PUBLIC HEALTH
Practice-Based Research Networks
National Coordinating Center

Public Health PBRN
Monthly Virtual Meeting
August 15, 2013

Research-in-Progress Presentation by
Ohio PBRN

Public Health Cost Estimation Methods
Patrick Bernet and Matt Stefanak

Consolidation of Local Health Departments in Ohio: Motivations and Impacts
Matt Stefanak and John Hoornbeek

If you are dialed into the conference line on the telephone 877-394-0659 code 7754838037#, please turn off your computer speakers.
Please mute your telephone until the Q&A. If your telephone does not have a mute button, press *6 to mute and #6 to unmute

Other Meeting Agenda Items

PUBLIC HEALTH Practice-Based Research Networks
National Coordinating Center

PBRN Research Updates

- IOM report on CTSAs
- IOM report on Public Health Quality Measures
- Quarterly Training- September 25, 1:00-2:00PM TRAIN
- AHRQ CCRM Atlas
- AHRQ Health Care Innovations Exchange

Dissemination Opportunities

- *Frontiers in PHSSR*
- Keeneland Conference and PBRN Grantee Meeting
- Website redesign
- APHA presentations

Funding Opportunities

- Quick Strikes
- Mentored Research Scientist
- PRC and ICRC FOAs from CDC

Public Health Cost Estimation Methods

Data sources

Models

Findings

Predictions

Gap Analysis

Team:
Terry Allan
Patrick Bernet
Beth Bickford
Gene Nixon
Jason Orcena
Nancy Osborn
Simone Singh
Matthew Stefanak
Krista Wasowski

Ohio Research Association for Public Health Improvement (RAPHI)
Association of Ohio Health Commissioners

Funding for this Quick Strike project provided by the Robert Wood Johnson Foundation.

Presented to Public Health PBRN
National Coordinating Center Monthly Meeting.
15 August 2013.

Presented by Patrick M. Bernet and Matthew Stefanak.

Data

- Expenditures. Annual Financial Report (AFR).

AFR Expense Category	Clinical	Core & Foundational
Environmental Health		Core
General Administration		Core
Health Promotion		Core
Home Health	Clinical	
Personal Health	Clinical	
Personal Health - Other	Clinical	
Laboratory (Clinical and Environmental)		Core
Vital Statistic		Core

- Staffing.

Positions considered "clinical" (Annual Financial Report)
Clinical Supervisor
Dentist
Home Health Care Aide
Hygienist
Licensed Practical Nurse * 0.91
Medical Transcriptionist
Nurse Practitioner
Physician
Public Health RN (I, II, etc.) * 0.91
Dental Assistants

Data

- Effort - Improvement Standards

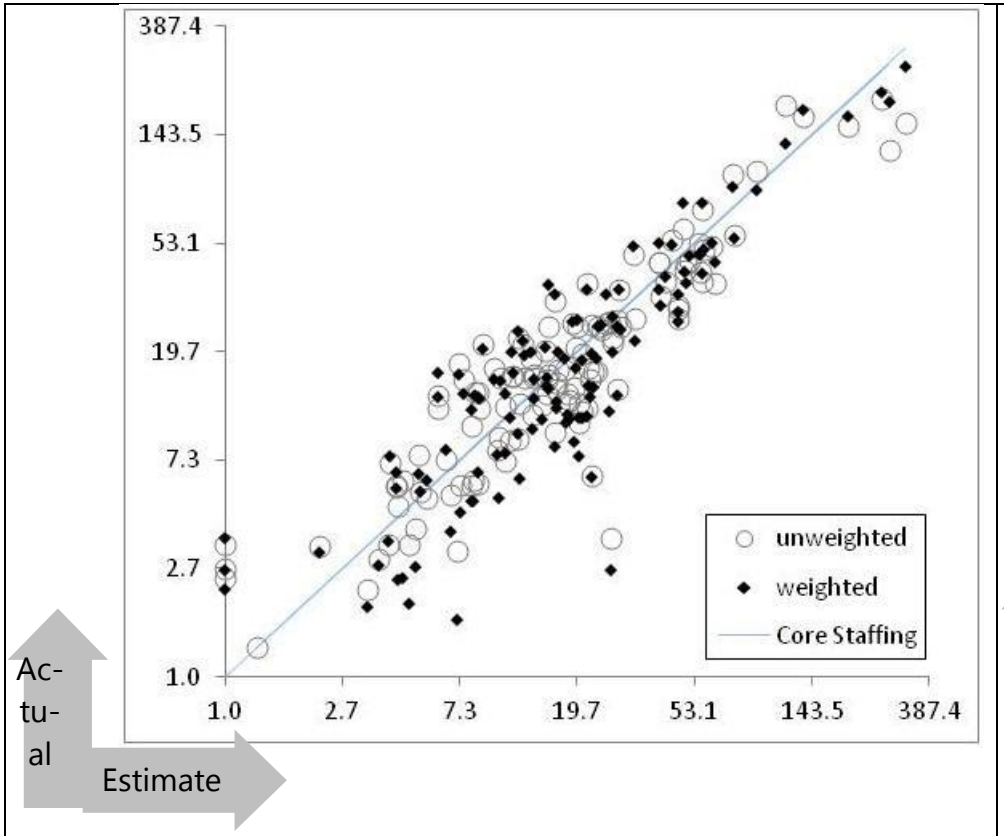
- Effort - NACCHO
  - Clinical preventive services
  - Medical treatment services
  - Specialty care services
  - Population-based activities
  - Regulatory-licensing activities
  - Environmental health activities

- Demographics
  - Align LHDs by **county subdivision** borders.

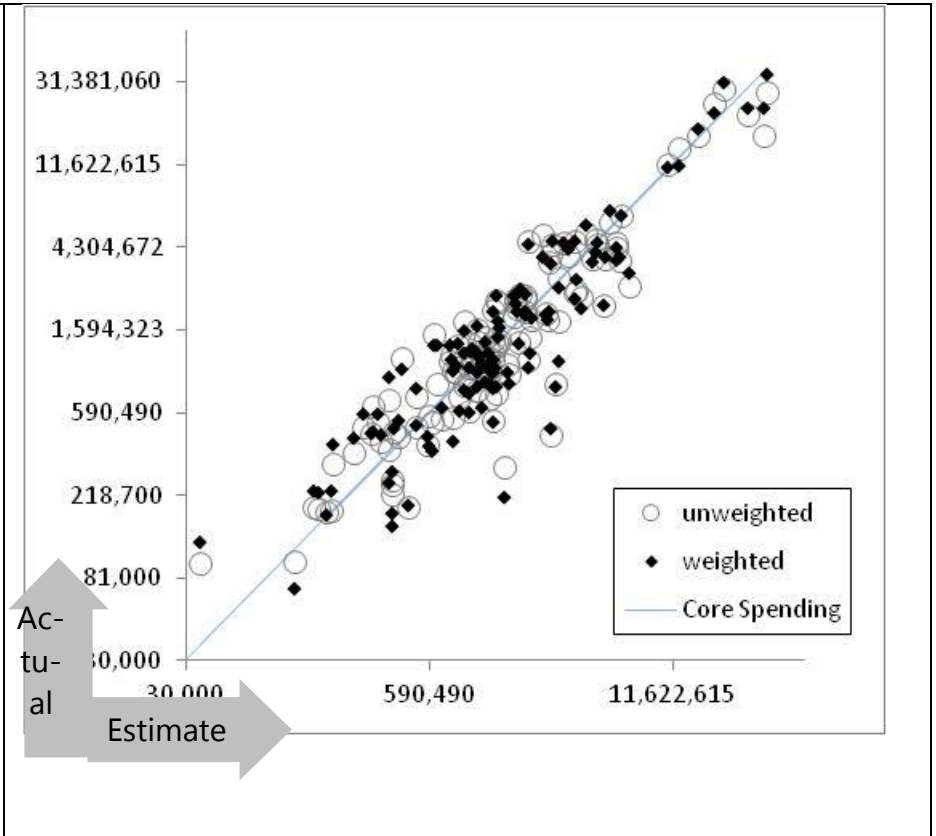
Best Models

Core & Foundational FTEs	Non-weighted (each LHD = 1) _01	_03	_13	_23	Population-weighted _01	_03	_13	_23
Agency characteristics								
Type of agency =city	-0.45 *	-0.03	-0.41	-0.43 *	0.26	0.64 ***	0.14	0.21
Type of agency =county	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Population characteristics								
Population size (log)	0.82 ***	0.93 ***	0.71 ***	0.72 ***	1.01 ***	1.10 ***	0.85 ***	0.92 ***
Percent population rural	0.36	0.54 *	0.32	0.29	0.90 ***	0.86 **	0.75 ***	0.75 ***
Percent population nonwhite	2.75 ***		2.28 ***	2.26 ***	2.55 ***		2.22 ***	1.67 **
Percent non-English speaking	-4.74	-1.85	-4.28	-3.36	-19.86 ***	-21.18 ***	-14.03 ***	-13.74 ***
Percent 65+years old (%)	1.41	1.22	2.26	1.91	1.28	-0.09	0.42	0.18
Income per capita ($100,000)	-1.51	-2.01 *	-1.55	-1.21	0.10	-1.50	-0.40	0.10
Percent uninsured (%)	0.51	-1.23	0.91	0.37	7.88 ***	8.49 ***	7.22 ***	6.18 ***
Physicians per 100,000 population	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Core-Plus Scale measures								
NACCHO breadth of coverage				0.02 ***				0.02 ***
NACCHO % of Core Svc			1.41 ***				1.72 ***	
Scope of Service								
% staffing on direct patient care				0.69 **				0.68 *
Run summary								
Constant	-5.56 *	-7.14 ***	-5.99 ***	-5.93 ***	-9.84 ***	-10.02 ***	-8.45 ***	-8.96 ***
adjusted r2	0.79	0.78	0.83	0.83	0.86	0.85	0.90	0.90
N	113.00	113.00	111.00	111.00	113.00	113.00	111.00	111.00
FTEs per capita								
Population size (log)	-0.18 **	-0.07	-0.29 ***	-0.28 ***	0.01	0.10	-0.15 **	-0.08
Run summary								
F	3.73 ***	2.96 ***	6.91 ***	6.52 ***	8.99 ***	9.35 ***	17.48 ***	14.96 ***
adjusted r2	0.20	0.12	0.35	0.36	0.42	0.37	0.60	0.58

Model Fit



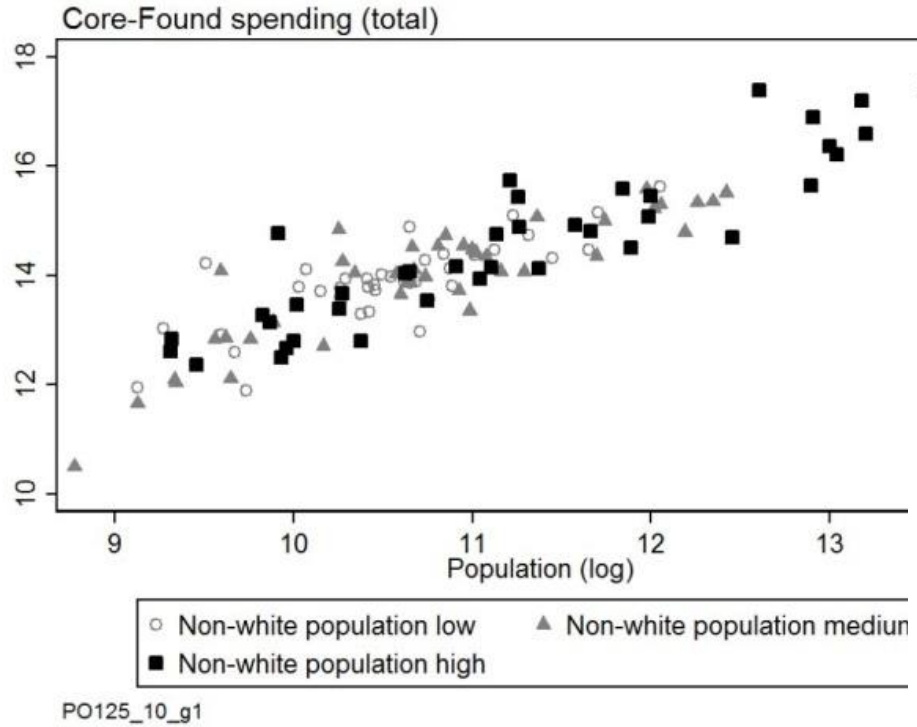
Core Staffing

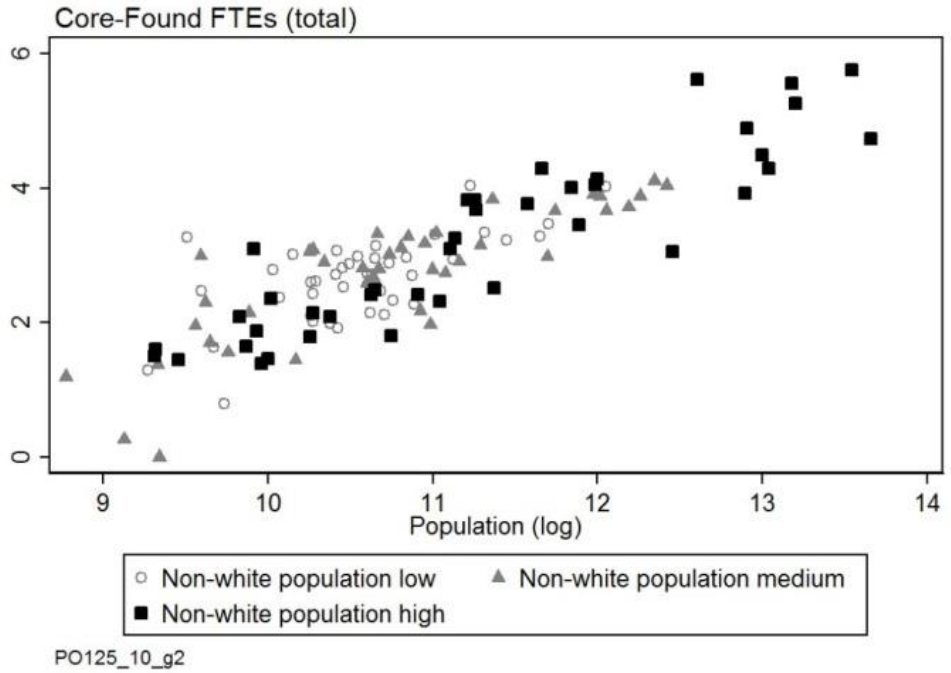


Core Spending

Population

- Strong positive relationship between costs, staff and population.
- No evidence of economies or diseconomies of scale





Using Results to Predict Spending

Core spending	Multipliers			Sample Computation		
	A	B	C	D	E= B * D	F = C * D
	Estimated impact of agency features	Estimated impact of population features	Quick estimate	Actual	Computed estimate B	Computed estimate C
Type of agency =city	-0.4340	0.0000		0.0000	0.0000	
Type of agency =county	0.0000	0.0024		1.0000	0.0024	
Population size (log)	0.8572	0.9053	0.9701	10.4096	9.4235	10.0979
Percent population rural	0.2747	0.5795	0.7892	0.6458	0.3742	0.5097
Percent population nonwhite	2.5749	2.7096	2.9770	0.0291	0.0790	0.0868
Percent non-English speaking	1.0886	-5.5211		0.0050	-0.0276	
Percent 65+years old (%)	-2.1059	0.3036		0.1407	0.0427	
Income per capita ($100,000)	-2.3900	-1.1500		0.1984	-0.2281	
Percent uninsured (%)	-1.3601	3.4406		0.1095	0.3768	
Physicians per 100,000 population	0.0006	0.0004		27.1000	0.0120	
NACCHO % of Core Svc	1.0009	1.4116		0.6500	0.9175	
Constant	4.9783	2.9009	3.0476		2.9009	3.0476
Total				**1,127,485**	**1,059,516**	**929,085**
adjusted r2	0.8450	0.9215	0.9000			
Model source	13. Non-weighted	13. Pop-weighted	13c. Pop-weighted			

Using Results to Predict Staffing

Core staffing	Multipliers			Sample Computation		
	A	B	C	D	E= B * D	F = C * D
	Estimated impact of agency features	Estimated impact of population features	Quick estimate	Actual	Computed estimate B	Computed estimate C
Type of agency =city	-0.4106	0.1423		0.0000	0.0000	
Type of agency =county	0.0000	0.0000		1.0000	0.0000	
Population size (log)	0.7144	0.8509	0.8482	10.4096	8.8573	8.8299
Percent population rural	0.3165	0.7458	0.9019	0.6458	0.4816	0.5824
Percent population nonwhite	2.2761	2.2242	2.2816	0.0291	0.0648	0.0665
Percent non-English speaking	-4.2765	-14.0307		0.0050	-0.0702	
Percent 65+years old (%)	2.2638	0.4221		0.1407	0.0594	
Income per capita ($100,000)	-1.5500	-0.3990		0.1984	-0.0791	
Percent uninsured (%)	0.9089	7.2237		0.1095	0.7912	
Physicians per 100,000 population	0.0000	-0.0015		27.1000	-0.0394	
NACCHO % of Core Svc	1.4088	1.7237		0.6500	1.1204	
Constant	-5.9868	-8.4460	-6.9052		-8.4460	-6.9052
Total				**15.1250**	**15.4884**	**13.1130**
adjusted r2	0.8271	0.9012	0.8246			
Model source	13. Non-weighted	13. Pop-weighted	13c. Pop-weighted			

Gap Analysis

- What would it cost to provide all NACCHO core services in all Ohio LHDs?

	Core Staffing total			Core Spending total		
	Un-weighted estimate	Weighted estimate	Actual	Un-weighted estimate	Weighted estimate	Actual
State Total	5,524	6,159	3,800	$482,621,042	$551,839,206	$ 382,687,237
% increase to provide all NACCHO services	45.4%	62.1%		26.1%	44.2%	

Gap Analysis- Methods

- What would it cost to provide all NACCHO core services in all Ohio LHDs?
- Run prediction model for each LHD.
  - Use actual parameters (population, age, etc.).
  - Just change % of core services up to 100%.
  - The estimated staffing or spending is what the model predicts if they provided all core services.

Gap Analysis- Staffing

s50b	Extract key variables											s50d Computed values Core Staffing total		
	type = CITY/county	type = city/COUNTY	population	rural % of pop	non-white %	non-english speaking	age 65+ %	per capita income	percent uninsured	MDs per 100k	NACCHO % of core	Un-weighted estimate	Weighted estimate	Actual
OH[illegible]0	1	0	9.31	0.00	0.43	0.09	0.17	22,166	0.12	143	1.00	11.0	5.2	4.5
OH[illegible]2	0	1	12.42	0.20	0.05	0.01	0.17	27,410	0.11	91	1.00	89.8	100.0	56.8
OH[illegible]3	1	0	9.83	0.00	0.21	0.01	0.19	20,331	0.10	57	1.00	14.4	15.2	8.1
OH[illegible]5	0	1	13.20	0.04	0.19	0.01	0.14	27,220	0.11	106	1.00	192.5	221.3	193.2
OH[illegible]9	0	1	11.70	0.46	0.03	0.02	0.18	23,694	0.09	50	1.00	57.8	55.7	32.1
OH[illegible]0	0	1	11.23	0.51	0.02	0.01	0.16	20,858	0.12	53	1.00	42.9	48.1	56.9
OH[illegible]1	0	1	10.85	0.50	0.07	0.00	0.09	27,916	0.11	39	1.00	28.4	38.1	26.6
OH[illegible]3	0	1	10.27	0.51	0.03	0.00	0.16	21,245	0.10	59	1.00	22.5	21.4	7.6
OH[illegible]4	0	0	9.51	1.00	0.02	0.01	0.14	17,301	0.10	0	1.00	14.5	15.0	26.2
OH[illegible]5	0	1	12.26	0.17	0.09	0.01	0.11	32,114	0.09	87	1.00	67.7	75.2	48.5
OH[illegible]5	0	0	10.65	0.00	0.33	0.01	0.15	16,442	0.09	50	1.00	50.1	34.2	12.0
OH[illegible]7	0	1	10.63	0.84	0.02	0.00	0.16	24,264	0.11	46	1.00	30.2	38.8	15.1
OH[illegible]8	0	1	11.65	0.51	0.04	0.02	0.14	22,892	0.10	59	1.00	53.9	57.5	26.6
OH[illegible]9	0	1	10.54	0.64	0.04	0.00	0.16	21,532	0.11	58	1.00	28.4	30.3	19.9
OH[illegible]0	0	1	11.74	0.30	0.07	0.01	0.12	26,696	0.12	84	1.00	55.4	69.4	39.0
OH[illegible]1	0	1	10.03	0.57	0.02	0.01	0.16	22,967	0.11	49	1.00	18.5	18.6	16.3
OH[illegible]2	0	0	11.13	0.00	0.51	0.02	0.16	14,996	0.10	108	1.00	106.6	63.5	26.0
OH[illegible]3	0	1	11.36	0.47	0.07	0.00	0.15	21,069	0.09	54	1.00	50.9	53.7	46.2
OH[illegible]5	1	0	9.33	0.09	0.05	0.00	0.19	21,780	0.10	39	1.00	7.3	8.9	4.0
OH[illegible]7	0	1	11.11	0.30	0.09	0.01	0.14	20,430	0.08	61	1.00	41.1	35.5	22.1
OH[illegible]9	1	0	9.73	0.07	0.01	0.01	0.20	21,810	0.10	49	1.00	9.2	10.9	2.2
											State Total	5,524	**6,159**	3,800
											Percent increase to get full NACCHO	45%	**62%**	

Gap Analysis- Spending

s

s50b	Extract key variables											s50d Computed values		
												Core Spending total		
	type = CITY/county	type = city/COUNTY	population	rural % of pop	non-white %	non-english speaking	age 65+ %	per capita income	percent uninsured	MDs per 100k	NACCHO % of core	Un-weighted estimate	Weighted estimate	Actual
OH	1	0	9.31	0.00	0.43	0.09	0.17	22,166	0.12	143	1.00	962,649	856,469	301,043
OH	0	1	12.42	0.20	0.05	0.01	0.17	27,410	0.11	91	1.00	6,678,425	8,177,557	5,503,639
OH	1	0	9.83	0.00	0.21	0.01	0.19	20,331	0.10	57	1.00	772,461	1,099,380	582,014
OH	0	1	13.20	0.04	0.19	0.01	0.14	27,220	0.11	106	1.00	19,176,675	21,826,432	16,215,368
OH	0	1	11.70	0.46	0.03	0.02	0.18	23,694	0.09	50	1.00	4,040,719	4,452,775	3,804,709
OH	0	1	11.23	0.51	0.02	0.01	0.16	20,858	0.12	53	1.00	2,801,982	3,331,521	3,645,959
OH	0	1	10.85	0.50	0.07	0.00	0.09	27,916	0.11	39	1.00	2,205,340	2,390,146	2,534,254
OH	0	1	10.27	0.51	0.03	0.00	0.16	21,245	0.10	59	1.00	1,270,921	1,416,155	806,243
OH	0	0	9.51	1.00	0.02	0.01	0.14	17,301	0.10	0	1.00	829,673	877,856	1,497,219
OH	0	1	12.26	0.17	0.09	0.01	0.11	32,114	0.09	87	1.00	6,693,010	6,599,708	4,586,923
OH	0	0	10.65	0.00	0.33	0.01	0.15	16,442	0.09	50	1.00	3,797,200	3,230,840	1,296,372
OH	0	1	10.63	0.84	0.02	0.00	0.16	24,264	0.11	46	1.00	1,702,843	2,270,666	1,259,531
OH	0	1	11.65	0.51	0.04	0.02	0.14	22,892	0.10	59	1.00	4,279,263	4,553,470	1,949,084
OH	0	1	10.54	0.64	0.04	0.00	0.16	21,532	0.11	58	1.00	1,684,880	1,977,412	1,176,118
OH	0	1	11.74	0.30	0.07	0.01	0.12	26,696	0.12	84	1.00	4,512,815	5,144,815	3,299,099
OH	0	1	10.03	0.57	0.02	0.01	0.16	22,967	0.11	49	1.00	970,732	1,140,787	974,110
OH	0	0	11.13	0.00	0.51	0.02	0.16	14,996	0.10	108	1.00	9,716,363	8,180,496	2,571,732
OH	0	1	11.36	0.47	0.07	0.00	0.15	21,069	0.09	54	1.00	3,633,083	3,947,052	3,521,825
OH	1	0	9.33	0.09	0.05	0.00	0.19	21,780	0.10	39	1.00	316,230	494,057	179,179
OH	0	1	11.11	0.30	0.09	0.01	0.14	20,430	0.08	61	1.00	3,166,036	2,906,196	1,391,120
OH159	1	0	9.73	0.07	0.01	0.01	0.20	21,810	0.10	49	1.00	393,701	635,773	146,228
											State Total	482,621,042	**551,839,206**	382,687,237
											Percent increase to get full NACCHO	26%	**44%**	

Consolidation of Local Health Departments in Ohio: Motivations and Impacts

Results of a "Quick Strike"

Public Health Practice-based Research Study

Matt Stefanak
Josh Filla
John Hoornbeek
College of Public Health, Kent State University
Michael Morris
University of Arkansas for Medical Sciences

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Key Points of Context

- No Disclosures
- Acknowledgements
  - This study is supported by funding from the Robert Wood Johnson Foundation Public Health Practice-based Research Networks Project, based at the University of Kentucky and Case Western Reserve Universities.
- Collaborators
  - Scott Frank, Krista Wasowski, Jason Orcena, Gene Nixon, Terry Allan, Nancy Osborn, Beth Bickford, Michelle, Menegay, Rohit Pradhan, Sharla Smith, Ken Slenkovich, and Tegan Beechey.

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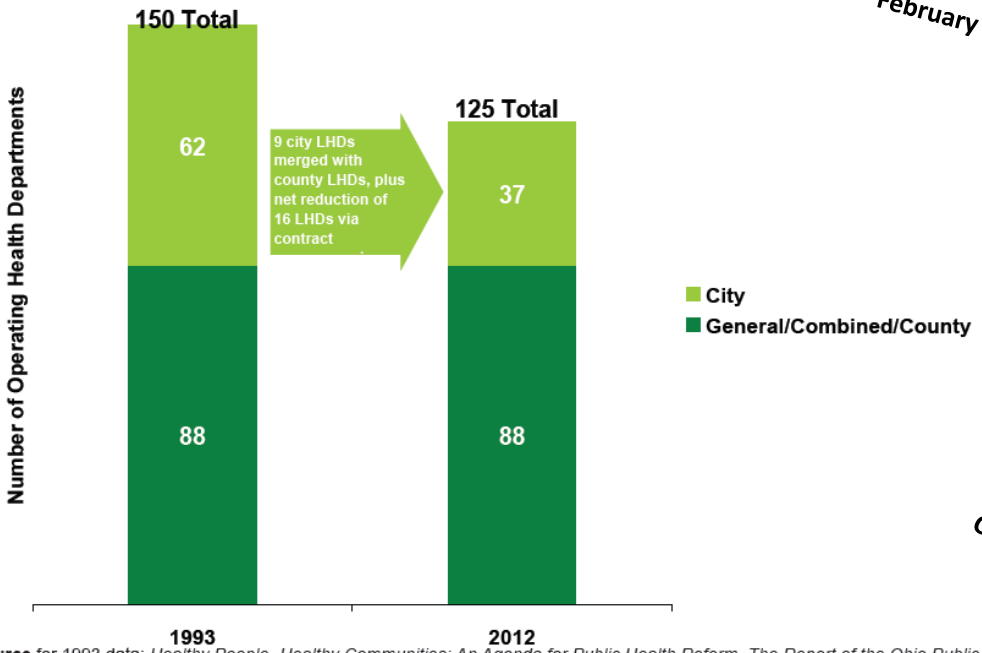
Consolidations
Ohio Local Health Departments

Mahoning-Youngstown health-agency merger has model in Akron- The Vindicator February 25, 2012

Figure 10. Number of local health departments operating in Ohio, 1993 and 2012



Source for 1993 data: *Healthy People- Healthy Communities: An Agenda for Public Health Reform, The Report of the Ohio Public Health Services Study Committee*, Ohio Department of Health, 1993.

Source for 2012 data: Ohio Local Health Department Census 2010, Ohio Department of Health, 2011.

Belpre weighs in on possible health department mergers- Marietta Times February 9, 2013

Canton, Stark County weigh health merger- Canton Rep March 7, 2013

Research Objective

- develop evidence regarding the effect of consolidation on expenditures, revenues and services of local health departments (LHD) in Ohio and to deliver actionable and timely findings to inform consolidation policy decisions.

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Purposes for Today

- Overview study aims and structure of the project.
- Summarize the research methods utilized.
- Present findings for both the “large n” and the “small n” (interview-based) portions of the study.
- Summarize findings/implications and discuss next steps.

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Study Aims

- **Aim 1:** Assess pre and post consolidation differences in overall and administrative expenditures and revenues for Ohio LHDs that have undergone mergers since 2001.
- **Aim 2:** Qualitatively assess the motivations for, experiences during and perceived results from LHDs that have undergone consolidation.
- **Aim 3:** Formulate key findings and responses to frequently asked questions about consolidation to inform public health policy decisions.

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Structure of the Project

- **The study is structured around two parallel research efforts:**
  - **"Large n" Analysis of Ohio "Annual Financial Report" (AFR) data from 2001 to 2012 to assess variations in expenditures and revenues for "consolidated" vs. "non-consolidated" local health departments.**
    - **The analysis include variables to control for the impacts of factors other than consolidation (community characteristics and local government characteristics)on expenditure and revenue outcomes.**
  - **"Small n" Interviews with senior Ohio County Health Department Officials in counties that have experienced consolidations since 2001.**
    - **Assess the motivations and perceived impacts of city-county health department consolidations.**

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Data Sources for "Large n" Analyses

- Financial data for Local Health Departments
  - Annual Financial Report- AFR (Ohio Dept. Health)
    - Electronic format (2011-2008)
    - Data entry from paper records (2007-2000)
- Community demographic data
  - US Census
    - Match by FIPS Codes to LHD jurisdictions
- Local Government Data
  - City budget data (Ohio Treasures Office)
  - Structure of local government (Ohio Municipal League/KSU)

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Analytical Approach

- Selection Bias Issue
  - Heckman Two Stage Model
- Operationalization of key variables
  - Consolidation
    - Voluntary joining of health departments
  - Pre/Post consolidation time periods
    - Year of consolidation used as dividing line
  - Change in expenditures/revenues
    - Pre=City + County / Post=Consolidated County

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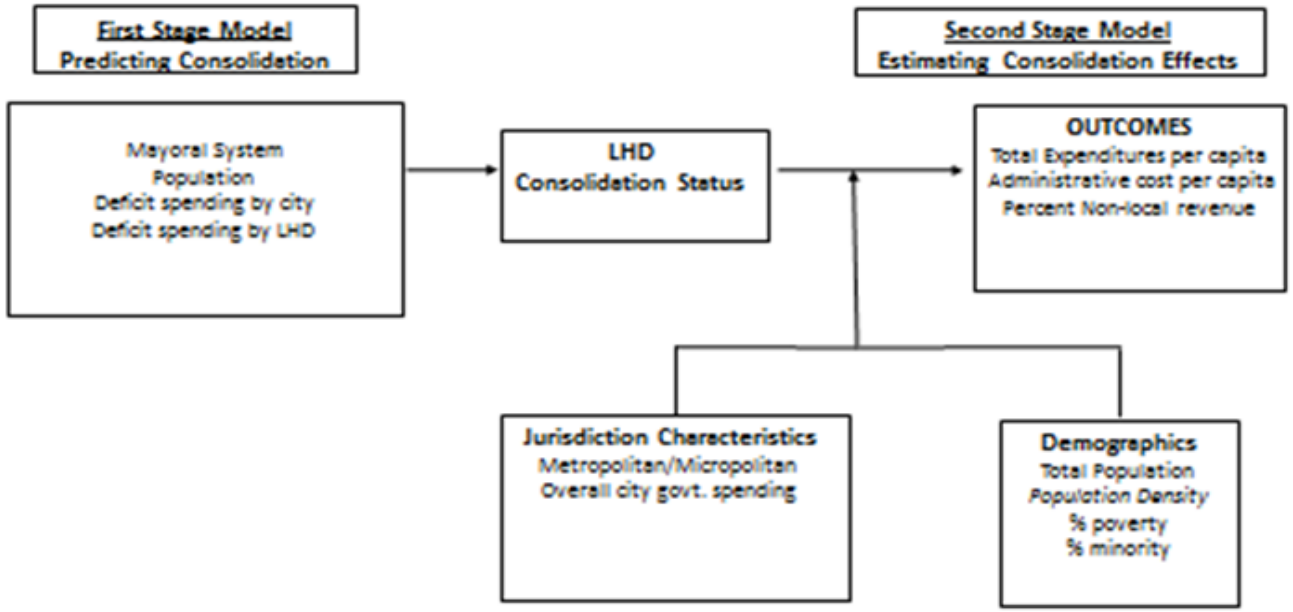
"Large N" Quantitative Analysis:
Answering the Methodological Challenge- an Analytical Approach



Using a Heckman Two Stage Model

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Interviews: Methods for the "Small N Analysis"

- Inventoried local health department consolidations in Ohio, in cooperation with Ohio Department of Health and experienced health officials in Ohio.
  - Identified 20 City-County consolidations between 2001 and 2012.
- Interviewed senior health department officials for 17 of the 20 counties (85%) involved in these consolidations.
- Looked at both full health district mergers and contractual consolidations.
- 13/17 (76%) senior local health officials were involved in the consolidation when it occurred while 4/17 were not involved.
- Interviews took place by telephone between January and April, 2013, and were followed by an opportunity for interviewee review of the coded written responses.

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The "Why" of Consolidation: Motivations for Health Department Consolidations in Ohio, 2001-2012

(Reports of senior health department officials)

Stated Goal of the Consolidation	Number/percent of health consolidations to which this stated goal applies
"Save money"	14/17 (82%)
"Improve services"	11/17 (65%)
"Build long term capacities"	6/17 (35%)
"Increase efficiency"	4/17 (24%)

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Perceptions of Goal Achievement

- In almost all cases, the senior officials we interviewed believed that their stated goals were achieved.
  - Thirteen of the 14 (93%) senior officials who indicated saving money was a goal indicated that this goal was achieved (one did not know).
  - All 11 (100%) of the senior officials who indicated that improving services was a goal indicated that they believed they had achieved this goal.
  - Five out of the 6 (83%) commissioners who indicated building long term capacities was a goal felt that goal had been achieved (one "I don't know").
- Most of those interviewed (88% of direct responses, or 15 of 17) said consolidation was "a good idea" in retrospect.

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The "Who" of Consolidation

Controlling for LHD population served:

- Statistically significant factors were:
  - City governments that are running a deficit
    (Odds Ratio=9.57; P-Value=0.000)
  - Cities with "strong Mayor" governance systems
    (Odds Ratio=2.94; P-Value=0.009)

- Health department deficits not as strong a predictor of consolidation.

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Consolidation's Impact on Expenditures

"Large n" Analysis

- Total Expenditures decreased (-0.130 coefficient, with P-value of 0.040)
- Administrative Expenditures not statistically different pre/post consolidation

"Small n " Analysis

- 53% (8/15) of directly reported officials said ***Total PH system expenditures*** were actually reduced, while 47% (7/15) said they were not reduced.
  - Of those reporting reduced expenditures, 100% said this was at least partially due to the consolidation.
- PH expenditures ***from local revenues*** were reported NOT to have increased in almost all cases – 94% (15/16) for cities and 100% (16/16) for counties.
  - For cities, 73% (11/15) of directly reporting officials indicated reduced PH tax burdens.

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Impacts on Non-Local Revenues

"Large n" Analysis

- Consolidation is associated with decrease in non-local revenues (-0.417 coefficient, with p-value of 0.002) but this appears to be a temporary phenomenon that may disappear (it becomes statistically insignificant) after two years.

"Small n " Analysis

- The majority of those we interviewed indicated that grant and program revenue ***did not increase*** during the time period of one year prior to one year after a consolidation.

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Heckman Regression Results: Logged Percent Nonlocal Revenue All Years Post Consolidation

(controlling for 1st stage selection)

Variable	Coefficient	P > [z]
Post Consolidation	-0.417	0.002
Population Total	4.17e-06	0.000
Population Density	-0.0009	0.000
Year	-0.003	0.878

*Controlling for MSA status

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Heckman Regression Results: Logged Percent Nonlocal Revenue Two Year Post Consolidation

(controlling for 1st stage selection)

Variable	Coefficient	P > [z]
Two Year Period Post Consolidation	-0.477	0.000
Population Total	3.298e-06	0.000
Population Density	-0.001	0.000

* Year and MSA Status

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Perceived Impacts on Services

- 12/17 (71%) of responding officials either strongly agreed or agreed that services had improved within one ear of the consolidations taking place.
  - 14/17 after two years
  - 8/8 after five years

- 14/17 (81%) of responding officials either strongly agreed or agreed that services were at least maintained w/in the first year following implementation of the consolidation.
  - 17/17 after two years.
  - 9/9 after five years.

- Almost half (8/17) said there was a service “loss” of some kind in at least one of the jurisdictions affected by the consolidation.
  - The vast majority who indicated there was a service loss felt that this was not a negative change.

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Perceived Impacts on Capacity

- 53% (9/17) felt that their department's capacity to provide quality public health services increased post-consolidation.
  - Two (2/17, 12%) felt that their department's capacity had actually decreased.
  - Six (6/17, 35%) felt that their department's capacity stayed about the same.
- 76% (13/17)of the senior officials indicated that there were no layoffs as a result of the consolidation, but consolidation was followed by reduced staffing in at least some cases.
  - 3/17 (18%) said that there were layoffs.
  - Others mentioned that staffing levels decreased voluntarily – due to attrition.

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Perceived Impacts of Consolidation on New Opportunities for Public Health Improvements

		Senior County Health Official Response		
	Time Period	Agree***	Disagree**	Non-committal*
"Consolidating public health services yielded new opportunities for future public health improvements (insert time period) after the consolidation took place."	Within one year	10/16 (62.5%)	2/16 (12.5%)	4/16 (25%)
	After two years	12/16 (75%)	2/16 (12.5%)	2/16 (12.5%)
	After five years	9/9 (100%)	0/9 (0%)	0/9 (0%)

*Non-committal – indicated "I don't know" or "Neither agree nor disagree"
** Disagree – indicated "disagree" or "strongly disagree"
*** Agree – indicated "agree" or "strongly agree"

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Some Key Findings

- Community level factors are relatively strong predictors of consolidation.
  - Financial motivations at the city level are the most frequent driver of the health department consolidation in Ohio to date, followed by the strength of the Mayor's governing role in the community.

- Total expenditures tend to decrease after consolidation.
  - This means that prospective Ohio consolidators can reasonably expect to save money as a result of consolidation.
  - Administrative cost changes are not significantly different -- pre and post consolidation -- in this sample; more research with larger sample is appropriate here.

- Non-local revenues decreased post consolidation, at least in the short run.
  - Does the drop in non-local revenues reflect a "transition impact" effect? If so, what are the longer term impacts of consolidation on external revenues?
  - Those managing consolidation efforts may want to make efforts to "manage" short-term transition effects to minimize their impacts.

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Some Key Findings – continued.

- Participants perceive that benefits from consolidation accrue over time.
  - The vast majority of those interviewed (well over 80% in most cases) perceive goal achievements relating to financial savings, service improvements, and capacity enhancement.
  - A majority perceive that new opportunities flow from consolidation over time.
  - 88% believe that consolidation was “a good idea” in retrospect.

- Further research is appropriate.
  - Workforce impacts.
  - Obtain and analyze more objective data on services, capacities, and new opportunities, to the extent possible.
  - Increase sample size and enhance methodological approaches.
  - Expand the multi-method approach used here to other states and other types of consolidations .

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Next Steps

- Continue to disseminate results of this work.
  - Policy brief – released in June (update as necessary over time)
  - Final report – includes more details on methods, etc.
  - APHA presentation and other presentations as opportunities arise.
  - Refine and seek publication in appropriate peer reviewed outlets (Frontiers and/or others)
- Improve and expand the research effort.
  - Research approach -- workforce, more objective indicators of services and other improvements, and expanded samples and methods.
  - Applications – other states and types of consolidations.

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Thank You!

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Reminders: Upcoming Meetings and Events

- **September 19, 2013 Public Health PBRN Monthly Virtual Meeting: Research-in-progress presentation by the New Jersey PBRN**

- **APHA Annual Meeting, November 2-6, 2013 Boston, MA**

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