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Trends in Preparedness Capacity: Results from the Local Health Department Preparedness Capacity Survey

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. NCPERRC developed the Local Health Department Preparedness Capacities Survey (P-CAS), assessment tool and collected 3 years of data from North Carolina health departments and a national comparison group. This report presents findings on the relationship between preparedness capacity and participation in accreditation and other performance improvement initiatives.

Instrument Implementation

The survey has 38 questions on 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;
- Quality Improvement Activities.

The P-CAS survey 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 such that the capacities present an early opportunity to understand LHD performance on the capabilities.

The purpose of the **Local Health Department Preparedness Capacities Survey (P-CAS)** is to collect data on preparedness and response capacities of 85 local health departments in North Carolina and a comparison group of local public health agencies located across the country. Scores in five of eight preparedness domains declined from 2010 to 2012. Observed declines were not as great for NC local health departments that had participated in a mandatory accreditation program, indicating a potential protective effect of accreditation participation.

Study Population and Data Collection

In 2010, 2011, and 2012, NCPERRC conducted 3 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. The overall response rate for all three years was 75%, with two hundred sixty-four LHDs from 29 states responding to the survey. At least 95% of NC LHDs responded to the survey each year.

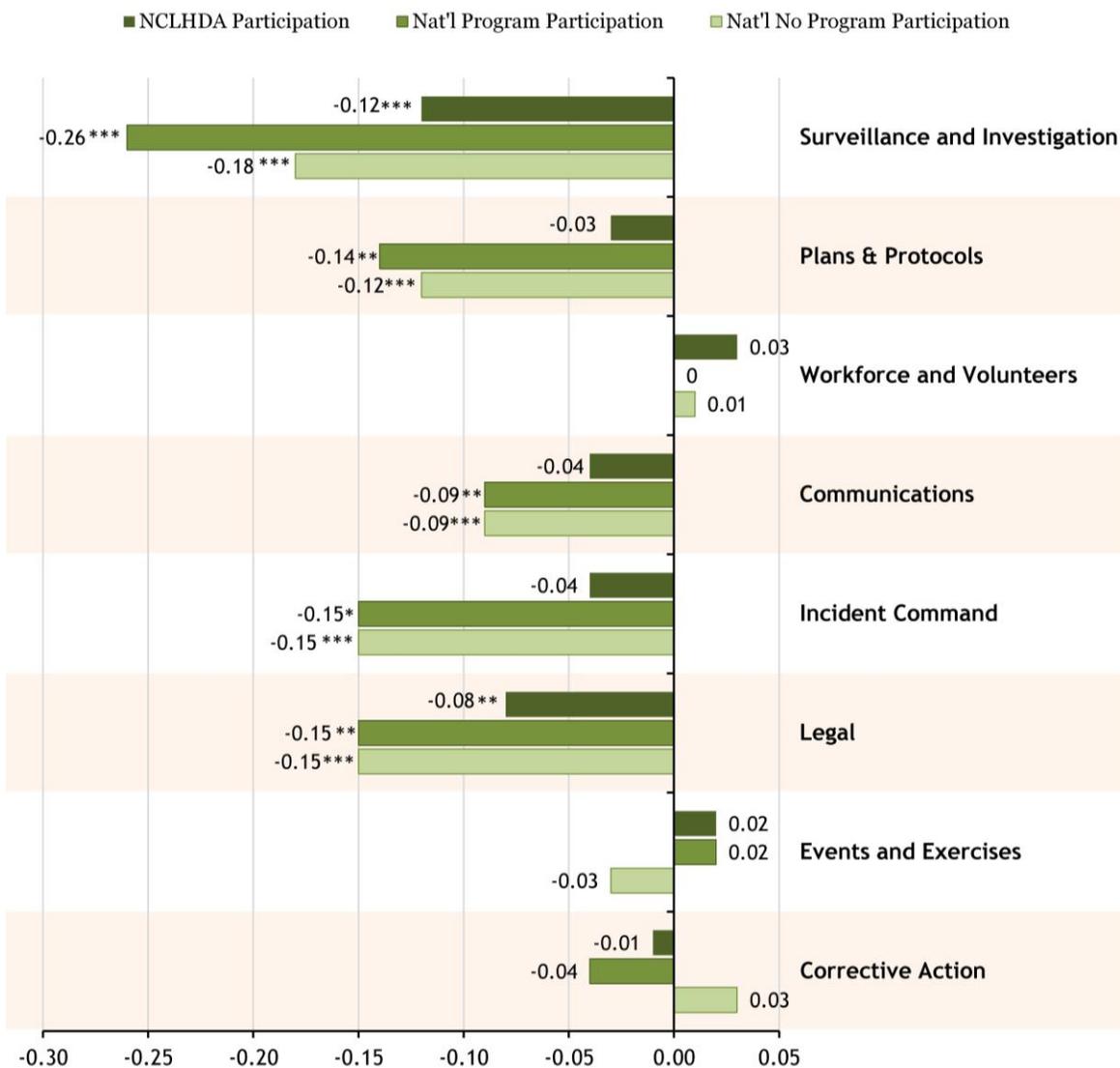
Participation in Accreditation and Performance Improvement Programs

To understand the relationship between participation in improvement efforts and preparedness capacity, the team analyzed the three years of P-CAS data accounting for participation in the NC Local Health Department Accreditation program among NC LHDs and participation in other performance improvement programs, specifically the Public Health Accreditation Board Beta-test, National Public Health Performance Standards Program local instrument, and NACCHO's Project Public Health Ready. For the purposes of these analyses, all 85 NC LHDs were categorized as having participated in the NC Local Health Department Accreditation program as the mandatory program has been in effect since 2006 and all NC LHDs were in

some phase of program participation (pre-preparation, preparation, or preparation for re-accreditation).

The graph presents the change in average domain scores for the three study groups: 1) participation in the NC Accreditation program (n = 85), 2) National Program Participation or national comparison LHDs that participated in performance improvement programs as of 2010 (n = 48), and 3) National No Participation- national comparison LHDs that had not participated in performance programs as of 2010 (n = 200). In the graph, we provide the change in capacity scores from 2010 to 2012 and indicate whether these score changes are statistically significant.

Overall Change in LHD Preparedness Capacity by Program Participation, 2010-2012^a



^a Asterisks (*) reflect statistical significance differences between 2010 and 2012, *** p < 0.001; ** p < 0.01; * p < 0.05

Findings

From 2010 to 2012, we found declines in five of eight preparedness capacities domains across all groups. Significant decreases in LHD capacity scores were observed in *Surveillance and Investigation* and *Legal Preparedness* among all study groups. In the remaining three domains (*Workforce & Volunteers*, *Exercises & Emergency Events*, and *Corrective Action*), changes were not significant or consistent among three participation groups. Although we did observe positive increases in a few domains, in no domain, for any group, did preparedness capacity demonstrate a statistically significant improvement.

The declines we observed were not as great among NC LHDs. These results reinforce our previous findings that an accreditation program can have an effect on preparedness domain scores within the context of a single state. Participating in some phase of an accreditation process (pre-preparation, preparation for a site visit, accredited, or preparing for reaccreditation) may allow LHDs to better retain capacities in spite of external factors such as funding declines.

Although we saw initial positive relationships between participation in other performance improvement programs and preparedness capacities in analysis of the 2010 survey data, we did not observe the same extent of a “protective” effect of participation in these programs over the three survey years. The NPHSP and the PHAB Beta Test lacked ongoing monitoring of performance requirements while LHDs that participated in Project Public Health Ready may have chosen to not reapply for recognition, which would have eliminated the possibility for ongoing monitoring. Continued performance monitoring may be a key to maintaining performance.

Implications

Decreases in preparedness capacities over the three survey years may reflect multiple years of funding cuts and job losses, specifically for preparedness. The greatest decline in capacities was observed in the *Surveillance and Investigation* domain which is critical not only to preparedness responsibilities, but also the basic functions of a public health department. This domain measures surveillance systems, urgent case management, and/or other means of investigation support. These findings support the call for reliable federal funding and decision making to modernize the public health system, including surveillance systems, to address ongoing and emerging infectious diseases. Further, these findings indicate that an accreditation program can support maintenance of preparedness capacities.

Resources

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

North Carolina Local Health Department Accreditation Board

http://nciph.sph.unc.edu/accred/about_nclhda/

Public Health Accreditation Board

<http://www.phaboard.org>

National Public Health Performance Standards Program

<http://www.cdc.gov/nphpsp/>

Project Public Health Ready

<http://www.naccho.org/topics/emergency/PPHR/>

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Authors & Acknowledgements

*North Carolina Preparedness and Emergency
Response Research Center (NCPERRC)
University of North Carolina at Chapel Hill, Gillings
School of Global Public Health*

Mary V. Davis, DrPH, MSPH
Principal Investigator

Anna P. Schenck, PhD, MSPH
*Co-Investigator
Associate Dean for Public Health Practice*

Christine A. Bevc, PhD, MA
Research Associate

Elizabeth Mahanna, MPH
Research Associate

Ed Baker, MD, MPH
*Principal Investigator, NCPERRC
Research Professor*

Centers for Disease Control and Prevention

Liza Corso, MPA
Office for State, Tribal, Local, and Territorial Support

Christa Marie Singleton, MD, MPH
Office of Public Health Preparedness and Response

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