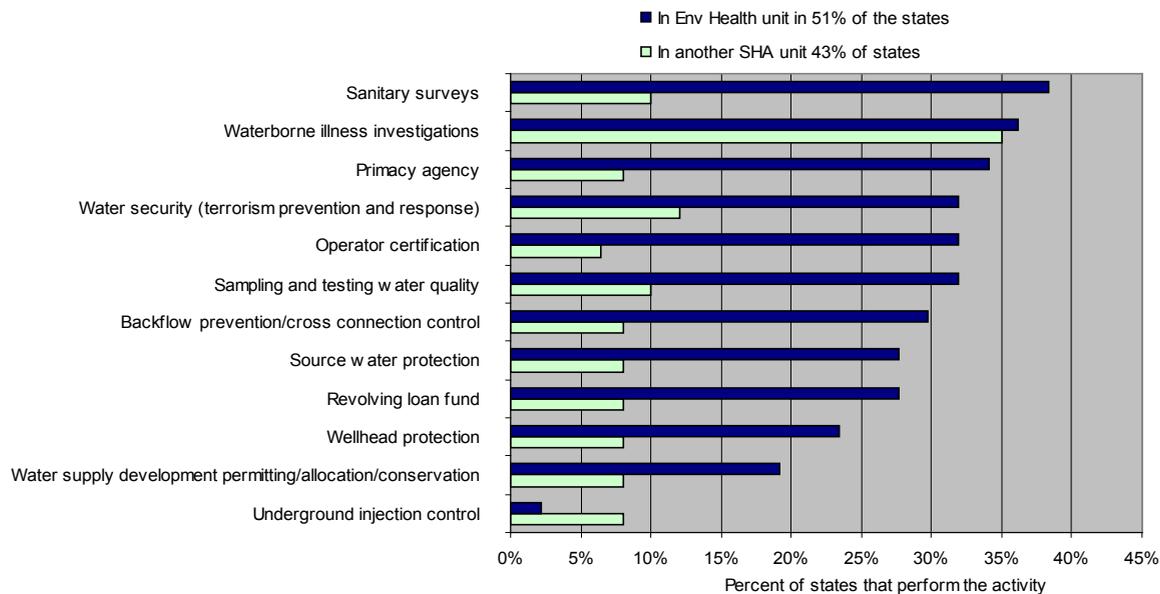
Other activities performed by more than 40% of the SEHDs are *healthy schools/tools for schools* (49%), *other chemicals (i.e., not radon, tobacco smoke, asbestos, or combustion by-products) in indoor environments* (49%), *radon education and outreach activities* (43%) and *radon data collection and analysis* (41%).

Involvement by other state health agency units is generally limited in the Indoor Air Quality program except for *tobacco smoke programs*, with 38% of those with programs involved in *tobacco in public places/workplaces* and 21% involved with *residential tobacco smoke*.

Public Water Supply

Public Water Supply program activities are performed in the environmental health director's units in 51% of the states and in another state health agency unit in 43% of the states (Figure 13). As with Food Protection programs, the most common activity by other state health agencies in Public Water Supply is *waterborne illness investigations*, which are a shared activity in seven of the state health agencies.

Figure 13: Public Water Supply Program Activities

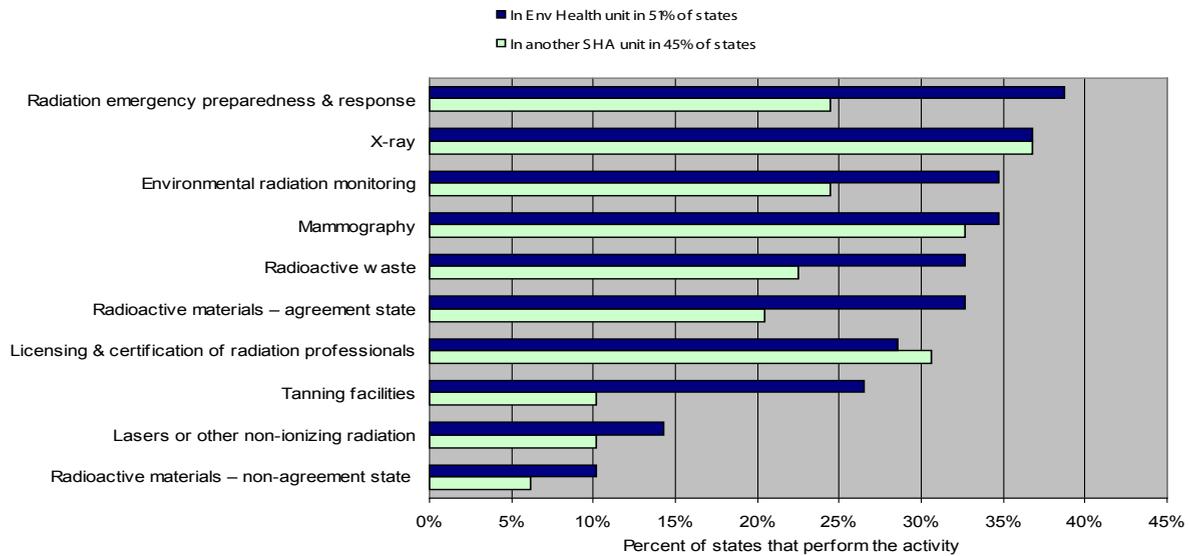


Public Water Supply programs are found in the state health agency in 30 (61%) of the reporting states even though state health agencies are designated as the Primacy Agency for enforcement of the federal Safe Drinking Water Act in only 19 (39%) of the reporting states. These include three states which have consolidated health and environment agencies. In all of the states in which the state health agency performs Public Water Supply program activities, but is not the *primacy agency*, the activities performed include *investigations of waterborne illnesses*.

Radiation Control

Radiation Control program activities are performed in the environmental health director's units in 51% of the states and in another state health agency unit in 45% of the states (Figure 14). Overall, Radiation Control programs are found in more than 75% of state health agencies, yet they are shared in only 18% of the state health agencies (Figure 6). It appears that the program is more self-contained than many of the other programs commonly found in state health agencies.

Figure 14: Radiation Control Program Activities

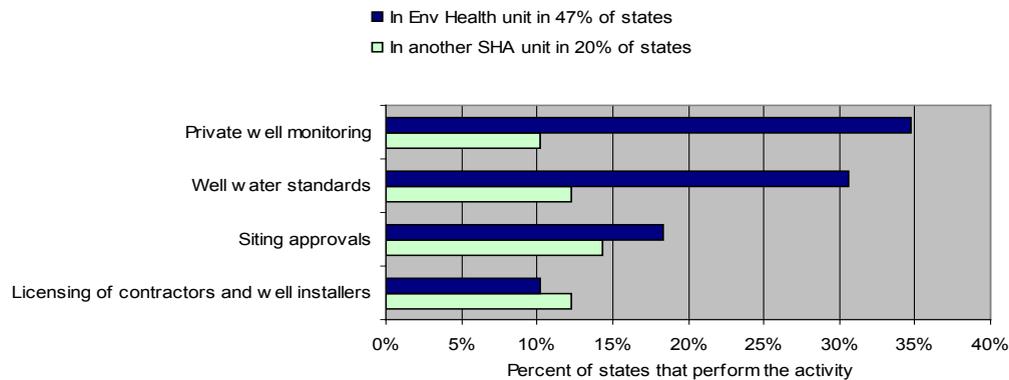


In those state health agencies where the program is shared, the activities most commonly performed by the “partner” are either *tanning facilities* or *licensing of radiologic technicians or other radiation professionals*. All of the program activities, except for *lasers and other non-ionizing radiation* and *radioactive materials – non-agreement state*, are performed in the environmental health director’s units between 25% and 40% of the states.

Private Wells

Private Well program activities are performed in the environmental health director’s units in 47% of the states and in another state health agency unit in 20% of the states (Figure 15). *Private well monitoring* and *well water standards setting* are the most commonly performed activities in the environmental health director’s units – 32% and 30%, respectively. On the other hand, program activities are performed in other state health agency units in less than 15% of the states, indicating the many of these activities are performed in other state agencies or at the local level. Only in Virginia are activities shared within the state health agency.

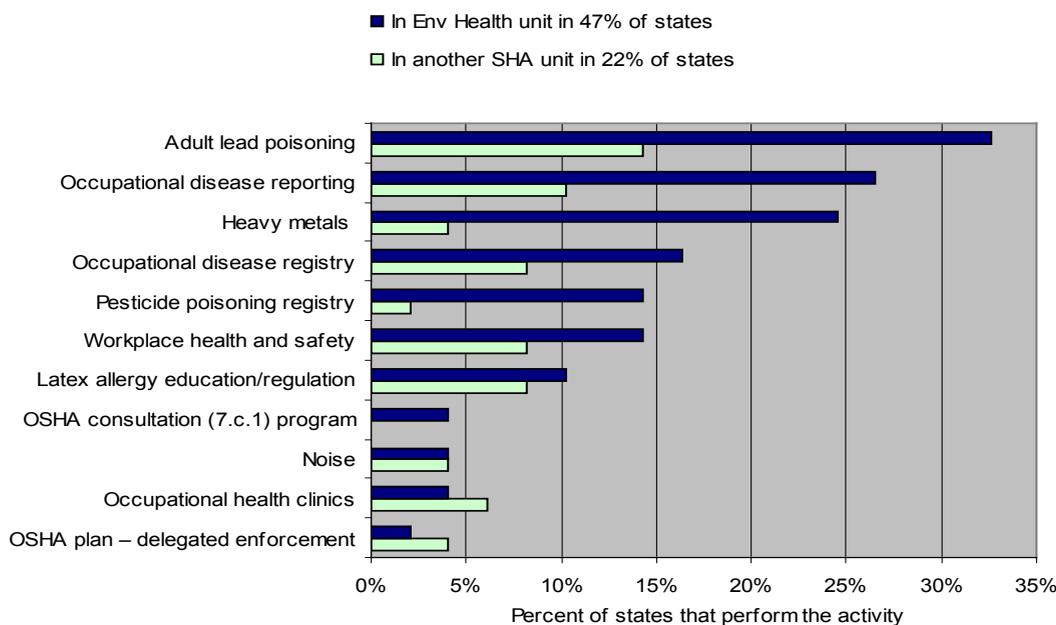
Figure 15: Private Well Program Activities



Occupational Health

Occupational Health program activities are performed in the environmental health director’s units in 47% of the states and in another state health agency unit in 22% of the states (Figure 16). Again, there was a wide range in the frequency that these activities are performed in both the environmental health director’s units and in other state health agency units.

Figure 16: Occupational Health Program Activities



The most common activities in the environmental health director’s units are *adult lead poisoning* (28%), *heavy metals* (23%), and *occupational disease reporting* (23%).

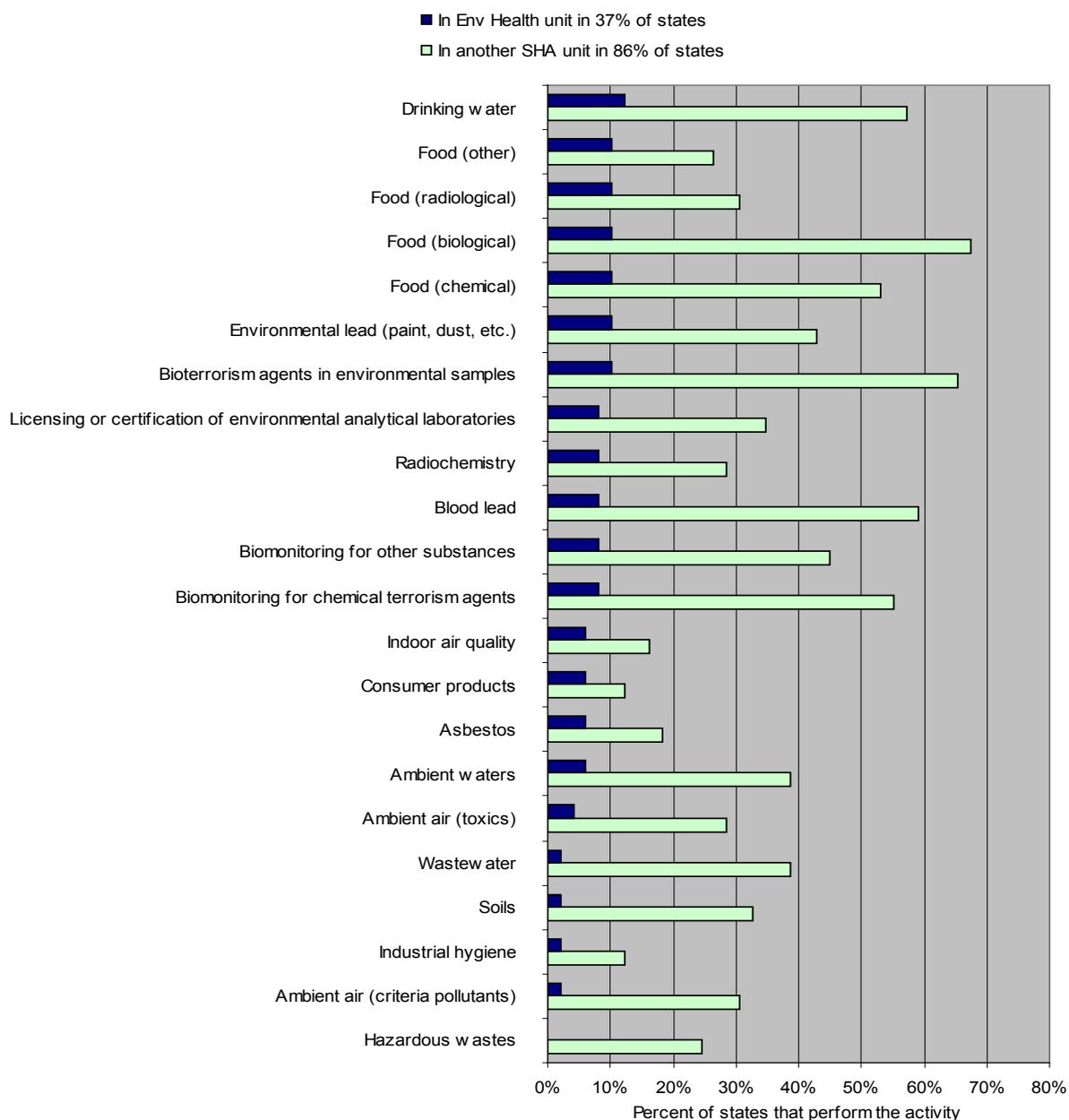
Adult lead poisoning was also the most frequently performed activity in other state health agency units at 15%.

Environmental Laboratory Testing Services

Environmental Laboratory Testing services are performed in the environmental health director’s units in 37% of the states and in another state health agency unit in 86% of the states (Figure 17). *Drinking water testing* was the most commonly reported activity. However, no activities were performed by more than 12% of the environmental health director’s units. It is expected that frequency of responses for *drinking water testing* reflect field drinking waters tests conducted for chlorine residual and pH values. However, the survey did not ask for specific testing information.

The survey did not ask if the SEHD serves as the state health agency laboratory director. Future surveys could inquire if SEHDs are also responsible for other public health programs. Five states, Hawaii, Iowa, Nevada, Pennsylvania and Wisconsin, reported that no environmental health laboratory testing is conducted in the state health agency. Of note is the fact that less than a quarter of state health agency environmental laboratories are reported as performing tests for *asbestos* (24%), *consumer products* (18%), *hazardous wastes* (24%), *indoor air quality* (22%) or *industrial hygiene* (14%).

Figure 17: Environmental Laboratory Testing Program Activities

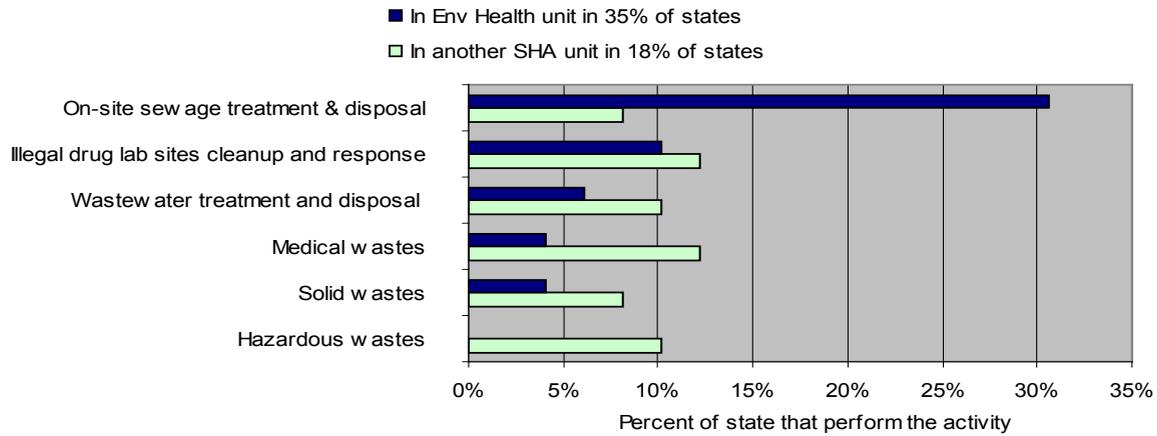


Waste Management and Control

Waste Management and Control program activities are performed in the environmental health director’s units in 35% of the states and in another state health agency unit in 18% of the states (Figure 18). By far the most common activity performed in the environmental health director’s units was *on-site sewage treatment and disposal* at 31%.

No other activity was reported at greater than 12% in either the environmental health director’s units or in other state health agency units. However, overall, 22% of the states health agencies did report performing *illegal drug lab sites cleanup and response activities*.

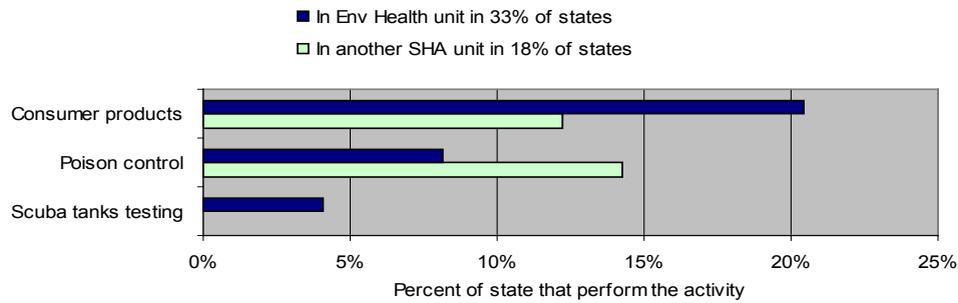
Figure 18: Waste Management and Control Program Activities



Consumer Protection

Consumer Protection program activities are performed in the environmental health director’s units in 33% of the states and in another state health agency unit in 18% of the states (Figure 19). The most common activity was responsibility for *consumer products (child safety seats, toys, flame resistant materials, etc.)* at 20% in the environmental health director’s units. *Poison control* was a reported activity in 14% of other state health agency units.

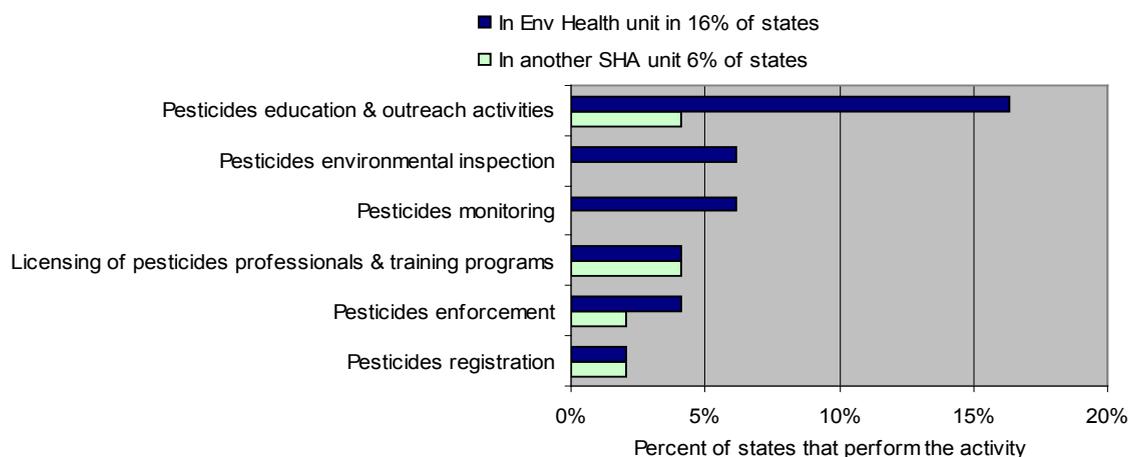
Figure 19: Consumer Protection Program Activities



Pesticides Control and Regulation

Pesticides Control and Regulation program activities are performed in the environmental health director’s units in only 16% of the states and in another state health agency unit in only 6% of the states (Figure 20). *Pesticides education and outreach activities* were reported as part of all the Pesticides Control and Regulation programs in the environmental health director’s units.

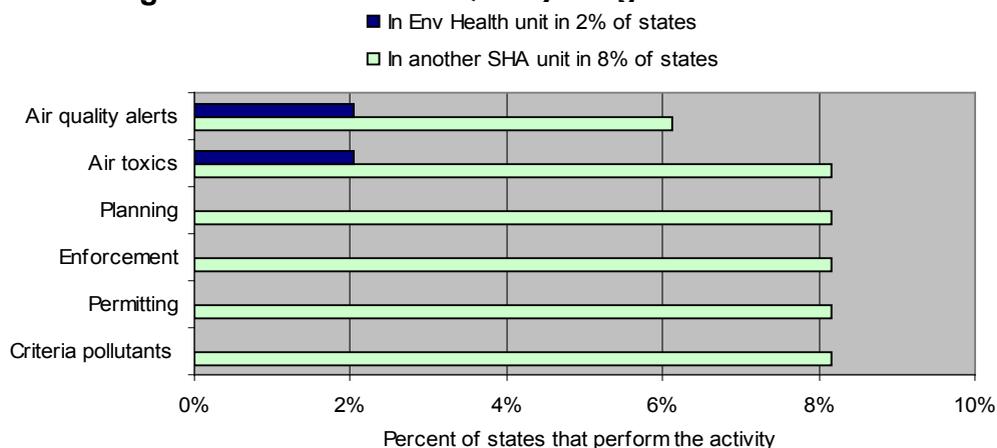
Figure 20: Pesticides Control Program Activities



Outdoor Air Quality

Outdoor Air Quality program activities are performed in the environmental health director’s units in 2% of the states and in another state health agency unit in 8% of the states (Figure 21). The environmental health director’s units are the lead state agency for outdoor air pollution programs in only one state, New Hampshire. The SEHD contact for New Hampshire is part of the state Department of Environmental Services.

Figure 21: Outdoor Air Quality Program Activities



Other State Agencies

In addition to providing program and activity data for the health agency programs, respondents also identified other state agencies that oversee environmental health programs, either separately or jointly with the state health agency. More than half of the responding states indicated that their Outdoor Air Quality, Pesticide Control and Regulation, Public Water Supply, Waste Management and Occupational Health Programs are either shared or entirely implemented in another state agency. The agencies most frequently identified included state departments of environment (management, quality, conservation, and control), departments of agriculture, and the department of labor.

The survey also asked the SEHDs to identify the sources of federal funding for Environmental Health programs (Figure 24).

Figure 24. Sources of Federal Funding to Environmental health director's Units to Support Emergency Preparedness and Response	
Funding agency	Number of states in which Environmental health director's units receives federal funding
Centers for Disease Control and Prevention (CDC)	26
US Environmental Protection Agency (EPA)	15 *
US Food and Drug Administration (FDA)	6 †
Department of Energy	2
Federal Emergency Management Agency (FEMA)	1
Department of Homeland Security	1
Department of Defense	1
Department of Health and Human Services (DHHS)	1 ‡
Health Resources and Services Administration (HRSA)	1

Recent Trends in Environmental Public Health Programs

This section summarizes comments from the SEHDs on trends over the last five years in their programs. The SEHDs were asked if they had:

- Outsourced (i.e. contracted out) any major environmental public health program activities
- Discontinued any major environmental public health program activities
- Added any new environmental public health programs or activities
- Become involved in land use planning, the use of smart growth principles, economic development, etc
- Participated directly with schools of public health or other academic programs for research, teaching, program development, etc

Because there was a wide range of responses to each of these questions, short summaries of changes that affected multiple SEHD's units are provided. Actual responses from the SEHDs are included in Appendix C.

Outsourced

Nine states (18%) reported that they had outsourced (i.e., contracted out) major environmental public health program activities. Four states (Connecticut, Idaho, Oregon and Tennessee) reported that activities have been shifted to local health agencies. Two states (Louisiana and Maine) reported outsourcing activities related to childhood lead poisoning programs.

Discontinued

SEHDs from 18 states (37%) reported that they have discontinued major environmental public health program activities within the last five years. Two states (Illinois and Montana) have discontinued the Environmental Health Tracking program due to a lack of funding. Six states (Iowa, Kansas, Nevada, New Hampshire, Vermont and Wisconsin) report that they have discontinued programs due to reorganizations or transfer of programs. A lack of funding was a common reason for discontinuing programs.

* all for water emergencies

† 5 for food emergencies, 1 for radiation emergencies

‡ for radiation emergencies

Added

Thirty two SEHDs (67%) described new programs that have been added in the last five years. The most common addition was the Environmental Public Health Tracking program which was added in 11 SEHDs' units. Four states reported adding biomonitoring in the last five years (Arizona, California, New Mexico and Wyoming). Five SEHDs indicated new initiatives involving clandestine drug labs (Idaho, Illinois, Michigan, Minnesota and Ohio). Additional program responses are included in Appendix D.

Land Use Planning and Smart Growth

Eighteen SEHDs report that they have become involved in land use planning and smart growth. Their partners include many different agencies, including local and state planning councils, economic development agencies, and the US EPA.

Schools of Public health and Academic Programs

SEHDs from 35 states (71%) reported that they have participated directly with schools of public health or other academic programs for research, teaching, and program development. Common themes include faculty appointments, contracts with universities, lectures and cooperative course offerings, internships, contracts for surveillance, serving on advisory boards, and program-specific research contracts. Specific responses are included in Appendix D.

Conclusion

This survey has provided much information about how environmental health programs are administered by the states, especially within the state health agencies. While there is no model or typical environmental health program profile for environmental health directors or state health agencies, there are some common environmental health programs and activities that are administered by the state health agencies.

Environmental health programs in the states are constantly changing and evolving. As the survey results were being analyzed, at least two different health agencies were undergoing major reorganizations of their environmental health services and programs. The results here are intended to help inform SEHDs and other public health practitioners, and enhance decision-making around the movement, addition, and cessation of environmental health programs.

Next Steps

ASTHO is undertaking a new project to develop a database of state public health services. The database will provide an understanding of the scope of responsibilities and public health services delivered at the state level. It will include public health services provided by the state public health agency and other state agencies. The data collected in the SEHD State Health Services Survey will be integrated into the larger database of public health services to increase the knowledge and understanding of the public health delivery system.

Results reported here will also provide guidance to ASTHO's workforce enumeration work, providing a baseline of information about the types of programs common to most state health agencies. The results also identify those state agencies aside from health that are authorized to implement environmental health programs, such as departments of environmental quality, agriculture, and labor. This information is critical in the success of future efforts to fully enumerate the environmental health workforce.

Finally, data recorded here is intended to complement data currently collected by the National Association of City and County Health Officials (NACCHO), and reported in their *National Profile of Local Health Departments*. ASTHO and NACCHO will continue to integrate efforts to illustrate the public health delivery system.

Appendices

Appendix A

Table A.1 Survey Programs and Associated Activities
Childhood lead poisoning prevention
◦ Childhood blood-lead screening
◦ Childhood lead poisoning surveillance and epidemiology
◦ Case management of lead-poisoned children
◦ Education & outreach activities
◦ Environmental inspection/enforcement of lead abatement
◦ Licensing of lead hazard mitigation professionals (e.g., workers and inspectors) and/or training programs
Consumer protection
◦ Poison control
◦ Scuba tanks testing
◦ Consumer products (child safety seats, toys, flame resistant materials, etc.)
Drugs, cosmetics and medical devices
◦ No activities surveyed
Environmental laboratory testing services
◦ Ambient air (criteria pollutants)
◦ Ambient air (toxics)
◦ Ambient waters
◦ Asbestos
◦ Bioterrorism agents in environmental samples
◦ Biomonitoring for chemical terrorism agents
◦ Biomonitoring for other substances
◦ Blood lead
◦ Consumer products
◦ Drinking water
◦ Environmental lead (paint, dust, etc.)
◦ Food (chemical)
◦ Food (biological)
◦ Food (radiological)
◦ Food (other)
◦ Hazardous wastes
◦ Indoor air quality
◦ Industrial hygiene
◦ Radiochemistry
◦ Soils
◦ Wastewater
◦ Licensing or certification of environmental analytical laboratories
Food Protection
◦ Restaurants
◦ Other food service establishments
◦ Food stores and markets (retail)
◦ Wholesale food establishments
◦ Food processing businesses
◦ Food operations at health care facilities
◦ Dairy enforcement

◦ Dairy ratings
◦ Shellfish
◦ Seafood safety
◦ Foodborne illness investigations
◦ Bottled water
◦ Food vending machines
◦ Food security (terrorism prevention and response)
◦ Recalls and news alerts
◦ Certify food service managers
General sanitation and environmental monitoring
◦ Residential housing
◦ Commercial lodging facilities
◦ Health care facilities
◦ Correctional facilities
◦ Educational facilities
◦ Farm labor camps
◦ Swimming pools and spas – public
◦ Swimming pools – home
◦ Beaches and other non-manmade recreational swimming areas
◦ Nuisance-type conditions
◦ Vector control
◦ Red tide monitoring
◦ Massage parlors
◦ Tattoo/body art/body piercing
◦ Infectious/medical waste
◦ Confined animal feeding operations
◦ Licensing of sanitarians or other environmental health professionals not covered elsewhere
◦ Youth and family camps and campgrounds
Indoor air quality
◦ Radon screening
◦ Radon data collection and analysis
◦ Radon enforcement
◦ Radon education & outreach activities
◦ Licensing of radon testing and/or mitigation professionals (e.g., workers and inspectors) and/or training programs
◦ Asbestos monitoring
◦ Asbestos data collection and analysis
◦ Asbestos environmental inspection
◦ Asbestos enforcement
◦ Asbestos education & outreach activities
◦ Licensing of asbestos testing and/or mitigation professionals (e.g., workers and inspectors) and/or training programs
◦ Tobacco smoke (public places/workplace)
◦ Tobacco smoke (residential)
◦ Mold, moisture, and mildew
◦ Combustion by-products in indoor environments (e.g., ice rinks, tractor pulls, etc.)

◦ Other chemicals in indoor environments
◦ Healthy schools/tools for schools
Occupational health
◦ Workplace health and safety
◦ Occupational disease reporting
◦ Occupational disease registry
◦ Pesticide poisoning registry
◦ Adult lead poisoning
◦ Occupational health clinics
◦ Latex allergy education/regulation
◦ Heavy metals
◦ Noise
◦ OSHA consultation (7.c.1) program
◦ OSHA plan – delegated enforcement
Outdoor air quality - lead state agency for Clean Air Act
◦ Criteria pollutants
◦ Air toxics
◦ Permitting
◦ Enforcement
◦ Planning
◦ Air quality alerts
Pesticides control/regulation
◦ Pesticides registration
◦ Pesticides enforcement
◦ Pesticides monitoring
◦ Pesticides education & outreach activities
◦ Pesticides environmental inspection
◦ Licensing of pesticides mitigation professionals (e.g., workers and inspectors) and/or training programs
Plumbing code
◦ No activities surveyed
Private wells
◦ Private well monitoring
◦ Siting approvals
◦ Well water standards
◦ Licensing of contractors and well installers
Public water supply program
◦ Primacy agency
◦ Sanitary surveys
◦ Sampling and testing water quality
◦ Revolving loan fund
◦ Operator certification
◦ Wellhead protection
◦ Source water protection
◦ Underground injection control
◦ Backflow prevention/cross connection control

◦ Water security (terrorism prevention and response)
◦ Water supply development permitting/allocation/conservation
◦ Waterborne illness investigations
Radiation control
◦ Radioactive materials – agreement state
◦ Radioactive materials – non-agreement state
◦ X-ray
◦ Mammography
◦ Tanning facilities
◦ Lasers or other non-ionizing radiation
◦ Radioactive waste
◦ Environmental radiation monitoring
◦ Radiation emergency preparedness and response
◦ Licensing and/or certification of radiologic technicians and/or other radiation professionals
Risk assessment and risk communication
◦ Environmental health assessment and consultation
◦ Site investigations
◦ Environmentally-related disease surveillance and epidemiology
◦ Investigations of cancer clusters related to environmental exposures
◦ Environmental toxicology
◦ Environmental health tracking grant recipient
◦ Bio-monitoring
◦ Risk communication
◦ Fish consumption advisories
◦ Wild game consumption advisories
◦ Chemical-specific advisories
Waste management and control
◦ Wastewater treatment and disposal
◦ On-site sewage treatment & disposal
◦ Solid wastes
◦ Hazardous wastes
◦ Medical wastes
◦ Illegal drug lab sites cleanup and response

Appendix B

Figure B.1 Programs Administered in the State Health Agency by State

State	Food Protection	Childhood Lead Poisoning Prevention	Environ Lab	Risk Assess & Risk Comm	Gen San & Env Mon	Radiation Control	Indoor Air Quality	Drugs, Cosmetics & Medical Devices
Alabama	X	X	X	X	X	X	X	
Alaska	X	X	X		X	X		X
Arizona	X	X	X	X	X		X	
Arkansas	X	X	X	X	X	X	X	X
California	X	X	X		X	X	X	X
Colorado	X	X	X		X	X	X	X
Connecticut	X	X	X	X	X		X	X
Delaware	X	X	X	X	X	X	X	X
District of Columbia	X	X	X	X	X	X		X
Florida	X	X	X	X	X	X	X	X
Georgia	X	X	X	X	X		X	
Hawaii	X	X			X	X	X	
Idaho	X		X	X		X	X	
Illinois	X	X	X	X	X	X	X	X
Indiana	X	X	X	X		X	X	X
Iowa	X	X		X	X	X	X	X
Kansas	X	X	X	X	X	X		X
Kentucky	X	X	X	X	X	X	X	
Louisiana	X	X	X	X	X		X	X
Maine	X	X	X	X	X	X	X	X
Maryland	X	X	X	X	X			X
Massachusetts	X	X	X	X	X	X	X	X
Michigan	X	X	X	X	X		X	X
Minnesota	X	X	X	X	X	X	X	
Mississippi	X	X	X		X	X		
Missouri	X	X	X	X	X	X	X	X
Montana	X	X	X	X	X		X	X
Nebraska	X	X	X	X	X	X	X	X
Nevada	X				X	X		X
New Hampshire	X	X	X	X	X	X	X	
New Mexico	X	X	X	X	X	X	X	X
New Jersey	X	X	X	X	X	X	X	X
New York	X	X	X	X	X	X	X	X
Ohio	X	X	X	X	X	X	X	
Oklahoma	X	X	X	X	X		X	X
Oregon	X	X	X	X		X	X	
Pennsylvania		X		X				
Rhode Island	X	X	X	X	X	X	X	X
South Carolina	X	X	X	X	X	X		
South Dakota	X		X	X		X	X	X
Tennessee	X	X	X	X	X		X	
Texas	X	X		X	X	X	X	X
Utah	X	X	X	X	X			
Vermont	X	X	X	X		X	X	X
Virginia	X	X	X	X	X	X		
Washington	X	X	X	X	X	X	X	
West Virginia	X	X	X	X	X	X	X	
Wisconsin	X	X		X	X	X	X	
Wyoming	X		X			X		
Number of States*	48	45	44	42	42	38	38	29
Percent of States*	98%	92%	90%	86%	86%	78%	78%	59%

State	Public Water Supply	Occ Health	Private Wells	Waste Mgt	Consumer Protect	Plumbing Code	Pesticide Control & Regulation	Outdoor Air Quality
Alabama				X				
Alaska				X				
Arizona		X				X		
Arkansas	X		X	X		X	X	X
California	X	X						
Colorado	X		X	X	X			X
Connecticut	X	X	X	X			X	
Delaware	X	X	X			X		
District of Columbia		X				X		
Florida	X	X	X	X			X	
Georgia			X	X	X			
Hawaii			X					
Idaho		X						
Illinois	X	X	X	X		X	X	
Indiana		X	X	X	X			
Iowa	X	X	X		X	X		
Kansas	X	X	X	X	X			X
Kentucky	X			X	X			
Louisiana	X	X	X			X		
Maine	X	X	X		X	X		
Maryland					X			
Massachusetts		X			X			
Michigan	X	X		X				
Minnesota	X		X					
Mississippi	X		X	X	X			
Missouri		X	X	X				
Montana	X	X		X	X			
Nebraska	X		X	X	X			
Nevada			X		X			
New Hampshire								
New Jersey	X	X			X		X	
New Mexico	X	X	X		X		X	
New York	X	X	X					
Ohio		X	X	X				
Oklahoma	X	X			X			
Oregon	X	X			X			
Pennsylvania		X						
Rhode Island	X	X	X		X			
South Carolina	X		X	X				X
South Dakota	X	X	X		X		X	
Tennessee								
Texas								
Utah						X		
Vermont	X		X			X		
Virginia	X		X	X				
Washington	X	X		X			X	
West Virginia	X		X	X				
Wisconsin		X						
Wyoming								
Number of States*	30	28	28	21	19	9	9	5
Percent of States*	61%	57%	57%	43%	39%	18%	18%	10%

Figure B.2 Programs Administered in the Environmental Health Unit by State

State	Food Protection	Gen San & Env Mon	Risk Assess & Risk Comm	Childhood Lead Poisoning Prevention	Indoor Air Quality	Public Water Supply	Radiation Control	Private Wells
Alabama	X	X		X	X			
Alaska	X	X		X		X	X	
Arizona	X	X	X	X	X			
Arkansas	X	X		X	X	X		X
California	X	X		X	X	X	X	
Colorado	X	X			X		X	
Connecticut	X	X	X	X	X	X		X
Delaware	X	X	X	X	X	X	X	X
District of Columbia	X	X	X	X			X	
Florida	X	X	X	X	X	X	X	X
Georgia	X	X	X	X	X			
Hawaii	X	X		X	X		X	X
Idaho			X		X			
Illinois	X	X	X	X	X	X		X
Indiana			X	X	X			
Iowa	X	X	X	X	X	X	X	X
Kansas	X	X	X	X		X		
Kentucky	X	X	X	X	X	X	X	
Louisiana	X	X	X		X	X		X
Maine	X	X	X	X	X	X	X	X
Maryland		X	X					
Massachusetts	X	X	X	X	X		X	
Michigan			X	X	X	X		
Minnesota	X	X	X	X	X	X	X	X
Mississippi	X	X		X		X	X	X
Missouri	X	X	X	X	X		X	X
Montana			X		X			
Nebraska		X	X			X		X
Nevada	X	X					X	X
New Hampshire			X		X			X
New Jersey	X	X	X	X	X	X	X	
New Mexico	X	X	X	X	X	X	X	X
New York	X	X	X	X	X	X	X	X
Ohio	X	X	X		X			X
Oklahoma	X	X			X			
Oregon	X		X	X	X	X	X	
Pennsylvania			X					
Rhode Island	X	X	X	X	X	X	X	X
South Carolina	X	X		X				
South Dakota	X		X					
Tennessee	X	X		X				
Texas	X		X	X	X	X		
Utah	X	X	X	X				
Vermont	X		X	X	X	X	X	X
Virginia	X	X	X	X				X
Washington	X	X	X		X	X	X	
West Virginia	X	X	X	X	X	X	X	X
Wisconsin	X	X	X	X	X		X	
Wyoming							X	
Number of States*	40	38	37	35	35	24	25	23
Percent of States*	82%	78%	76%	71%	71%	51%	51%	47%

State	Occ Health	Environ Lab	Waste Mgt	Consumer Protect	Drugs, Cosmetics & Medical Devices	Plumbing Code	Pesticide Control & Regulation	Outdoor Air Quality
Alabama		X	X					
Alaska		X	X				X	
Arizona	X					X		
Arkansas			X			X		
California	X	X			X			
Colorado		X		X	X			
Connecticut	X	X	X				X	
Delaware	X				X	X		
District of Columbia	X	X			X	X		
Florida	X	X	X				X	
Georgia			X	X				
Hawaii								
Idaho	X							
Illinois			X			X	X	
Indiana		X		X	X			
Iowa	X			X		X		
Kansas	X			X	X			
Kentucky		X	X	X				
Louisiana	X				X	X		
Maine	X	X		X	X	X		
Maryland								
Massachusetts		X		X				
Michigan	X		X					
Minnesota		X						
Mississippi			X	X				
Missouri	X		X		X			
Montana	X							
Nebraska			X					
Nevada				X	X			
New Hampshire		X						X
New Jersey				X	X		X	
New Mexico	X			X	X		X	
New York	X							
Ohio		X	X					
Oklahoma	X			X	X			
Oregon	X	X		X				
Pennsylvania	X							
Rhode Island	X			X				
South Carolina			X					
South Dakota		X						
Tennessee								
Texas	X			X			X	
Utah		X						
Vermont						X		
Virginia		X	X					
Washington	X		X				X	
West Virginia			X					
Wisconsin	X							
Wyoming								
Number of States*	23	18	17	16	13	8	6	1
Percent of States*	47%	37%	35%	33%	27%	16%	16%	2%

Figure B.3 Programs Administered in Another State Health Agency Unit by State

State	Environ Lab	Food Protection	Risk Assess & Risk Comm	Childhood Lead Poisoning Prevention	Gen San & Env Mon	Indoor Air Quality	Radiation Control	Public Water Supply
Alabama	X	X	X	X	X	X	X	
Alaska	X	X		X	X		X	
Arizona	X	X	X	X	X			
Arkansas	X	X	X	X	X	X	X	X
California		X						
Colorado	X			X	X	X	X	X
Connecticut	X	X			X	X		
Delaware	X			X				
District of Columbia	X	X	X	X	X			
Florida	X		X	X		X	X	
Georgia	X	X		X	X	X		
Hawaii		X				X		
Idaho	X	X	X				X	
Illinois	X	X	X		X	X	X	
Indiana	X	X	X				X	
Iowa		X	X					X
Kansas	X		X		X		X	X
Kentucky	X		X	X				
Louisiana	X		X	X				X
Maine	X	X	X		X	X		X
Maryland	X	X	X	X	X			
Massachusetts	X							
Michigan	X	X		X	X	X		X
Minnesota	X	X	X		X			X
Mississippi	X			X			X	
Missouri	X	X			X	X	X	
Montana	X	X	X	X	X	X		X
Nebraska	X	X	X	X	X	X	X	X
Nevada		X						
New Hampshire	X	X	X	X	X	X	X	
New Jersey	X		X	X	X		X	X
New Mexico	X	X	X		X	X		
New York	X	X	X	X	X			X
Ohio	X	X	X	X	X	X	X	
Oklahoma	X	X	X	X	X	X		X
Oregon	X	X	X			X		X
Pennsylvania			X	X				
Rhode Island	X	X	X	X	X	X	X	X
South Carolina	X	X	X	X	X		X	X
South Dakota	X	X	X			X	X	
Tennessee	X	X	X	X	X	X		
Texas	X	X	X	X	X	X	X	
Utah	X	X		X	X			
Vermont	X	X	X					X
Virginia		X	X	X	X		X	X
Washington	X	X	X	X	X	X	X	X
West Virginia	X		X	X	X	X		X
Wisconsin		X				X		
Wyoming	X	X					X	
Number of States*	42	38	34	30	31	25	22	20
Percent of States*	86%	78%	69%	61%	63%	51%	45%	43%

State	Drugs, Cosmetics & Medical Devices	Occ Health	Waste Mgt	Private Wells	Consumer Protect	Outdoor Air Quality	Pesticide Control & Regulation	Plumbing Code
Alabama			X					
Alaska	X		X					
Arizona								
Arkansas	X		X	X		X	X	
California								
Colorado			X	X		X		
Connecticut	X						X	
Delaware								
District of Columbia		X						
Florida	X			X				
Georgia					X			
Hawaii								
Idaho								
Illinois	X	X						
Indiana		X	X	X				
Iowa	X							
Kansas			X	X		X		
Kentucky								
Louisiana		X						
Maine					X			
Maryland	X				X			
Massachusetts	X	X						
Michigan	X		X					
Minnesota								
Mississippi								
Missouri	X							
Montana	X	X	X		X			
Nebraska	X			X	X			
Nevada								
New Hampshire								
New Jersey		X						
New Mexico				X	X			
New York	X							
Ohio		X						
Oklahoma		X			X			
Oregon					X			
Pennsylvania								
Rhode Island	X	X						
South Carolina			X	X		X		
South Dakota	X							
Tennessee								
Texas	X	X		X	X		X	
Utah								X
Vermont	X							X
Virginia			X	X				
Washington								
West Virginia								
Wisconsin								
Wyoming								
Number of States*	17	11	9	10	9	4	3	2
Percent of States*	35%	22%	18%	20%	18%	8%	6%	4%

Figure B.4 Programs Shared by the Environmental Health Unit and Another Unit in the State Health Agency by State

State	Food Protection	Risk Assess & Risk Comm	Gen San & Env Mon	Indoor Air Quality	Childhood Lead Poisoning Prevention	Public Water Supply	Environ Lab	Radiation Control
Alabama	X		X	X	X		X	
Alaska								
Arizona	X	X	X		X			
Arkansas	X		X	X	X	X		
California	X							
Colorado			X	X			X	X
Connecticut	X		X	X			X	
Delaware					X			
District of Columbia	X	X	X		X		X	
Florida		X		X	X		X	X
Georgia	X		X	X	X			
Hawaii	X			X				
Idaho		X						
Illinois	X	X	X	X				
Indiana		X					X	
Iowa	X	X				X		
Kansas		X	X			X		
Kentucky		X			X		X	
Louisiana		X				X		
Maine	X	X	X	X		X	X	
Maryland		X	X					
Massachusetts							X	
Michigan				X	X	X		
Minnesota	X	X	X			X	X	
Mississippi					X			X
Missouri	X		X	X				X
Montana		X		X				
Nebraska		X	X			X		
Nevada	X							
New Hampshire								
New Jersey		X	X		X	X		X
New Mexico	X	X	X	X				
New York	X	X	X		X	X		
Ohio	X	X	X	X			X	
Oklahoma	X		X	X				
Oregon	X	X		X		X	X	
Pennsylvania		X						
Rhode Island	X	X	X	X	X	X		X
South Carolina	X		X		X			
South Dakota	X	X					X	
Tennessee	X		X		X			
Texas	X	X		X	X			
Utah	X		X		X		X	
Vermont	X	X				X		
Virginia	X	X	X		X			
Washington	X	X	X	X		X		X
West Virginia		X	X	X	X	X		
Wisconsin	X			X				
Wyoming								X
Number of States*	29	28	26	21	20	15	14	9
Percent of States*	59%	57%	53%	43%	41%	31%	29%	18%

State	Occ Health	Waste Mgt	Private Wells	Consumer Protect	Drugs, Cosmetics & Medical Devices	Pesticide Control & Regulation	Plumbing Code	Outdoor Air Quality
Alabama		X						
Alaska								
Arizona								
Arkansas		X	X					
California								
Colorado								
Connecticut						X		
Delaware								
District of Columbia	X							
Florida			X					
Georgia				X				
Hawaii								
Idaho								
Illinois								
Indiana								
Iowa								
Kansas								
Kentucky								
Louisiana	X							
Maine				X				
Maryland								
Massachusetts								
Michigan		X						
Minnesota								
Mississippi								
Missouri					X			
Montana	X							
Nebraska			X					
Nevada								
New Hampshire								
New Jersey								
New Mexico			X	X				
New York								
Ohio								
Oklahoma	X			X				
Oregon				X				
Pennsylvania								
Rhode Island	X							
South Carolina		X						
South Dakota								
Tennessee								
Texas	X			X		X		
Utah								
Vermont							X	
Virginia		X	X					
Washington								
West Virginia								
Wisconsin								
Wyoming								
Number of States*	6	5	5	6	1	2	1	0
Percent of States*	12%	10%	10%	12%	2%	4%	2%	0%

Figure B.5 Programs in Another State Agency by State

State	Pesticide Control & Regulation	Outdoor Air Quality	Waste Mgt	Public Water Supply	Occ Health	Plumbing Code	Consumer Protect	Gen San & Env Mon
Alabama	X	X	X	X				X
Alaska	X	X	X	X	X	X		X
Arizona	X	X	X	X	X	X		X
Arkansas								
California	X	X	X			X	X	
Colorado	X					X		
Connecticut	X	X	X	X	X	X	X	X
Delaware	X	X	X	X			X	
District of Columbia	X	X	X	X		X		X
Florida	X	X	X	X		X	X	X
Georgia	X	X	X	X				X
Hawaii	X				X		X	
Idaho	X	X	X	X		X		
Illinois	X	X	X	X	X			X
Indiana		X		X		X		X
Iowa	X	X	X	X	X			X
Kansas	X			X	X		X	
Kentucky	X	X	X	X	X	X		
Louisiana	X	X	X	X	X		X	
Maine		X	X	X	X	X		
Maryland	X	X	X	X	X	X	X	X
Massachusetts	X	X	X	X		X		
Michigan	X	X	X	X	X	X		X
Minnesota	X	X	X	X	X	X	X	
Mississippi							X	
Missouri	X	X	X	X	X			X
Montana	X	X		X	X			X
Nebraska	X	X	X	X	X			X
Nevada	X	X	X	X	X		X	
New Hampshire	X	X	X	X	X	X	X	
New Jersey		X	X	X			X	
New Mexico	X	X	X	X	X	X	X	X
New York	X	X	X			X	X	
Ohio	X	X	X	X	X			
Oklahoma	X	X	X	X	X	X	X	X
Oregon	X	X	X		X	X	X	X
Pennsylvania	X	X	X	X		X		X
Rhode Island	X	X	X	X	X	X	X	X
South Carolina	X				X		X	
South Dakota	X		X	X		X		
Tennessee	X	X	X	X	X			
Texas	X	X	X	X	X			
Utah	X	X	X	X	X			
Vermont	X	X	X	X	X		X	X
Virginia	X	X	X		X	X	X	X
Washington	X	X	X	X	X	X	X	
West Virginia	X	X	X	X			X	X
Wisconsin	X	X	X	X	X	X	X	
Wyoming	X	X	X		X			X
Number of States*	44	42	41	37	32	26	24	24
Percent of States*	90%	86%	84%	79%	65%	53%	49%	49%

State	Food Protection	Private Wells	Environ Lab	Radiation Control	Indoor Air Quality	Risk Assess & Risk Comm	Drugs, Cosmetics & Medical Devices	Childhood Lead Poisoning Prevention
Alabama							X	
Alaska	X		X	X				X
Arizona		X		X				
Arkansas								
California						X		
Colorado								
Connecticut	X	X		X			X	X
Delaware			X					
District of Columbia					X			
Florida	X		X				X	
Georgia	X	X	X	X				
Hawaii								
Idaho						X		
Illinois	X		X	X				
Indiana	X							
Iowa	X	X				X		
Kansas	X		X				X	
Kentucky		X			X		X	
Louisiana				X				
Maine	X	X					X	
Maryland		X		X		X		X
Massachusetts								
Michigan	X	X	X	X	X			
Minnesota								
Mississippi								
Missouri	X	X			X	X		
Montana		X			X			
Nebraska	X		X			X		
Nevada			X			X		
New Hampshire		X	X		X	X		
New Jersey		X						
New Mexico	X	X		X	X	X	X	
New York								
Ohio	X		X			X	X	
Oklahoma		X	X	X	X			
Oregon					X	X		
Pennsylvania	X	X	X	X				
Rhode Island	X	X		X	X	X	X	X
South Carolina							X	
South Dakota	X	X						
Tennessee	X			X	X			
Texas		X	X					
Utah				X				
Vermont								
Virginia	X		X					
Washington	X	X	X		X			
West Virginia	X					X		
Wisconsin	X	X	X					
Wyoming		X			X			
Number of States*	22	21	17	14	13	13	10	4
Percent of States*	45%	43%	35%	29%	27%	27%	20%	8%

Appendix C

Outsourced Programs over the Past Five Years	
Connecticut	primary public health agent local health jurisdiction
District of Columbia	investigations of munitions and underground fuels
Hawaii	information management
Idaho	local public health departments implement statewide activities in all 44 counties
Kentucky	quality assurance of radiation water testing
Louisiana	childhood lead, commercial body art and beach monitoring
Maine	follow up visits to homes of high child blood lead levels, decommissioning of the Maine Yankee Atomic Power Company
Massachusetts	laboratory testing for beaches and indoor air
Oregon	drinking water, food, pools and lodging to counties
Tennessee	environmental health and safety inspections are contracted to specific county health departments
Vermont	indoor air investigations to Bureau of General Services for state buildings
Discontinued Programs over the Past Five Years	
Alaska	regulation of smaller public water supplies, reduced sanitation oversight of public facilities
Connecticut	mosquito control, housing
Idaho	indoor air quality
Illinois	Environmental Public Health Tracking due to a lack of funding
Iowa	PCB inspections due to reorganization
Kansas	wholesale food and grocery stores and food vending transferred to the Kansas Department of Agriculture due to legislative mandate
Kentucky	consumer product safety – a personnel hiring freeze is in effect because there are no appropriated funds for the program and the lone worker retired
Massachusetts	several studies, surveillance activities
Missouri	milk rating, licensure of non-intoxicating beverages
Montana	Environmental Public Health Tracking due to a lack of funding
Nevada	dairy and milk programs were transferred to the Nevada Dairy Commission
New Hampshire	in 2003 occupational and environmental health moved from the New Hampshire Department of Health and Human Services to the New Hampshire Department of Environmental Services
South Carolina	hotel and motel inspections and childhood lead prevention, both due to a lack of funding

Vermont	dramatically reduced, but not eliminated, radon program due to a required 50/50 state funding match; moved asthma to Chronic Disease in another area of the Department of Health
Wisconsin	OSHA Consultation was moved to the University of Wisconsin, registration of sanitarians was moved to another state agency, fatality investigation (NIOSH FACE) was discontinued due to a lack of funding
Added Programs over the Past Five Years	
Arizona	children's' environmental health program as a result of a Governor's initiative, biomonitoring, became part of the Rocky Mountain Biomonitoring Consortium
Arkansas	certified onsite maintenance personnel program
California	biomonitoring and environmental health indicators
Connecticut	Environmental Public Health Tracking
Delaware	body art, cosmetology, and occupational health
Florida	PACE EH program
Idaho	fish consumption advisories, air quality advisories, clandestine drug labs
Illinois	clandestine drug lab surveillance and clean-up
Iowa	EHS Net, environmental health emergency response, occupational illness and injury surveillance
Kansas	hired an Environmental Health Officer to address environmental epidemiology and integrating environmental public health issues
Kentucky	environmental health quality assurance function, environmental health GIS position, and new shellfish regulations
Maine	fee on the sale of paint for lead exposure education
Maryland	Environmental Public Health Tracking and hazardous algal blooms
Massachusetts	Environmental Public Health Tracking
Minnesota	methamphetamine lab clean-up guidelines
Missouri	radon, indoor air, Environmental Public Health Tracking (which was also lost during the last five years)
Montana	Environmental Public Health Tracking (later discontinued due to loss of federal funding)
New Hampshire	in 2003 occupational and environmental health moved from the New Hampshire Department of Health and Human Services to the New Hampshire Department of Environmental Services
New Jersey	body art, burial of dead bodies, enforcement of smoke-free air act, Environmental Public Health Tracking
New York	Environmental Public Health Tracking
New Mexico	Environmental Public Health Tracking and biomonitoring

Ohio	significantly updated on-site sewage treatment law and rules, new law for school environmental health, new public place smoking law and rules, new law for manufactured homes installation, increased asthma capacity, expanded site assessment work to any toxic chemicals released to the environment, including meth labs
Pennsylvania	Environmental Public Health Tracking
Rhode Island	new focus on healthy places, workplace and public places smoking control acts, EHS-Net grant for risk factors for food, poison control, Chem-Safe schools program
South Carolina	food defense grant from CDC, vector specialist with CDC funds
Utah	Environmental Public Health Tracking
West Virginia	readiness coordination and threat preparedness to supplement/organize current response initiatives, state program for ATSDR-improved response for contaminated sites, licensing fee for on-site sewage installers, certification of backflow prevention & assembly inspectors/testers, body piercing, fish consumption advisories – based on Executive Order
Wisconsin	Environmental Public Health Tracking (CDC funded), became an Agreement State with the NRC.
Wyoming	Rocky Mountain Biomonitoring Consortium
Land Use Planning or Smart Growth Programs over the Past Five Years	
California	in the context of livable communities, health promotion and obesity prevention
Connecticut	participate in interagency Water Planning council to assist in the review of development of new public water suppliers, development of WUCCs
Delaware	to a very limited degree in the DWSRF program
Florida	encourage environmental health directors to participate in local planning councils
Hawaii	environmental evaluation of proposed projects
Idaho	brief workings with smart growth
Illinois	partner with state economic development agency to focus on affordable health housing
Kansas	office of Health Promotion provides Healthy Kansas Communities Toolkit to promote healthy lifestyles by addressing the built environment
Michigan	brownfields assessment and redevelopment
New Jersey	participate on the Brownfields Redevelopment Taskforce
New York	Governor's Task Force on Environmental Justice and Lt. Governor's Quality Communities Task Force
Oregon	informally because environmental health directors is member of Portland Oregon Planning Commission & has professional background in transportation

Rhode Island	participation in development of state land use plan as member of Statewide Planning Council's Technical Committee, member of State Housing Resources Commission, participation in Smart Growth Rhode Island conference on land use planning
Virginia	local health departments are cooperatively funded by the localities and the State Health Department, and they assist the locality in planning for onsite sewage systems, private wells & water systems to support economic development.
Washington	State Growth Management Act has provisions for allowing or restricting "urban services" - this becomes an issue for us in our water supply planning program activities.
West Virginia	mostly only as related to on-site sewage installations and public sewage facilities
Wisconsin	little direct involvement but was discussed at annual environmental health conference

Appendix D

Other Environmental Health Programs Not Included in the Survey	
Arizona	SunWise (sun safety program for children)
Arkansas	marine sanitation; heating, ventilation, air conditioning and refrigeration professional licensure and inspection
California	birth defects monitoring; nuclear power plant emergency response; blue-green algae; electric and magnetic fields
Delaware	migrant camps, bedding, non-alcoholic beverages, worker right-to-know
Idaho	ATSDR program to coordinate site-specific activities (Superfund), clandestine drug laboratories, public health assessment, food protection program is in the office of epidemiology
Illinois	manufactured housing, mobile structures
Iowa	fluoridation; Hazardous Substances Emergency Surveillance System (HSEES); water treatment device registration; Environmental Health Specialists Network (EHS-net); local board of health assistance
Mississippi	boiler and pressure vessel safety; vector control
Montana	Montana Asbestos Screening and Surveillance Activity in Libby, MT
Nebraska	mobile home parks, child care facilities
New Jersey	hospital infection control
New York	oil spill relocation network, state Superfund
Pennsylvania	we have a small toxicology unit (two FTEs) and one asthma epidemiologist who is funded 100% by another Bureau in the Dept. that implements the CDC asthma grant
South Carolina	rabies control
South Dakota	lodging licensing, campground licensing and swimming pools associated with above
Participation with Schools of Public Health	
Alabama	work with UA-Birmingham on various projects
Arkansas	agency personnel serve as faculty at the University of Arkansas for Medical Sciences, College of Public Health; some programs contract with faculty members from the college for specific technical assistance
California	actively coordinate with multiple University of California and other systems for all activities cited in the question
Connecticut	staff lectures, cooperative course offerings, interns
District of Columbia	George Washington University internships and contracts for surveillance
Florida	on the FL Public Health Association Academic Advisory Board to certify environmental health students and encourage externships within DOH; working to establish a DVM/MOH program at UF
Georgia	program development & research in connection with the On-Site Sewage Management Program

Hawaii	partnerships primarily for research purposes
Illinois	research, academic partners, graduate student interns
Indiana	recently began identifying areas of cooperation
Iowa	joint research projects; serve on several work groups advising public health grant programs at universities; provide internship opportunities for students under agreement with College of Public Health
Kansas	KDHE professionals participate as speakers and trainers, collaborate on research or grant projects, program development; KDHE is a training site for academic research or projects
Kentucky	Eastern Kentucky University state-funded joint grant writing position established to pursue environmental health grants; environmental inspector second language project with Univ. of Kentucky
Louisiana	IMPACT interns program from Univ. Alabama Birmingham and Tulane Univ.-had one last year asking for more this coming year
Maryland	I am director of the state's Preventive Medicine Residency program and also work with both residency and public health programs in the state.
Massachusetts	activities are numerous
Michigan	students from Michigan State University and the University of Michigan do summer internships; working with Michigan State University on establishment of public health program; guest lecturer.
Minnesota	adjunct appointments
Missouri	research projects, Public Health Leadership Institute
Nebraska	give presentations, worked with the University of Nebraska Medical Center in the creation of the School of Public Health and the Masters in Public Health Degree program
New Hampshire	work with UNH MPH program: asthma and air quality research, climate change & health research, guest lecturers, offer internships, offer field study and integrated seminar opportunities, etc.
New Jersey	contract with Rutgers and UMDNJ in New Jersey on a variety of environmental studies
New Mexico	guest lectures
New York	staff teach at the School of Public Health in the State University of NY at Albany
Oklahoma	Oklahoma University, program planning some research projects, internships
Oregon	beginning connections only, very project specific at this point
Pennsylvania	partner with the U. of Pittsburgh School of Public Health on the CDC tracking grant

South Carolina	member of Public Health Consortium with the Arnold School of Public Health, University of South Carolina
Texas	occasional lectures, staff teach courses, interns, school of public health
Vermont	University of Vermont and Fletcher Allen Hospital are within walking distance of our offices.
Virginia	have formal agreement with Southside Virginia Community College to support local environmental health training and the Onsite Sewage Training Center; serve as Adjunct Professors at Virginia Commonwealth University's Masters of Public Health Program.
West Virginia	WV University, Marshall University School of Medicine re: contaminants, chemical issues
Wisconsin	many staff have joint appointments with the UW School of Medicine and Public Health; many WI environmental health staff provide guest lectures; we host student interns and sit on advisory boards for those schools that have an environmental health program dimension



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