

North Carolina Public Health Practice-Based Research Network DACS 71131

Product Type: Meeting and Conference Presentation

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Title of Presentation: *Development and Pilot Test of a Tool to Estimate the Cost of Environmental Health Services at the Local Level*

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North Carolina PH – PBRN Delivery and Cost Study (DACS)

Development and pilot test of a tool to estimate the cost of environmental health services at the local level

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Introduction

The NC DACS research question: “What does it cost to provide the public health services mandated by NC statute.”

•Mandated services include: Food, Lodging and Institutional Sanitation; On-site Water and Septic; Communicable Disease Control; and Vital Records Registration.

•The Practice Advisory group settled on environmental health services as the service to “cost.” These include:

- **Food Protection and Facilities Branch** – oversees restaurant and lodging sanitation, pools, tattoo parlors
- **On-site Water Protection Branch** – oversees on-site septic/wastewater, private wells
- **Children’s Environmental Health Branch** – oversees child lead surveillance, child care sanitation, school sanitation

Cost Approach & Data Sources

We are using 3 approaches to develop a cross-validated costing tool for use at the local level: 1. Empirical modeling using secondary data available from the state (n=85 LHJs); 2. a time-log approach (n=4 LHJs); and 3. the approach described here (n=16), based on the adaptation of an existing instrument - SASCAP

Spending, staffing and service data for environmental health services are required:

•Spending data – obtained from a state-wide Local Health Department Revenue Database

•Staffing data – obtained from a state-wide survey of local health departments about their staffing

•Service data – obtained from several different state wide service activity data bases

Substance Abuse Services Cost Analysis Program (SASCAP)*

- A new method for estimating the costs of specific drug treatment services;
- Extends previous research by including both indirect labor and nonlabor resources in service cost estimates;
- Service cost estimates that included indirect labor and nonlabor resources were two to three times higher than those that only included direct labor costs;
- Over all services, indirect labor and nonlabor costs combined accounted for between 41 and 69% of the estimated total service costs;
- Studies that only include direct labor costs are seriously underestimating the true costs of services; and
- Method is applicable not only to the cost estimation of other drug treatment modalities but also to the cost estimation of other health care services.

* Zarkin GA, Dunlap LJ, Homs G. The substance abuse services cost analysis program (SASCAP): a new method for estimating drug treatment services costs. *Evaluation and Program Planning*. 27(2004):35-43

Revised Instrument for Collecting Cost Data

Public Health Services Costing Tool for Mandatory Services in North Carolina

Thank you for your willingness to participate in this survey. The goal of this this project is to cost select environmental health services provided by the health departments in North Carolina. If you have any questions about any of the questions/elements in this survey, please email XXX.

1. Agency Information- Please provide the following information about your local health department

Name of local health department: _____

Names of counties served: _____

Total number of FTE employees: _____

Please complete the survey below for using data for fiscal year: _____ . If your agency serves more than one county, please provide summary information for all counties you serve (rather than breaking out costs etc. by county).

2. Service Counts- Please provide the total number of services provided for all services defined by the following activity codes:

Activity Code	Description	Number of Services

3. Direct Labor- Please provide information about the employees involved in providing the services defined in Part 2. For columns 7-11, please provide information at the level of each position if possible. If you are unable to provide this information, please provide it in the total for all positions.

Position	# of FTEs	# of Full-Time Employees	# of Part-Time Employees	Total Salary Cost	Total Cost of Benefits & Fringes	Total Salaries, Benefits, & Fringes	% of Local Funding	%State Funding	% Fees	% Grants	% Other
EH Director											
EH Supervisor											
EH Programs Specialist											
EH Specialist											
EH Technician											
Clerical/Admin Staff for EH											
Other											

4. Non-labor

4.A. Buildings

If you know your total expenditures (for rent or mortgage payments) for space used, please provide the information here: _____

If you do not know your total expenditures for space used (or if you do not incur costs for space used), please provide the following information:

Size of space used in square feet: _____

Year building was built: _____

4.B Supplies, materials, and equipment- Please provide information about supplies, materials, and equipment require to provide the services defined in Part 2. For county or state vehicles and for other equipment, please provide the average annual cost, e.g., depreciation expense for vehicles used over multiple years. For staff travel using own vehicle, please provide the cost of reimbursing staff.

Description

Materials/supplies _____

Office material/supplies _____

Field materials/supplies _____

Other materials/supplies _____

Vehicles

County or state vehicles _____

Staff traveling using own vehicle _____

Other Equipment _____

4.C. Subcontract- If service/part of service is subcontracted , please provide total spending on subcontract(s). _____

4.D. Miscellaneous- Please provide information in chart to the right about miscellaneous costs incurred in providing services defined in Part 2.

Description	Cost
Utilities	
Insurance	
Non-payroll taxes	
Communication	
Patient transportation	
Dues, memberships, fees	
Staff training	
Any other costs	

Revised Survey Instrument, cont...

5. Indirect/Overhead- Please provide the total administrative costs (also known as overhead costs) in your health department. Please include administrative/clerical staff working directly in environmental health in Part 3 rather than here!

Administrative cost (i.e. cost of health director, finance department, etc.) _____

Please provide the amount and/or percent of administrative costs allocated to the services defined in Part 2.

Amount of administrative costs allocated to services defined in Part 2: _____

Percent of administrative costs allocated to services defined in Part 2: _____

6. Respondent Information

How many staff members were involved in completing this survey? _____

Please list the position titles of the staff members involved in completing this survey. _____

What is your best estimate of the total time it took to complete survey? _____ hours

Data Discovery

In North Carolina, Environmental Health at the local level includes three service areas, which are overseen by three different branches of the Environmental Health Section of the NC Division of Public Health. Service data for each area is maintained by that respective branch.

Members of the NC DACS Practice Advisory Group identified and made contact with Environmental Health Section Branch Managers who identified program personnel with oversight over the respective data sources, who subsequently identified staff with access to the actual data, which took 9 months to collect and required relationship-building among study, local / state health department staff.

On Site Water Protection Service Data

County level inspection and permit activity data was obtained in excel format via email for years 2007-2011. Data required cleaning, summarizing, review of data definitions, and consultation with on-site water staff.

Child Environmental Health Service Data

County level inspection, investigation, and consultation activity data was obtained for child lead investigations, school inspections, day care inspections and informational visits. Data were obtained in excel format via email for years 2007-2011. Data required cleaning and summarizing.

Food Protection Service Data

County level restaurant, lodging, pool and tattoo parlor inspection data were obtained. The data required a written request/approval process. Data were obtained in excel format for years 2007-2011 and were cleaned and summarized. Data were retrieved in person.

Next Steps

1. Currently undergoing preliminary data collection in 4 local health jurisdictions.
2. Total n = 16 local health jurisdictions selected to reflect a mix of the demographic and social characteristics of the state as a whole, particularly with respect to region (East, Piedmont, West), population size, and poverty/economic condition.
3. Forty percent of the counties are in the eastern region, 32% are located in the piedmont, and 28% are in the west.
4. Thirty six percent were chosen from the poorest economic category (as designated by the NC Dept of commerce), 40% are from the medium economic category, and 24% are from the most prosperous economic category.
5. The counties also range from very small (population under 20,000) to very large (population over 500,000).