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Local Health Department Preparedness Capacities Survey: Introduction & Preliminary Results

The North Carolina Preparedness and Emergency Response Research Center (NCPERRC) has been studying the relationship between preparedness and accreditation in North Carolina, an early adopter of local health department accreditation. An assessment tool, the Local Health Department Preparedness Capacities Survey (P-CAS), was developed and 2 waves of data have been collected from North Carolina health departments and a national comparison group. This is a preliminary report on the development, implementation, initial findings and future research from this tool.

Instrument Development & Implementation

The survey development process included convening a four-person national advisory committee (Delphi panel) in 2009 that provided input into survey item construction; drafting the questionnaire; piloting it with 11 health departments outside of North Carolina (a total of 33 individuals completed the survey); revising the instrument after cognitive interviews with respondents and reviews from local and state public health officials in North Carolina; and, lastly, reviewing the final instrument with the other NCPERRC researchers to ensure there was no duplication of data collection.

The survey has 38 questions on key preparedness and response capacities organized in 8 domains including: Surveillance & Investigation; Plans & Protocols; Workforce & Volunteers; Communications & Information Dissemination; Incident Command; Legal Infrastructure & Preparedness; Emergency Events & Exercises; and Quality Improvement Activities.

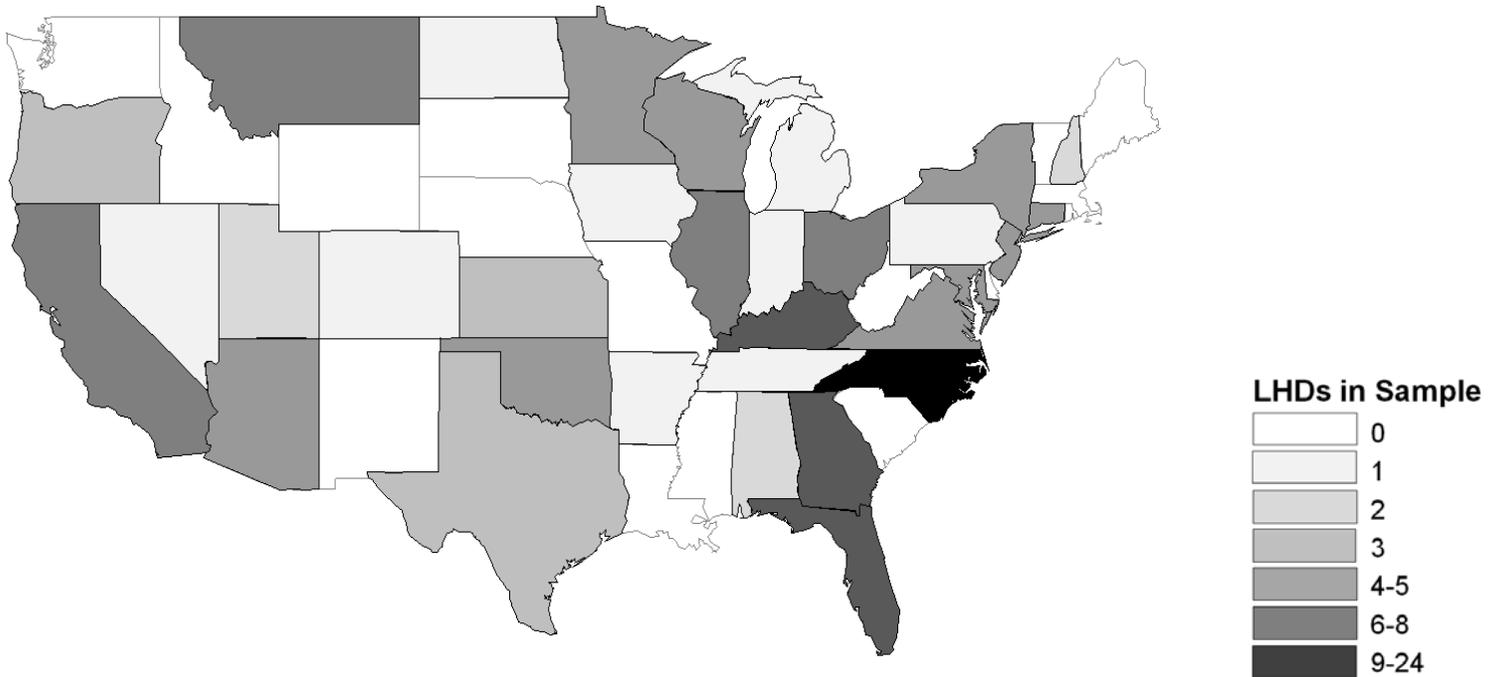
P-CAS was developed and initially fielded prior to the release of the public health preparedness national standards (released in March 2011) however; there is significant alignment between P-CAS and these standards. (See Research Questions and Forthcoming Briefs on page 4.)

Local Health Department Preparedness Capacities Survey (P-CAS) collects data on preparedness and response capacities of 85 local public health agencies in North Carolina and a comparison group of local public health agencies located across the country. NCPERRC will use project data to help identify opportunities to enhance public health preparedness and response capabilities through activities such as public health agency accreditation, performance measurement, and quality improvement.

Study Population & Data Collection

In 2010 and 2011, using a web-based or paper survey, NCPERRC conducted the 2 rounds of P-CAS survey data collection among all 85 North Carolina local health departments (LHD) and 247 matched LHDs (comparison group) in 39 other states. The national comparison group was selected based on statistical similarities to NC LHDs. Similarities were based on population of the community, agency expenditures per capita, breadth of services offered, rural/urban designation, and poverty rate. (See Figure 1 on page 2.)

Figure 1: P-CAS National Comparison Group



NC LHDs serve populations ranging from 9,980 to 919,628. There are 85 LHDs that cover 100 counties with 6 health districts and 79 single county LHDs. Nearly all NC LHDs responded to both rounds of data collection. For the 2010 survey, the national comparison group response rate was 73.3% and in 2011 it was 60.3%. This decrease in response rate can be attributed to a shortened response follow-up period. (See Table 1 below.)

agencies that are similar to the agency. The report for national participants includes items 1, 3 and 4 (see above). These comparisons can be used to track an agency’s progress over time, identify opportunities for improvement of specific preparedness capabilities and prepare for accreditation. Directors and preparedness coordinators from several LHDs have indicated that these reports are useful for planning purposes; for example, an LHD is using its report to identify training needs and reorganize staff.

Table 1: Comparison of P-CAS Response Rates

	2010	2011
NC Agencies	83 (97.6%)	81 (95.3%)
National Comparison Group	181 (73.3%)	149 (60.3%)
Total	264 (80.0%)	230 (69.3%)

Customized Benchmarking Report

For each participating agency, NCPERRC staff prepared a customized report summarizing the survey responses provided by the health department and compared these with the norms from other health departments. The benchmarking report for NC participants compared each agency's responses to: 1) responses provided by the agency in 2010, if applicable; 2) average responses from all NC agencies; 3) average responses from the national comparison group of agencies outside NC; and 4) average responses from a statistically-matched peer group of

Initial Preparedness Findings

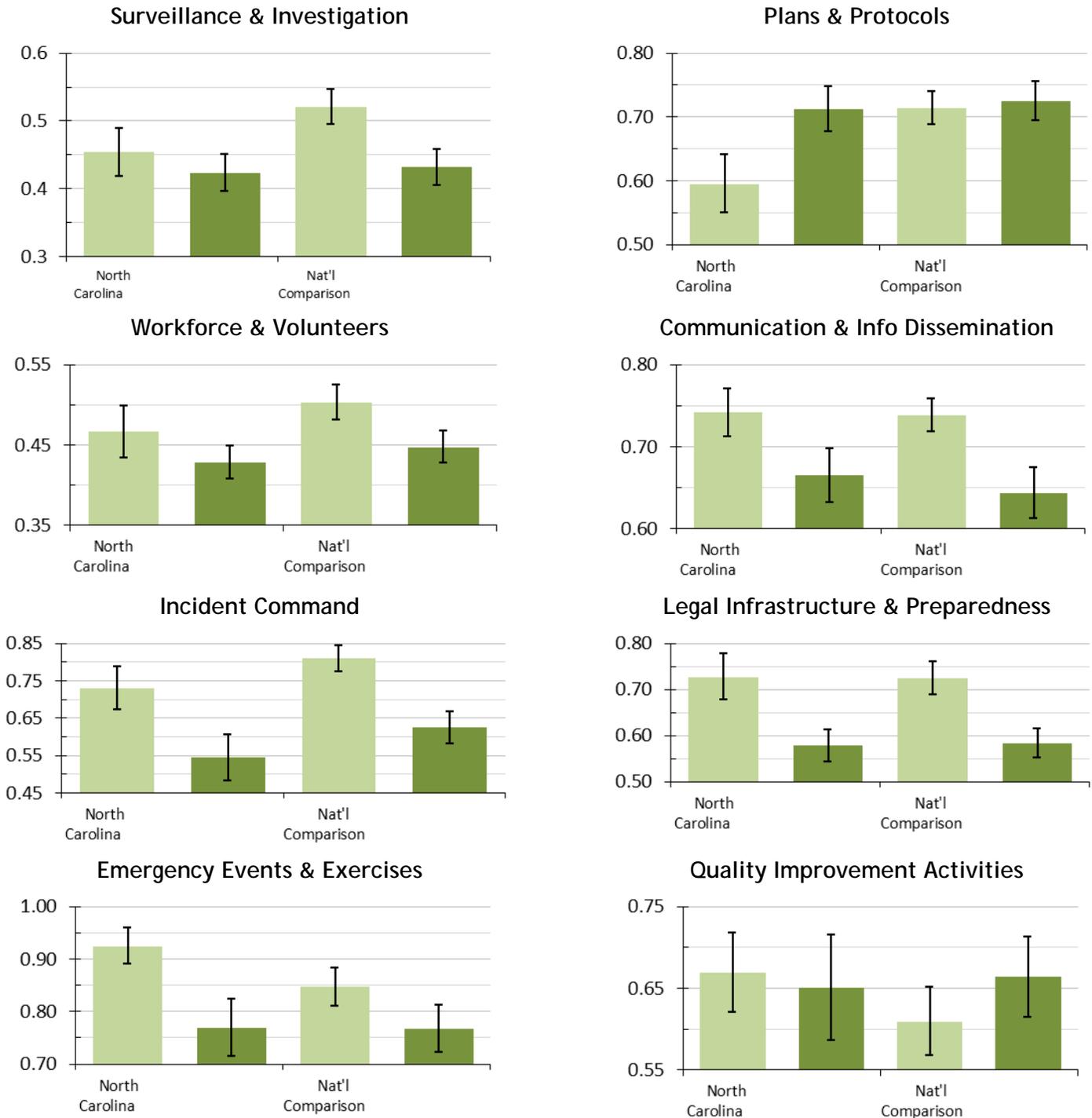
After completing the benchmarking reports for research participants, the team began to analyze the 2 years of data. The 8 graphs (Figure 3 on next page) show both years of data for NC LHDs and the national matched comparison group of LHDs for the 8 domains described above. Each domain represents a composite score and is constructed as an equally weighted average of individual items contained on the P-CAS survey, such that the value of the domain score indicates the proportion of the maximum possible score that would be obtained if each individual item in the domain was performed fully.

The graphs present each domain score and compare results between 2010 (light green) and 2011 (dark green). For each measure, the team also calculated the 95% confidence interval to indicate the range of scores (black lines with margins).

The percent of affirmative responses (Y-axis) shown in the figures above differ significantly between domains and over the two years of data collection. These measures provide an overall snapshot of preparedness across the different domains of activity for LHDs in North Carolina and the national comparison group.

These initial results illustrate that LHD performance of many preparedness domains decreased in 2011 compared to 2010, with a few exceptions (Plans & Protocols and Quality Improvement Activities).

Figure 3: Comparison of North Carolina and National Comparison Groups' Composite Domain Measures for 2010 and 2011



Research Questions & Forthcoming Briefs

Analysis of the 2 years of P-CAS data will continue and research briefs will be released as preliminary results become available. P-CAS analysis will address the following questions regarding both preparedness and accreditation:

1. To what extent do preparedness capacities vary among LHDs in NC and the national comparison group? How does this variation change over time, by size of LHD, and other variables?
2. Are accredited NC LHDs better prepared based on P-CAS survey scores? To what extent does accreditation affect local health department's preparedness capacities?
3. How well does P-CAS measure the Centers for Disease Control and Prevention's Public Health Preparedness Capabilities: National Standards for State and Local Planning (Released in March 2011)?

The P-CAS data collected will be used to investigate these and other questions. Researchers will also continue to work closely with local, state, and national partners to continue to identify opportunities to translate results into practice settings.

Additional information on this project and NCPERRC can be found at <http://cphp.sph.unc.edu/ncperrc>.

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