Community Health Assessment Activity by LHDs:
The Influence of Local Health Agency and Community Characteristics

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Community Health Assessment Activity by LHDs

The Influence of Local Health Agency and Community Characteristics

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2013 Academy Health Annual Research Meeting.
June 24, 2013.
Faculty 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.

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Objectives of this Research

* To examine the nature of association between local public health infrastructural capacity and likelihood of conducting CHA.
* To investigate if existence of LHD staff in certain categories increases the likelihood of an LHD to conduct a CHA.
* To examine whether or not community characteristics are a factor in likelihood of completing CHA.
*The IOM (1988; *The Future of Public Health*) named assessment one of the three core functions of public health.

*Due to two recent developments, CHA is of much interest:

1. **Public Health Accreditation Board (PHAB) requirement** that local health departments (LHDs) complete a CHA as part of a voluntary national accreditation program

2. **The strengthening of community health assessment requirements** for non-profit hospitals in the 2011 Patient Protection and Affordable Care Act.
Assessing LHD readiness for PHAB accreditation involves many considerations, among which are completion of:

- community health assessment,
- improvement plan, and
- agency strategic plan.

Efforts to assess the core function performance of LHDs have shown an association with health outcomes and LHD performance.
Methods: Data Source

* Data were drawn from NACCHO’s 2010 National Profile of Local Health Departments (2010 Profile Study) survey, administered to 2656 LHDs

* Using the FIPS codes for the county and place, additional data on community characteristics were merged with Profile data from the 2010 U.S. Census.

* For LHDs comprising multiple jurisdictions, population weighted average were computed to estimate community characteristics (for n=1906).

* In order to estimate unbiased population parameters, appropriate statistical weights were used
  * to account for disproportionate non-responses by LHDs serving different population sizes.
Methods --Variables

* The outcome variable comes from the question: “Has a community health assessment been completed for your LHD’s jurisdiction? (Select all that apply)”
  * Yes, within the last three years
  * Yes, more than three but less than five years ago
  * Yes, five or more years ago
  * No, but plan to in the next year
  * No

* Original response categories were re-coded into three categories:
  * (1) “Yes, within five years”,
  * (2) “No but plan to in the next year”, and
  * (3) “No/Not within five years and no plan in the next year”.

* A large list of potential explanatory and control variables was considered
  * Kept those in the final model that helped prevent multicollinearity and improve the overall fit of the model.
Methods--Analytic approach

Bivariate:
* Cramer’s V test
  * to assess the significance of bivariate associations of the ordinal level dependent variable (CHA) with the nominal independent variables,
* Somer’s D test
  * for ordinal independent variables.
* Analysis of Variance
  * to test bivariate association of the dependent variable with continuous independent variables.

Multivariate
* Multivariate analysis of the ordinal dependent variable was performed using **multinomial logistic regression**.
Results: Bivariate

Community health assessment By Primary Independent Variables
LHDs’ CHA completion status by **community characteristics**

* ANOVA; p-value<=0.001
LHDs’ CHA completion status by share of revenue from certain sources

ANOVA; *: p-value<=0.001; **: p-value<=0.01;
Percent of LHDs that completed CHA by type of LHD governance

Somers D/Chi-square; p-value<=0.001;
Does this reference one of the comparisons or all 3?
cleep, 6/21/2013
Percent of LHDs that completed community health assessment by whether LHD had **one or more local boards**

Chi-square; p-value<0.01;
Did you mean to reference this to one of the comparisons? Or does it apply to all 3?
Percent of LHDs that completed CHA by size of population in the LHD jurisdiction

Somers D/Chi-square; p-value<=0.001;
Percent of LHDs that completed CHA by whether LHD had epidemiologist on staff

Somers D/Chi-square; p-value≤0.001;
Percent of LHDs that completed CHA by type of LHD jurisdiction

Phi/Chi-square; p-value<=0.206
Results: Multivariate

Community health assessment By Primary Independent Variables (and controls)
* “Has a community health assessment been completed for your LHD’s jurisdiction? (Select all that apply)

NOTE: The odds ratios presented in the next few slides are from a single multivariate Model using multinomial logistic regression
Multinominal Logistic Regression

Adjusted odds ratios for Community health assessment: Completed CHA within past five years vs. Did not complete CHA within five years and no plan in the next year

Independent Var. = LHD Governance

P-Values < 0.001

P-Values = 0.145

Independent Var. = LHD has local board of health
**Multinomial Logistic Regression**

Adjusted odds ratios for Community health assessment: Completed CHA within past five years vs. Did not complete CHA within five years and no plan in the next year

- Independent variable = Population size

<table>
<thead>
<tr>
<th>Size of LHD jurisdiction population</th>
<th>Odds ratios</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>500,000+</td>
<td>1</td>
<td>0.293</td>
</tr>
<tr>
<td>100,000-499,999</td>
<td>1.429</td>
<td>0.069</td>
</tr>
<tr>
<td>50,000-99,999</td>
<td>2.032</td>
<td>0.008</td>
</tr>
<tr>
<td>25,000-49,999</td>
<td>2.916</td>
<td>0.001</td>
</tr>
<tr>
<td>&lt;25,000</td>
<td>4.293</td>
<td></td>
</tr>
</tbody>
</table>
Adjusted odds ratios for Community health assessment:
Completed CHA within past five years vs. Did not complete CHA within five years and no plan in the next year

Independent variable = Epidemiologist on staff

p = 0.024
Adjusted odds ratios for Community health assessment: Completed CHA within past five years vs. Did not complete CHA within five years and no plan in the next year

Independent variable=Type of LHD jurisdiction

p=0.259
## Multinomial Logistic Regression

**Adjusted odds ratios** for Community health assessment: Continuous Variables

<table>
<thead>
<tr>
<th>LHD and Community Characteristics</th>
<th>Completed CHA within past five years vs. Did not complete CHA within five years and no plan in the next year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds Ratios</td>
</tr>
<tr>
<td>Percent of population in occupied housing units free and clear</td>
<td>0.936</td>
</tr>
<tr>
<td>Percent of population age 0 to 17</td>
<td>0.903</td>
</tr>
<tr>
<td>Percent of population unemployed</td>
<td>1.172</td>
</tr>
<tr>
<td>Percent from Local sources</td>
<td>1.003</td>
</tr>
<tr>
<td>Percent from State sources</td>
<td>1.025</td>
</tr>
<tr>
<td>Percent from Federal sources</td>
<td>1.044</td>
</tr>
</tbody>
</table>
Conclusions-1

• LHDs serving smaller jurisdictions appeared to have lower proportion of CHA activity in bivariate analysis,

• After controlling for other variables in the model, the relationship reversed in that the LHDs in two smallest population categories were more likely to complete CHA compared to LHDs in the largest population category.
Conclusions-2

• The results suggest that the presence of an epidemiologist on staff may be instrumental in determining whether an LHD is able to complete a CHA, offsetting LHD jurisdictional population size in its ability to predict the likelihood of completing a CHA.
Conclusions-3

The finding that LHDs in jurisdictions with lower unemployment and higher levels of home ownership are less likely to conduct CHA may suggest that more affluent communities would be less likely to have health needs assessed.
Conclusions-4

• LHDs with higher proportion of federal funding may have greater categorical funding and corresponding programmatic requirements, and less time to dedicate to crosscutting activities such as CHA.

• State dollars may not have as strict requirements on the use of funding and could be more readily used for activities such as CHA.

• The findings that locally governed LHDs were more likely to complete a CHA than state governed LHDs further supports the idea that local leaders and elected officials are realizing the importance of CHA.
Acknowledgements

The Profile of LHDs study, the source of data for this research, was made possible by financial support from the Robert Wood Johnson Foundation and the Centers for Disease Control and Prevention.
Questions?

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