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Improving Local Non-Communicable Disease Surveillance within a Changing Data Environment

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Objective

This project aims to fill a growing county-level health data gap through the development of a low-cost, Excel-based surveillance tool. This prototype utilizes emergency department data (ED) collected by NC DETECT, a state-wide syndromic surveillance system, in order to visualize, monitor, and compare annual local health indicators for use in local decision making. In this way, the project aims to increase noncommunicable disease surveillance capacity and improve situational awareness within North Carolina local health departments (LHDs).

Introduction

LHDs are operating in a changing data environment. As household telephone use declines, national surveys are not sampling large enough populations to report representative local health statistics.[1] As a result, reliable indicators from surveys such as the Behavioral Risk Factors Surveillance Survey (BRFSS) are becoming scarce (**Figure**). Soon, these indicators may not be sufficient for county assessments. NC DETECT primarily uses data from emergency departments, the Carolinas Poison Center, and the Pre-hospital Medical Information System (PreMIS) to identify outbreaks and facilitate emergency response.[2] However, while built to aggregate "real-time" data, NC DETECT also provides a source for rich, long-term indicators. The challenge for LHDs is that they may not have the knowledge, training, or technical assistance needed to fully utilize NC DETECT services.[1] This project capitalizes on available human, organizational, and technical resources to increase LHD situational awareness[3] and to demonstrate the usefulness of both "real-time" surveillance data as aggregate indicators of county health, and of low-cost prototyping using Excel's more advanced Business Intelligence (BI) features.

Methods

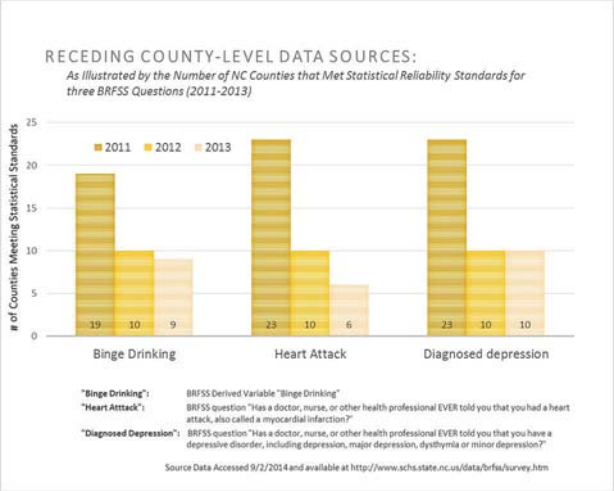
This initiative leverages NC DETECT's surveillance system as both a tool for collecting data and a platform for disseminating reports. LHDs may already register for access to NC DETECT and request customized reports. However, visualizing indicators in a web-based system directly can be difficult and costly. An Excel template is in development that will provide users with the ability to select common health indicators, pull annual trend data, and visualize data through meaningful reports. A preliminary list of available indicators includes annual ED visits for the following: asthma; diabetes; STDs; drug overdose; acute alcohol poisoning; other poisonings; motorcycle, pedal-cyclist, and pedestrian injuries; other injuries; cancer; stroke; cardiovascular disease; obesity; substance abuse; and mental health.

Results

This tool requires low epidemiological expertise and is easily shared. Because NC DETECT currently houses 166 registered LHD users, this tool has broad reach and the potential to impact the overall noncommunicable disease surveillance capacity of North Carolina at the local level.

Conclusions

This tool models one solution to a changing data environment. The reports created by this tool can be used by LHDs to track indicators that are challenging to find in other places. In this way, the tool will improve local situational awareness and equip LHDs with the ability to make informed policy and programmatic decisions.



Keywords

noncommunicable disease surveillance; local health departments; dashboards; situational awareness; low cost prototyping

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References

1. Luck J, Chang C, Brown R, and Lumpkin J. Using local health information to promote public health. Health Affairs. 2006; 25(4):979-91.
2. North Carolina Disease Event Tracking and Epidemiologic Collection Tool [Internet]. Chapel Hill (NC); c2004-2014; [cited 2014 Sept 2]. Available from http://ncdetect.org
3. Endsley M R, and Garland D J, editors. Situational Awareness Analysis and Measurement. Mahwah, NJ: Lawrence Erlbaum Associates: 2000. 408p.

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