

North Carolina Public Health Practice-Based Research Networks DACS 71131

Product Type: Meeting and Conference Presentation

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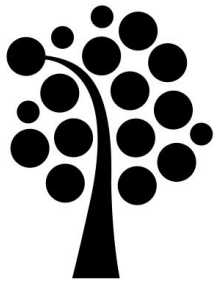
Title of Presentation: *Developing a Tool for the Estimating Local Health
Department's Costs of Providing Public Health Services*

Meeting: American Public Health Association's 142nd Annual Meeting and
Exposition

Date: November 15-19, 2014

Location: New Orleans, Louisiana

Developing a tool for estimating local health departments' costs of providing public health services



**North Carolina Public Health
Practice-Based Research Network**

A Section of the North Carolina Public Health Association
American Public Health Association

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Presenter Disclosures

Presenters Simone Singh and Nancy Winterbauer have no relationships to disclose

Purpose

**WHAT DOES IT COST TO PROVIDE
THE MANDATED PUBLIC HEALTH
SERVICES?**



Background

- Little is known about the cost of providing services in local health departments (LHDs);
- Understanding factors contributing to the cost of providing these services is critical to:
 - Demonstrating the need for funding;
 - Programmatic decision-making, including decisions regarding fee structures;
 - Achieving *efficiency* in public health interventions.

Local Spending - State Funding

Communicable Disease

Spending:	\$352,866
State Funding Provided:	<u>\$31,595</u>
	(\$321,271)

Environmental Health

Spending:	\$611,761
State Funding Provided:	<u>\$16,500</u>
	(\$595,261)

Vital Records

Spending:	\$24,017
State Funding Provided:	<u>\$0</u>
	(\$24,017)

**Granville-Vance Health
District, FY 2012
Population across two
counties: 110,000.**

Specific Aims

- Estimate and validate the cost per unit of service for selected services mandated by NC statute (Administrative Code 10A NCAC 46.0201 – 0215);
- Construct a validated methodology for the estimation of service costs that can be readily implemented by finance staff at LHDs;
- Examine the influence of different delivery system structures such as single-county, multicounty district, public health authority, and consolidated human service agencies on the costs of delivering mandated and other essential public health services.

Mandated Services

Provide:	Provide/contract/certify:
Food, lodging & institutional sanitation	Adult health
Individual on-site water supply	Home health
Sanitary sewage collection, treatment & disposal	Dental public health
Communicable disease control	Grade-A milk sanitation
Vital records registration	Maternal health
	Child health
	Family planning
	Public health laboratory

Cost Estimation Methods

Costing Method	Data Collection Method	Sample Size
Empirical (5 yrs data)	Administrative data	All 100 counties; 2 mandated services
Resource-Based	Key informant input, administrative data	16 LHDs, 2 mandated services
Time Log	Direct observation or activity logs supplemented with administrative data	4 LHDs, 2 mandated services

Resource-Based Method

Data Collection Tool:

- Based on SASCAP tool developed by RTI
 - Instrument to cost substance abuse services
 - Two parts:
 - Cost module to collect data on direct and indirect costs
 - Labor module to collect data on staffing
- Adapted for this study with the help of the following modifications
 - Two SASCAP modules were combined into one tool
 - For each service, tool asks respondents to indicate:
 - Number of services provided
 - Direct labor costs based on FTE requirements for the service
 - Other direct costs including building, equipment and supplies, subcontracts
 - Indirect costs

Resource-Based Method

Data Collection Process:

- To date, 14 (of 16) LHDs have completed the tool*
 - Respondents usually included the finance officer and the environmental health manager
 - Time required to complete the tool ranged from 3 to 12 hours
 - All LHDs received a follow-up phone call to clarify responses and obtain additional information, if needed

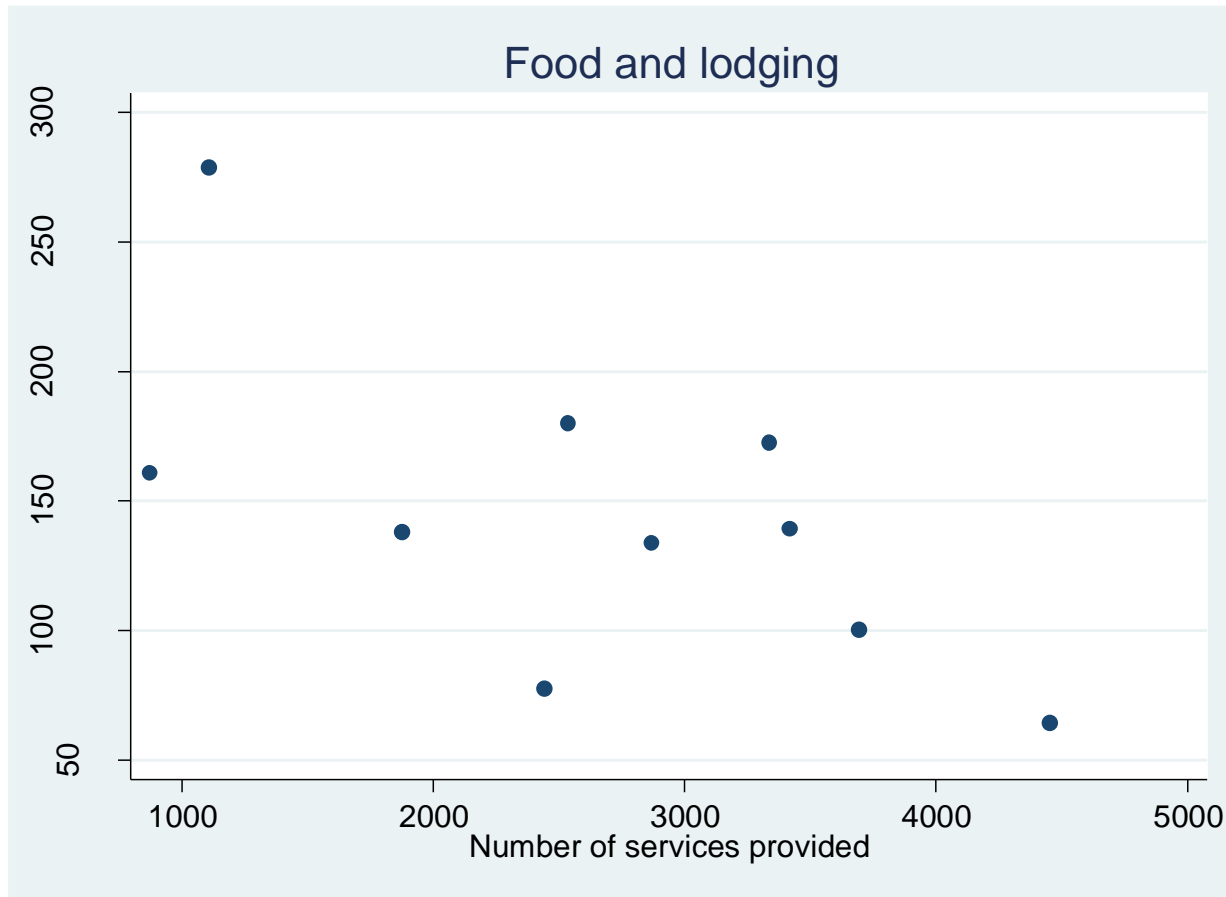
Preliminary Results

	Number of services (Median IQR)	Number of FTEs (Median IQR)
Food and lodging	2,702 (1,875 – 3,419)	4.5 (3.5 – 6.0)
Onsite water and wells	6,658 (2,873 – 7,802)	4.6 (4.0 – 6.8)
Combined	9,156 (4,343 – 11,139)	9.1 (7.0 – 12.0)

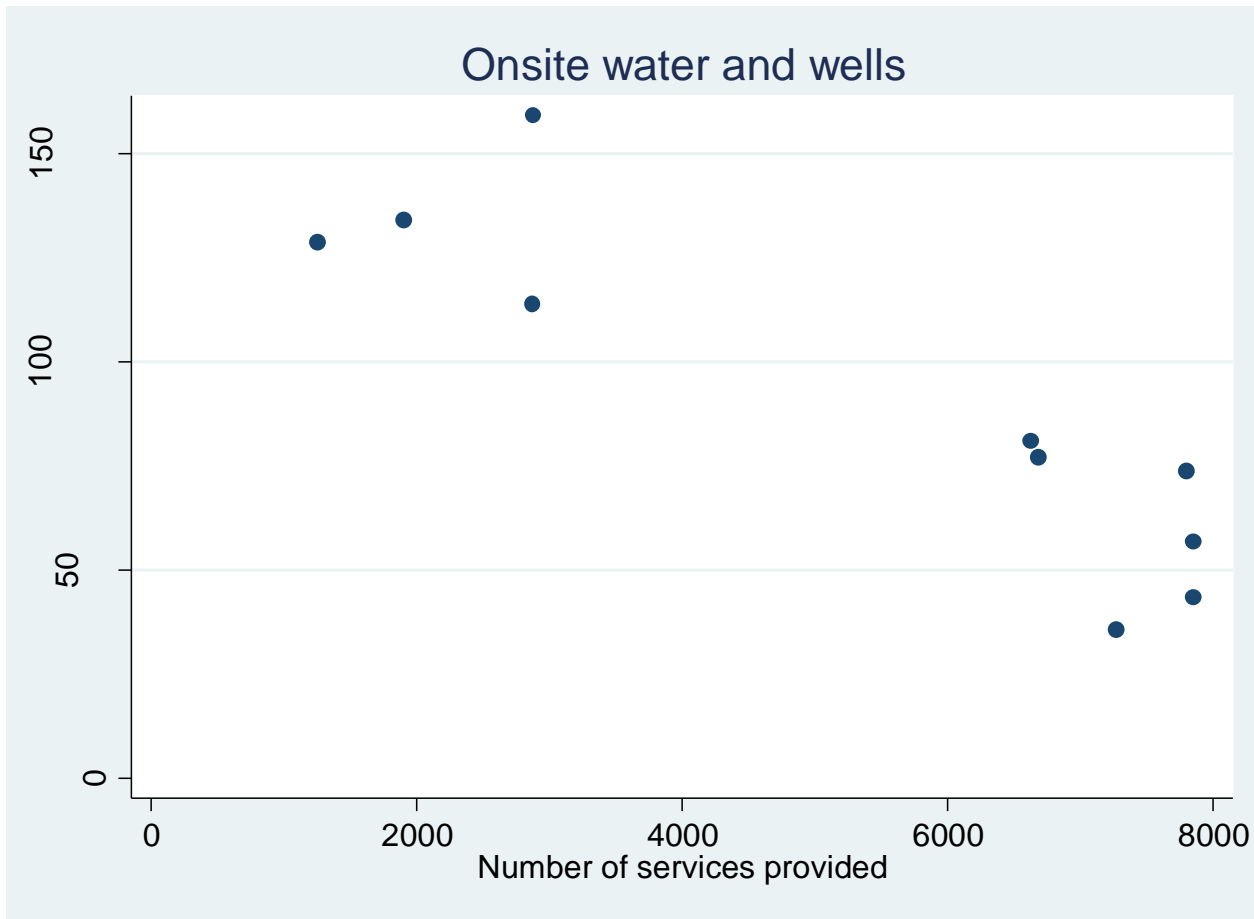
Preliminary Results

	Total Cost Median (IQR)	Cost per service Median (IQR)	Cost per capita Median (IQR)
Food and lodging	\$339,817 (\$258,743 - \$456,857)	\$139 (\$100 - \$173)	\$3.60 (\$3.01 - \$5.44)
Onsite water and wells	\$392,888 (\$259,624 - \$515,614)	\$79 (\$57 - \$129)	\$4.32 (\$3.12 - \$5.46)
Combined	\$763,071 (\$518,366 - \$934,032)	\$103 (\$71 - \$142)	\$8.02 (\$6.26 - 10.90)

Preliminary Results



Preliminary Results



Lessons Learned

- Adapting the SASCAP tool to make it understandable and usable for LHDs was a challenge
- Generating cost estimates was complicated by the fact that many NC LHDs
 - Budget procedures do not easily lend themselves to splitting program costs
 - Do not pay rent
 - Had difficulty identifying indirect/overhead costs

Implications for Practice

- Increasing demand for accountability in public health service delivery and outcomes
- Efficiency is a key consideration
- The process of conducting this study suggests that finance and accounting procedures in NC LHDs need revision in order to meet these demands

Next Steps

- Cross-validate cost estimates using data from our data collection tool, secondary data sources, and time logs
- Examine the influence of different delivery system structures on the costs of delivering mandated and other essential public health services

Thank You!



- ***Core PBRN Team***

- Nancy Winterbauer (Research Co-PI) East Carolina University
- Lisa Macon Harrison (Practice Co-PI) Granville-Vance HD
- Simone Singh, University of Michigan
- Katherine Jones, East Carolina University
- Ashley Tucker, East Carolina University
- Patrick Bernet, Louisiana State University



- ***Advisory Committee***

- Local Health Departments: Sue Lynn Ledford, Colleen Bridger, and Amy Belflower Thomas
- NC Division of Public Health (DPH): Joy Reed
- UNC-Chapel Hill: Dorothy Cilenti (NCIPH)