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The Resilient Local Health Department: Attributes of Survival During the Economic Crisis

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The Resilient Local Health Department: attributes of survival during the economic crisis

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The Resilient Local Health Department: Purpose/Practice Gap

- By “resilient” we mean LHDs which did not experience any loss of positions or reduction in expenditures between 2005 and 2010.
- The purpose of this project is to identify potential modifiable factors that can protect LHDs from job losses and budget cuts during periods of economic stress.

The Resilient Local Health Department: Introduction

- Between 2008-2010 more than half of the LHDs (53%) experienced cuts to their core funding.
- In excess of 23,000 LHDs jobs were lost in 2008-2009.
- All programmatic areas were affected by cuts, and more than half of the LHDs had to reduce or eliminate at least 1 programmatic area.
- Factors associated with LHDs experiencing budget cuts vs. those not experiencing cuts:
 - Greater population size of the jurisdiction served
 - Absence of BOH
 - Greater reliance on state or regulatory fees and local sources
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[Impact of the 2008-2010 economic recession on local health departments.](#) Willard R, Shah GH, Leep C, Ku L. J Public Health Manag Pract. 2012 Mar-Apr;18(2):106-14.

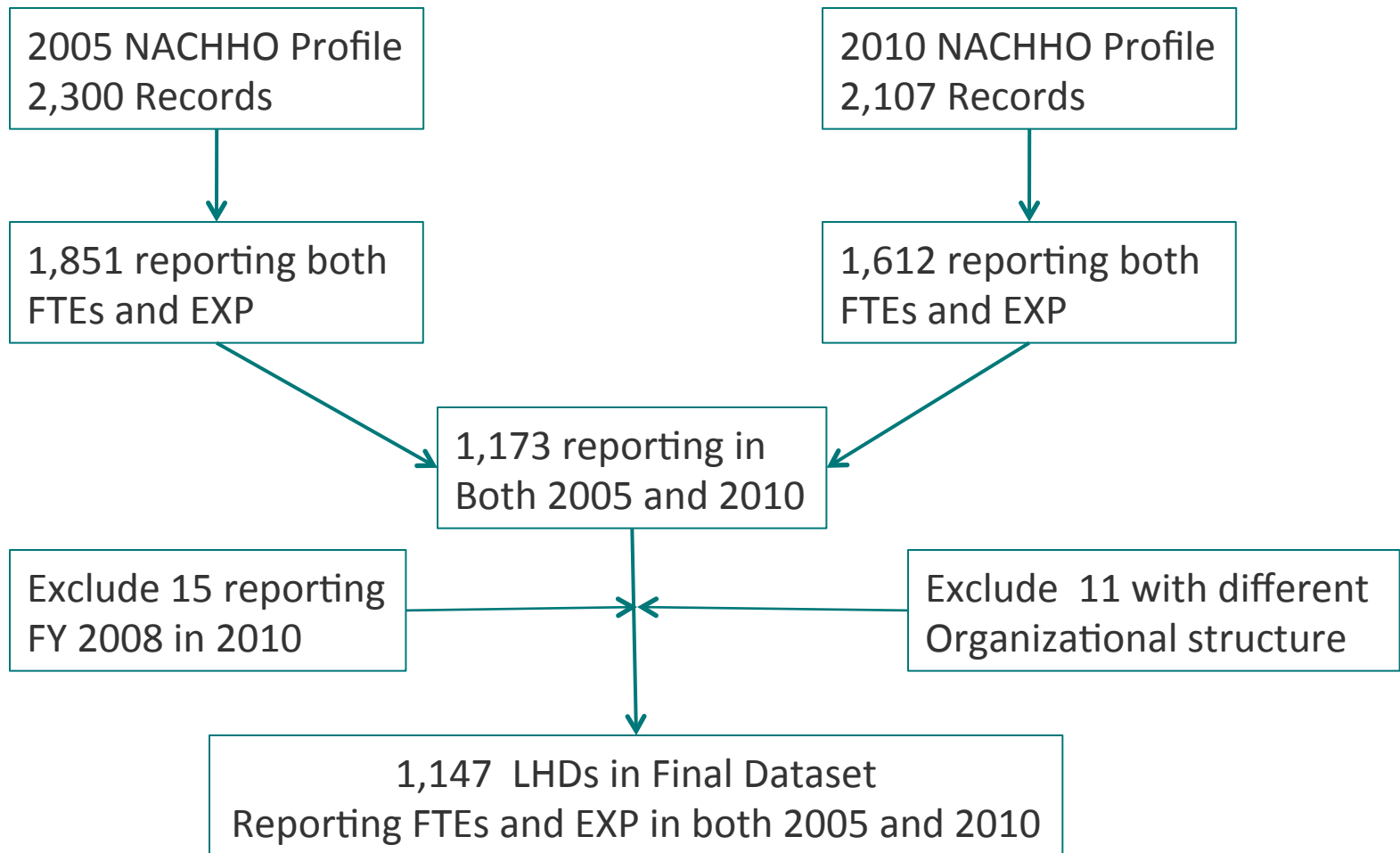
The Resilient Local Health Department: Research Hypotheses

- LHDs vary in capacity to confront economic stresses
- The impact of the economic crisis has differentially effected LHDs
- Such impacts are measurable across LHD-associated inputs, outputs, and outcomes
- There are modifiable factors that may protect LHDs from subsequent negative economic conditions

The Resilient Local Health Department: Methods

- Study Design: Retrospective Cohort
- Data Source: 2005 and 2010 Profiles of Local Health Department (NACCHO)
- Analytical methods used: measures of association for non-normally distributed continuous data (Wilcoxon-Mann-Whitney and Wilcoxon signed rank sum tests) and t test for normally distributed continuous data; chi-square to test associations for categorical data; multiple linear regression to control for potential confounding variables.
- Data analyzed in Stata (version 10)
- Human Subjects Review: Exempted research (University of Tennessee IRB)

The Resilient Local Health Department: Results. Dataset



The Resilient Local Health Department: Results

LHDs which experienced gains or losses in FTE/pop and Expenditures/pop between 2005 and 2010, based on ratios of 2010:2005 data

		EXP/pop Ratio	
		> 1	< 1
FTE/pop Ratio	> 1	457 (39.8%)	134 (11.7%)
	< 1	276 (24.1%)	280 (24.4%)

Subsequent descriptive data focused on comparisons between LHDs which gained both FTEs and EXP vs. LHDs which experienced losses in both FTEs and EXP (cells 1-Resilient LHD vs. 4-Non-Resilient LHD)

The Resilient Local Health Department: Results

Basic Descriptive data on FTEs, Expenditures, and Population for 2005 and 2010 Resilient vs. Non-Resilient LHDs. All figures are **Median** values.

	Resilient LHD (n=457)	Non-Resilient LHD (n=280)
FTEs 2005	18	38
FTEs 2010	24	30
EXP 2005 ¹	\$1,270,208	\$2,746,470
EXP 2010	\$1,892,907	\$2,324,997
Juris. Pop 2005	35,751	58,520
Juris. Pop 2010	36,215	60,193

¹ 2005 Expenditures adjusted to 2010 dollars

The Resilient Local Health Department: Results

Basic Descriptive data on FTEs, Expenditures, and Population for 2005 and 2010 Resilient vs. Non-Resilient LHDs. All figures are **Median** values.

	Resilient LHD (n=457)	Non-Resilient LHD (n=280)
FTE/pop 2005 (per 1000)	5.47	5.58
FTE/pop 2010 (per 1000)	6.56	4.42 *
EXP/pop 2005 ¹	\$36.09	\$45.38 *
EXP/pop 2010	\$48.27	\$37.41 *

¹ 2005 Expenditures adjusted to 2010 dollars

* p < 0.001

The Resilient Local Health Department: Results

Organizational-related variables, Resilient vs. Non-Resilient LHDs.

	Resilient LHD (n=457)	Non-Resilient LHD (n=280)
Jurisdiction: City	5.7%	7.5%
Jurisdiction: County	68.3%	61.8%
Jurisdiction: Multi-County/District	9.8%	12.1%
Governing BOH	63.1%	60.4%
Tenure of Director 2005	6.0 years (median)	6.0 years (median)
Director with MPH 2005	16.9%	26.4% **
Changed Director 05-10 ¹	32.8%	41.1% *
CHIP 2005	57.7%	60.2%

¹ Best estimate based on tenure in 2010 < 4.5 years

* p< 0.05; ** p<0.01

The Resilient Local Health Department: Results

Revenue-related variables for 2005, Resilient vs. Non-Resilient LHDs.

All figures are **Median** values.

	Resilient LHD (n=457)	Non-Resilient LHD (n=280)
% revenue from Medicaid	4.0%	4.0%
% revenue from Medicare	1.0%	1.0%
% revenue from city/local	25%	23%
% revenue Fed. Pass-through	16.5%	15% *
% revenues Federal direct	0%	0%
% revenues from State	15%	18%
% revenues from County	15%	16%
% revenues from Patient Fees	1%	2%
% revenues from Regulatory fees	0%	3% **

* p< 0.05; ** p<0.001

The Resilient Local Health Department: Results

Revenue-related variables for 2005, Resilient vs. Non-Resilient LHDs.

All figures are **Median** values.

	Resilient LHD (n=457)	Non-Resilient LHD (n=280)
Amount BT Funding 2005	\$33,647	\$99,903 ***
BT funding/Pop 2005	\$1.07	\$1.35 **
FTEs hired with BT funds	0.25	1.0 ***
FTE change, 2005-2010	+ 3.45	- 5.50

* p< 0.05; ** p<0.01; *** p<0.001

The Resilient Local Health Department: Results

Services-related variables for 2005, Resilient vs. Non-Resilient LHDs.

All figures are % of LHDs in each category providing specific service

	Resilient LHD (n=457)	Non-Resilient LHD (n=280)
Pre-Natal Care	42.4%	38.9%
Obstetrical care	11.2%	13.9%
Primary Care	14.5%	15.7%
Home Health Care	32.6%	28.6%
Oral Health	30.0%	29.4%
Behavioral Health	9.5%	13.3%
Substance Abuse	8.1%	13.7% *
Septic Tank installation	66.8%	70.0%

* p< 0.05; ** p<0.001

The Resilient Local Health Department: Results

Services-related variables for 2005, Resilient vs. Non-Resilient LHDs.

All figures are mean scores based on no. services provided/no. services surveyed

	Number of Distinct Services	Resilient LHD (n=457)	Non-Resilient LHD (n=280)
Screening	8	4.98	5.05
Treatment	13	4.84	4.77
Epidemiology	6	3.12	3.57
Population	7	2.95	3.13
Regulatory	19	7.40	8.41 **
Total Services	53	23.24	24.89 *

* p< 0.05; ** p<0.001

The Resilient Local Health Department

Conclusion : The search for modifiable factors

- Higher than average expenditures per population may suggest inefficiencies, which become exaggerated in times of economic stress
- Resilient LHDs provide fewer regulatory services and are less dependent on regulatory fees
- Changing LHD Directors at the outset of economic decline may pose risks to the resiliency of the agency

The Resilient Local Health Department

Conclusion : Next Steps in the search for modifiable factors

- Explore specifics of regulatory services and fees
- Explore the LHDs which experienced a loss in EXP/pop but gains in FTEs/pop
- Connect to natural experiments (e.g., with PBRNs) which will allow for an exploration of *changes* in FTE/pop and *changes* in EXP/pop with *changes* in service delivery and *changes* in community health outcomes

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