

Final Report –Key Informant Survey Component
Connecticut PBRN: January, 2015

Project Title: Cost effectiveness, efficiency and equity of inspection services throughout Connecticut's local public health system

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Component 1 Part 2: Supplemental Surveys of Local Health Directors

Given the shortcomings of the existing annual report data, a second methodology was developed to address its limitations and supplement information on practices and costs. A survey of local health departments was conducted. The purpose of the survey was to describe what our local health departments are doing in regard to the four mandated EHS services and begin to address the time, staff and costs associated with them.

Once testing of the cost function model began, the results identified what questions could not be addressed through this methodology because of data limitations. The research team determine the best approach to obtain the additional data was through an on-line survey of local health directors.

Members of the steering committee informed the process and advised additional elements to be identified. These included information such as how much time is required for each service and by whom. Once completed, these data were used to supplement information from the economic model analysis. The steering committee also served as champions for the project to encourage participation in online surveys.

The full set of survey questions investigated the range of inspections services offered by each local health department (LHD), as well as the time estimates for each of the services. Additional questions addressed whether there are differences in the depth and breadth of each of the services offered to the community and the cost of these services. The full survey was incorporated into a survey monkey form that was available on line. It was quite lengthy (12 pages) and required knowledge and documentation of departmental practices. Recruitment was accomplished through a letter from the President of CADH that was sent through e-mail. The survey was available on-line from September 30 through December 12, 2014 (Appendix A).

The goal was to sample the entire CT LHD population, currently 73 local health departments total, which were the units of analysis, for reasons of statistical power of inference. Although this particular sample is not necessarily representative of other states, the variability found in terms of number of residents served, funding, and size of agency will inform other PBRNs in their adaptation of our cost-effectiveness and efficiency models.

Twenty-two local health departments/districts (LHD) completed all or some of the survey for a response rate of 30.1%. By type they included, 4 part-time health departments (17.4%); 5 full-time municipal health departments (17.2%) and 13 health districts (61.9%). Although the response rate was less than hoped for, this survey was probative and will expand our knowledge of services and practices. We anticipate that the district surveys may provide sufficient information to eventually estimate some of these costs and assist with strategies, such as fee structures and sharing of services that should/could cover the costs of these services in the future.

Complete survey results can be found in Table 1, Appendix A. Descriptive statistics were calculated, including frequency, mean, and range where applicable. Given the small sample size and some partially complete surveys, percentages in the table reflect the proportion per total responses to a given question rather than the proportion of the total respondents.

Demographic Data

Respondents to the supplement survey represented local health jurisdictions serving populations ranging from 6,504 to 146,425. Full-time health departments and districts work a 35 to 40 hour salaried work week. This was also true for half the workforce employed by part-time municipal departments. Part-time municipal departments must provide the equivalent of at least one full-time employee (FTE) and are administered by a part-time Director of Health.

According to the DPH Local Health Annual Report for Fiscal Year 2013, Part-time Directors of Health worked 2-27 hours per week. Thirty-eight percent of survey respondents were unionized. Almost all full-time municipalities were unionized, while only 33.3% of health districts are. None of the participating part-time departments were unionized.

Health Directors reported spending 1-20 hours per week on environmental health services, either directly, or as part of supervision and oversight with an average of 9.5 hours. An interesting finding was that 44.4% (n=8) of the respondents reported performing environmental inspections themselves. Most of these were directors of health districts (75.0%). In reviewing the credentials of the DOHs who conducted environmental inspections, they all had both an MPH and were Registered Sanitarians.

On average the responding LHDs had 11.3 full time employees (range 0 – 75). They ranged from a part-time Director of Health (DOH) who was the sole employee and served as both DOH and town sanitarian to an urban area with over 140,000 residents. Of the full-time employees, about 38% (4.3) were environmental health employees. Only 15.8% of respondents reported have at least one administrative staff person dedicated to supporting the environmental health staff. The majority (73.7%) reported at least one shared administrative staff person for the entire LHD, with the remainder

reporting no administrative staff support or a shared administrative staff with the rest of the town departments.

As would be expected, all municipal health departments were located in municipal buildings, while most health districts (69.2%) were not.

Budgets and Financial Resources

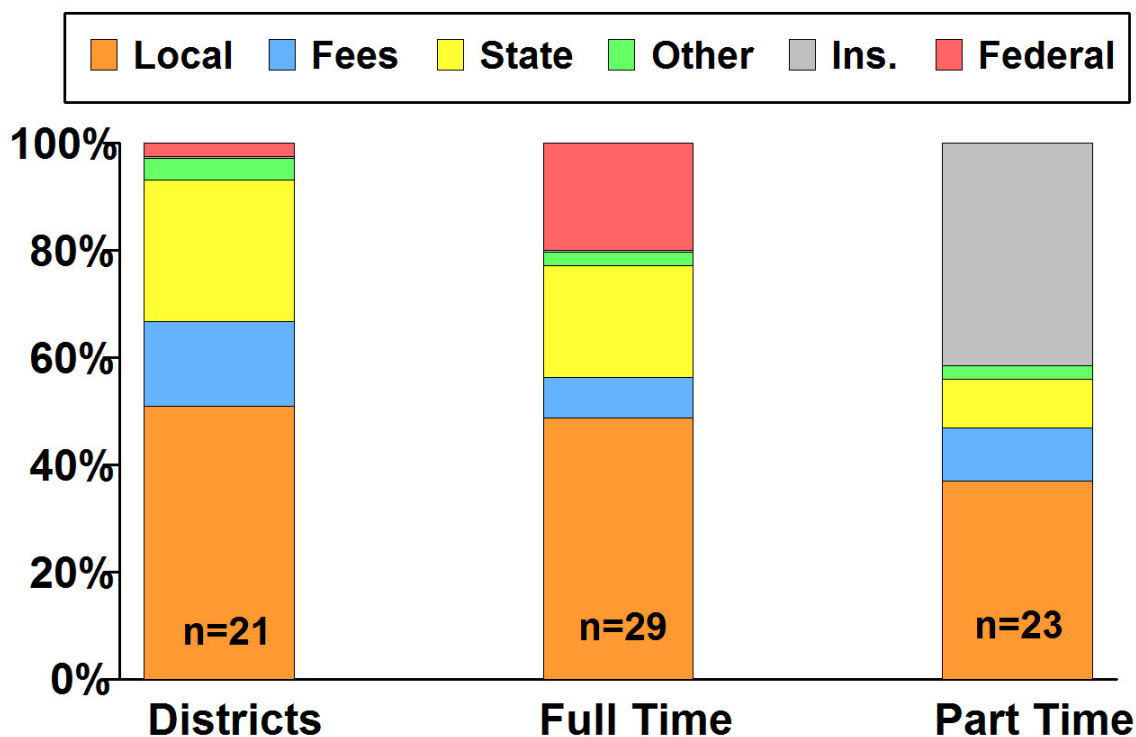
Among respondents, the average budget was \$1,139,284 with a range of \$49,000 - \$4,369,669. The range was similar for full-time LHDs and districts. However, among part-time LHDs, the average budget was \$111,830 with a range of \$49,000 - \$198,945. All health district budgets included fringe benefits, but only one full-time LHD did. The average fringe benefit was 32.4% of salary.

Overall, 65% of the LHD budget was allocated to environmental services. However, this differed by type of jurisdiction. While only 2 full-time municipalities responded to this question, they allocated 23.4% of the budget to EHS. These are both departments that provide many other public health services in addition to EHS. Districts estimated that 65.1% of the budget was for EHS and part-time LHDs estimated it was 84.5%

LHDs reported receiving funding from a variety of sources. Among respondents to the survey, 80% reported receiving federal funds, 85% received state funds, and 55% received other funds. Other funds included contract revenue, local grants, and grants foundations and corporations. An additional source of revenue for health districts was obtained through keeping their fees, while fees from municipalities are placed back in the general fund.

Chart 1 depicts the various revenue sources reported to the State Department of Public Health by all 73 local health departments for fiscal year 2013. In the 2013 DPH made a major revision to the report and added a category for insurance revenue. The largest source of revenue for LHDs remains local funds. Three large, full-time municipal departments receive almost all of the federal funds, and two part-time municipal departments receive all the Medicare funding.

Chart 1 Revenue Sources 2013



Lead Investigations

Under state law, local health departments are mandated to undertake full epidemiologic and environmental investigations in all cases where there is laboratory evidence of lead poisoning in children ≤ 6 years of age.

On average the respondents had 12 cases of lead poisoning in their jurisdictions over the past five years with a range of 0 – 97 cases (a case is defined as a child with an elevated blood lead level ≥ 20 ug/dl). Among respondents, only two of the part-time LHDs reported never having dealt with a case in their jurisdictions. All reported having a plan for conducting lead investigations. Most used their own staff to conduct lead epidemiologic investigations (90%), environmental investigations (71%) and clinical follow-up with the patient and provider (91%). Most did not own an XRF machine (for measuring lead on environmental surfaces) and borrowed them from the DPH. 90% used the DPH MAVEN data software to report and maintain lead case investigations, orders and lead abatement and completion activities.

Based upon data submitted for the DPH FY 2013 Local Health Annual Report, 53.4% of all LHDs received funds from HUD, CBDG grants, and the LAMPP project to assist with investigation and abatement of elevated lead cases. By jurisdiction type, 57.1% of

districts, 62.1% of full-time municipal departments and 39.1% of part-time municipal departments received such funds. This is important because the departments were able to leverage these funds for preventive purposes and the staff worked to implement the deliverables. Lead has taken on a significance of its own in health departments where the housing stock of an age that requires ongoing interventions to protect the children in the jurisdiction.

Table 1 represents the lead activities report from the DPH Annual Report for FY2013 including all 73 LHDs departments.

Table 1 Lead Screening and abatement SFY 2013				
Questions		Districts	Full Time	Part Time
Do you conduct outreach to providers for lead screening?	Yes	20	22	6
	No	1	7	17
Do You collaborate with your local WIC program to promote lead screening?	Yes	5	14	0
	No	16	15	23
Total number of lead inspections.		390	795	4
Total number of orders issued to abate.		52	324	2
Total number of completed abatements.		40	286	2
Total number of orders for remediation.		14	286	2
Total number of completed remediations.		55	249	0
Do you or your staff conduct site visits to lead abatement or remediation projects?	Yes	19	25	17
	No	2	4	6
Do you have a written plan to relocate the families of lead poisoned children?	Yes	19	11	1
	No	2	18	22
Number of families relocated in past year.		22	61	0
Funds available to assist abatement.				
HUD		6	7	2
CDGB		3	9	1
HOME		0	2	1
LAMPP		6	10	5
Town/Dist.		8	5	12
Agency Region		3	3	2
Other		5	6	4

Respondents to the PBRN supplemental survey were asked to estimate the average number of hours required by all personnel involved for a typical lead case. On average, it required 27 hours of EHS staff time; 6 hours for administrative staff; 10 hours of nursing staff; and 9 hours of DOH time for a total of 52 hours or 6.5 eight-hour days.

These estimates did not include time associated with difficult cases that required court orders and legal appearances. Clearly, lead is the most time consuming and expensive of all the environmental mandates.

Water and Sewer

Local health jurisdictions are responsible for private water wells. A statewide total of 2,064 well permits were issued in 2010, this number declined each subsequent year and currently stands at 1,508 for 2013. The decline in well permits reflects the decline in new housing starts seen over the past few years. (Local Health Annual Report for Fiscal Year 2013). Only one survey respondent reported having no private wells within their jurisdiction.

The Public Health Code On-site Sewage Disposal Regulations and Technical Standards for Subsurface Sewage Disposal Systems establishes minimum requirements for household and small commercial subsurface sewage disposal systems with capacity of 5,000 gallons or less per day. Section 19-13-B103 establishes minimum permitting, investigation and inspections requirements for new subsurface sewage disposal systems and repairs of existing systems.

Connecticut LHDs issued 1,293 residential and commercial new subsurface septic permits in 2013 (DPH Local Health Annual Report). On average, supplemental survey LHDs had 5 staff who were certified for Subsurface Sewage Disposal Phase I and 4 staff certified for Phase 2. These were mostly sanitarians, but, 31.6% reported both sanitarians and DOHs were certified and conducted inspections.

Respondents estimated the amount of time spent on the various aspects related to a typical new home system or the repair of an existing system. On average the time spent on a typical septic system was 13 hours. LHDs are also responsible for enforcing the requirement for review and approval of all 19-13-B100a applications for building conversions and additions. EHS staff spent an average of 5.7 hours on the in-house plan review and required site visits.

Food Safety

For most LHDs, the greatest proportion of EHS staff time is spent on the food safety program and the inspections of food service establishments (FSE) mandated by the state Public Health Code. About three-fourths of LHDs used only sanitarians to conduct the mandated FSE inspections. An additional 26.3% used both sanitarians and persons certified only for food service to conduct these inspections.

The process of annual licensure of FSEs is not usually considered when looking at workflow and time studies. Given the number of FSEs in a given jurisdiction this can be very time consuming and involve both EHS and administrative staff. On average the time spent on this process was 155 hours of EHS staff time and 85 hours of

administrative staff time for a total of 30 eight hour days. This estimate did not take into account the number of establishments within each jurisdiction.

Respondents estimated the time spent on FSE inspections and related activities. In Connecticut, FSEs are classified as Class I through IV depending on the level of complexity of the food handling processes and specific times between preparation and use. The number of mandated annual inspections also increases from 1-4 based on the classification. (See Appendix A Table 1 for time estimates). Average times ranged from about 30 minutes for a Class 1 FSE to two hours for a Class IV, and an additional hour for recording reports and updating the databases. So, for a LHD that has 250 Class IV restaurants the sanitarian would need to spend 2,000 hours just to meet the mandated state requirement.

Table 2 is the food service activities report from the DPH Annual Report for FY2013 including all 73 LHDs departments.

Table 2	Food Inspections and Fee Range SFY 2013 Local Health Annual Report		
	Health Districts	Full Time Health Depts	Part Time Health Depts
Class I			
Establishments	1,021	1,161	86
Required Inspections	1,021	1,161	86
Actual Inspections	806	1,126	94
Compliance	79%	100%	100%
Fee Range	\$0-\$265	\$0-\$750	\$0-\$125
Class II			
Establishments	839	1,349	118
Required Inspections	1,678	2,698	236
Actual Inspections	1,101	2,256	169
Compliance	66%	84%	77%
Fee Range	\$0-\$295	\$0-\$750	\$0-\$200
Class III			
Establishments	2,270	2,636	241
Required Inspections	6,810	7,908	723
Actual Inspections	4,165	5,374	474
Compliance	61%	70%	66%
Fee Range	\$0-\$515	\$0-\$400	\$0-\$300
Class IV			
Establishments	3,937	3,550	479
Required Inspections	15,748	14,200	1,916
Actual Inspections	8,128	10,643	1,205
Compliance	52%	75%	63%
Fee Range	\$0-\$750	\$0-\$750	\$0-\$400

The maintenance and upkeep of FSE data has not been evaluated in the past. Among respondents only 57.9% of respondents scanned or entered FSE inspection forms into a database. Over two-thirds (78.9%) had a computerized database for FSE licensing and inspections. Most (52.6%) used an In-house software program, such as ACCESS. An additional 24% used a Digital Health Department, Filemaker or Filebound Database. Every LHD except one, periodically analyzed the FSE data, most at least quarterly.

Most LHDs believe that education is an important component of the food safety program, whether it occurs as part of the FSE inspection process or through formal training programs. Over half (47.4%) of respondents reported offering an in-house basic food service program, QFO training and certification or both in their departments.

Finally, we evaluated the number of LHDs that had developed a FSE rating for the public. About one-quarter of respondents had developed such a system. Individual FSE ratings were either updated after each inspection or monthly. To read more about FSE rating systems in Connecticut refer to the Component 2 Report "Connecticut's Food Safety and Inspection Practices" included in this report.

EHS Communications

A number of questions were related to communications with EHS consumers. Almost 90% of the responding LHD had a website that had information and forms related to the four mandated services, but only one reported that forms could be completed and submitted on-line. Most also had the capacity for consumers to contact staff on-line with questions or complaints. About one-third of the respondents utilized some form of social media. All respondents reporting social media use were utilizing Facebook and slightly less than half also used Twitter.

Conclusions

There is a growing interest, particularly among health districts, to determine the true costs of providing critical, mandated environmental health services. Equally important is determining whether current fees actually cover the costs of providing them. A small number of departments have developed tracking methods to evaluate the time spent by individual staff in providing EHS or developing methods to capture and estimate the costs of providing each service. While this exploratory survey could not do that, it has provided us with some good and interesting information that will provide background information for further work in this area.

The PBRN Advisory Group has agreed to continue to work on this issue, and hopes to be able to develop estimated overall costs and time required for each of these mandated services and their component parts and to develop a simple methodology that can be shared with all our members.

In an effort to be more cost effective in delivering environmental and other local public health services, it is critical that public health adopt and embrace business models to understand the cost of services and justification for them. This will require development of a standardized data collection system statewide and nationally. It is hoped that this advance will increase not only the effectiveness and efficacy of these services but also their equity.