Levels and Predictors of LHDs' Engagement in Community Health Assessment, 2002-2013

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Levels and Predictors of LHDs' Engagement in Community Health Assessment, 2002-2013

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Disclosure

• Neither we, nor our spouses or partners have had a financial, professional or personal relationship that might potentially bias and/or impact the content of the educational activity/session.

• Gulzar Shah, Kay Lovelace, Daniel Linder
Community health assessments are . .

- A cross-cutting element of the public health infrastructure

- One of three prerequisites for entering the PH accreditation process

- Required of non-profit hospitals, with public health input, under the PPACA

- Integral to the community health improvement process
Little is known about how CHAs are used to...

- Adopt and implement evidence-based interventions, policies, environmental and systems change.

To study this, we first wanted to know the extent to which and what enables LHDs to engage in Community Health Assessment processes.
Our questions:

• What is the **extent** of LHDs’ use of CHA/CHIP processes from 2002-2013?

• What **factors** predict that use?
Methods: Dataset/Sample

- NACCHO Profile of LHDs Study
  - 2005
  - 2008
  - 2010
  - 2013

- All LHDs completing the Profile for these years – longitudinal study

- Descriptive/Bivariate:
  - 1378 LHDs (55% of all LHDs)

- Multivariate Analysis:
  - Data for all four points in time combined (appended);
  - Used year of Profile Study as a variable.
Methods: Variables

Dependent Variable for multivariate analysis
• Completion of CHA within the last 5 years by LHDs (drawn from 2005, 2008, 2010, 2013)

Independent Variables
• Jurisdiction population
• Personnel
• Governance
• Year of data collection
What is the extent of LHDs’ use of CHA from 2002-2013?

LHDs completing CHAs during 4 NACCHO Profile Studies

- No CHAs: 8.6%
- 1-2 time periods: 29.1%
- 3 time periods: 30%
- All 4 time periods: 32.3%
Methods: Multivariate Analysis

• Generalized linear mixed model

  – Used to model associations between variables when the outcome of interest is correlated among observations.

  – We fit a generalized linear mixed model with a random intercept to account for the correlated nature of the dependent variable (CHA) over time.
### Results: AORs

<table>
<thead>
<tr>
<th>Factor</th>
<th>OR</th>
<th>p-value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jurisdiction population</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25,000</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25,000-49,999</td>
<td>1.44</td>
<td>0.004</td>
<td>(1.12, 1.84)</td>
</tr>
<tr>
<td>50,000-99,999</td>
<td>1.3</td>
<td>0.058</td>
<td>(0.99, 1.70)</td>
</tr>
<tr>
<td>100,000-499,999</td>
<td>1.52</td>
<td>0.004</td>
<td>(1.15, 2.00)</td>
</tr>
<tr>
<td>500,000+</td>
<td>2.11</td>
<td>0.001</td>
<td>(1.34, 3.32)</td>
</tr>
<tr>
<td>Local board of health</td>
<td>AOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.88</td>
<td>0.313</td>
<td>(0.70, 1.12)</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per capita expenditures</td>
<td>1.66</td>
<td>0.013</td>
<td>(1.12, 2.48)</td>
</tr>
<tr>
<td>Have Health Educator on staff</td>
<td>AOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.56</td>
<td>&lt;0.0001</td>
<td>(1.27, 1.92)</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have Epidemiologist on staff</td>
<td>AOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.61</td>
<td>&lt;0.0001</td>
<td>(0.48, 0.76)</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top Exec with MD degree</td>
<td>1.05</td>
<td>0.755</td>
<td>(0.79, 1.38)</td>
</tr>
<tr>
<td>Governance</td>
<td>AOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>0.52</td>
<td>&lt;0.0001</td>
<td>(0.41, 0.66)</td>
</tr>
<tr>
<td>Shared</td>
<td>0.34</td>
<td>&lt;0.0001</td>
<td>(0.23, 0.51)</td>
</tr>
<tr>
<td>Year of data</td>
<td>AOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>0.7</td>
<td>0.007</td>
<td>(0.54, 0.91)</td>
</tr>
<tr>
<td>2010</td>
<td>0.93</td>
<td>0.446</td>
<td>(0.69, 1.17)</td>
</tr>
<tr>
<td>2013</td>
<td>1.06</td>
<td>0.664</td>
<td>(0.82, 1.37)</td>
</tr>
</tbody>
</table>
Which *factors* predict the use of CHA over time?

**Bottom line:**

- Jurisdiction size
- Personnel
- State / local governance relationship
LHDS in larger jurisdictions are more likely to complete CHAs.

### Table: Population size vs. AOR (vs. >25,000 population)

<table>
<thead>
<tr>
<th>Population size</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td>&lt;25,000</td>
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<tr>
<td>50,000-99,999</td>
<td>0.004</td>
</tr>
<tr>
<td>100,000-499,999</td>
<td>0.004</td>
</tr>
<tr>
<td>500,000+</td>
<td>0.001</td>
</tr>
</tbody>
</table>
LHDs with Health Educators are more likely to complete CHAs

- **Health Educator**: AOR = 1.56
  - Yes: 1.56
  - No: 1

- **Epidemiologist**: AOR = 0.61
  - Yes: 0.61
  - No: 1
State & shared governance LHDs were less likely to complete CHAs.
AOR: Year of Data Collection

Year of Data Collection

2005: 1
2008: 0.7
2010: 0.93
2013: 1.06
Discussion
• Population size
  – Economies of scale and scope may lead to higher rates of CHA completion

• Centrally governed LHDs
  – LHDs may have less autonomy for decision making
  – States may conduct CHAs for LHDs
• **Personnel**
  – Health educators lead CHA process in many states.
  – The finding regarding epidemiologists is unexpected.

• **AOR is relatively flat from year to year.**
  – Perhaps accreditation is not driving completion of the CHAs.
CHAs are resource intensive.

- What do LHDs gain from completing a quality Community Health Assessment?

- How do LHDs obtain/share resources for CHA?

- With what partners do LHDs collaborate?

- How do LHDs and their partners use the data from CHAs?

- What difference does completing a CHA make in the health of a community?
Questions?

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