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Local Surveillance Practice and Implications for Public Health Accreditation: The North Carolina Example

Delivery of essential public health services requires effective collection and analysis of public health surveillance data and delivery of the data to program managers, policy makers and the public in usable formats. This work is performed by local, state, and national agencies, based on data collected locally and at the state level. Given the importance of local data collection and dissemination, evaluation of local surveillance practice (comprising data collection, handling, and dissemination) is central to the delivery of essential public health services. Surveillance evaluations to date have tended to focus on one disease or a few diseases; these are useful but they may not capture critical aspects of local surveillance practice, which cut across diseases. Local practice improvement requires evaluation of practices used across reportable conditions. Surveillance evaluation should address how data are accessed and communicated for planning, implementation, and evaluation, all critical elements of local health department surveillance practice.

As a first step in developing a comprehensive evaluation of LHD surveillance practice, this study examined current surveillance practice in North Carolina. Specifically, we looked at the surveillance data used, the persons to whom the data were communicated and the ways in which surveillance data were communicated by LHDs. The study also looked at whether national public health accreditation standards, which include measures of surveillance, could be used to evaluate surveillance practice in LHDs.

Methods

The study was part of a larger study of electronic disease surveillance in North Carolina, conducted by the North Carolina Preparedness and Emergency

Response Research Center (NCPERRC). The sample was drawn from the state's 85 LHDs, stratified by size of population served. One large, seven medium and seven small LHDs were randomly selected for study, and at each we invited the health director and the nursing director or supervisor (lead nurse) to participate in an interview.

North Carolina local health departments:

- Effectively use surveillance data for planning and management and share data with stakeholders
- Meet most national accreditation measures for surveillance practices

Face-to-face interviews were conducted from May through September 2009. Respondents were asked to list data sources (e.g., surveillance systems, national surveys) and data types (e.g., communicable disease, demographic, behavioral) used in the public health response to an outbreak in the past year and for program management and policy development.

They were also asked to describe data distributed in reports by the LHD and list the recipients of those reports. To verify the data sources and types used, project staff also reviewed the most recent community health assessments (2007-2010), which are produced every 4 years by LHDs, as well as available State of the County Health reports (2010), which are produced annually. Finally, we examined the extent to which Public Health Accreditation Board (PHAB) measures dealing with surveillance practice matched current surveillance practice in North Carolina. Since our focus

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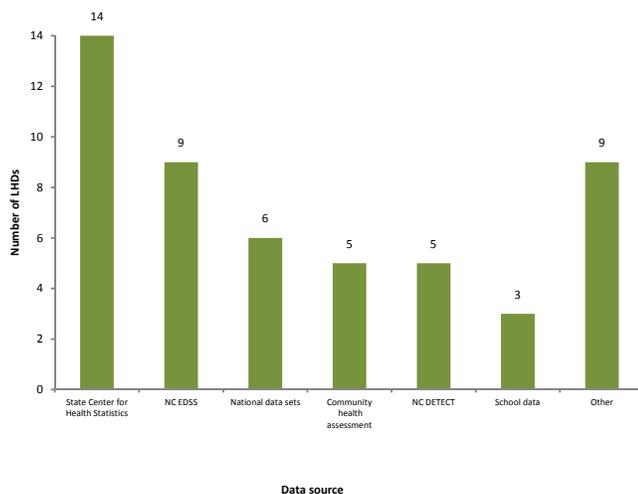
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was on the use and dissemination of surveillance data, we examined only accreditation measures related to these issues.

Results

Twenty-seven of the 30 invitees (14 health directors and 13 lead nurses) representing 14 LHDs, participated in interviews. Their lists of data sources and types and surveillance data recipients overlapped, and therefore the data are compiled and presented here by LHD rather than by respondent. The data source used most frequently for outbreak investigations was case investigation records, which capture information from calls and conversations with patients and providers. The next most frequently used source was electronic data from the statewide reportable disease surveillance system, followed by laboratory reports. Syndromic surveillance data and school data were used less often.

Figure 1: Data sources used for program management, policy development and reports for stakeholders by NC LHDs



A wider range of data sources was used for program management, policy development and report writing (see Figure 1 above). The North Carolina State Center for Health Statistics was used by all LHDs. Nine LHDs reported using data from the North Carolina Electronic

Disease Surveillance System (NC EDSS). In addition, 6/14 LHDs reported using national data sources, and 5/14 reported using community health assessments. Data types used for program management included communicable disease, behavioral, syndromic, birth and mortality, demographic, and environmental data. Nearly all (12/14) of the LHDs used communicable disease data. Only 1 LHD each reported using demographic and environmental data for program management. However, community health assessments produced by all LHDs included health, behavioral, demographic, and environmental data.

All the LHDs reported using surveillance data for reporting cases and responding to outbreaks, and 12 used the data for monitoring the local population. Other uses, mentioned by 2 LHDs each, included staff training, presentations to the press and public, fundraising and grant writing, and collaborating with other organizations. Respondents reported a wide range of report recipients, including the public and community organizations such as Rotary, Kiwanis, faith-based organizations, and health-related organizations. Most LHDs (12/14) also provided surveillance data to boards of health and local agency stakeholders such as the county commissioners and county manager.

We found that national accreditation measures were useful for assessing local surveillance practices. Most specific PHAB measures were met by the content of the community health assessments, which were available on LHD websites, making them accessible to organizations and the public.

Discussion

This study found that LHDs in North Carolina collect and analyze local data and also use data from state and national sources. The data are gathered in community health assessments and are used for program management and disseminated to policy-making and funding partners and to community groups and the public. Most North Carolina LHDs also provide data to boards of health to inform budget and policy decisions. In sum, surveillance data are being

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collected and effectively used at the local health department level.

Our study indicated that most national public health accreditation measures for surveillance practice are currently being met by LHDs in North Carolina. State policies and practices are important supports to LHD surveillance practice in this state. North Carolina was a pioneer in local health department accreditation, and since 2005, has had in place a mandated, standards-based program for LHD accreditation, which includes measures for surveillance practice similar to national accreditation measures. At the time of this study, 60% of all LHDs in the state and 11 of the 14 surveyed (79%) were accredited. In addition, the state requires a community health assessment every 4 years and a State of the County report every year. Finally, the North Carolina State Center for Health Statistics makes health data available to LHDs in the format necessary for these reports.

Limitations

Our study had some limitations, including a small sample and the qualitative nature of the assessment. Finally, as noted above, many North Carolina LHDs are accredited under the North Carolina accreditation program (no LHDs are yet accredited under the national program). These findings on LHD practice may be less applicable to states without state accreditation programs or statewide community health assessment requirements, since these structures may push LHDs toward including more data in reports and providing reports to more recipients. As national accreditation of local health departments moves forward, these findings are likely to be more relevant nationally.

Conclusions

Our study suggests that surveillance data are being used in local health departments for planning and management and are disseminated to public health stakeholders. Future work should assess whether these data are actually used by policy makers and whether use results in an informed, empowered community and ultimately, improved health outcomes for the population.

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