



NC DETECT Summary

NC DETECT is the Web-based early event detection and timely public health surveillance system in the North Carolina Public Health Information Network. NC DETECT uses the CDC's Early Aberration Reporting System (EARS) to monitor several data sources for suspicious patterns. The reporting system also provides broader public health surveillance reports for emergency department visits related to hurricanes, injuries, asthma, vaccine-preventable diseases, occupational health and others.

Data Sources

NC DETECT receives data on at least a daily basis from five data sources: emergency departments, the statewide poison center, the statewide EMS data collection system, a regional wildlife center and laboratories from the NC State College of Veterinary Medicine.

Emergency Department (ED) Data

As of November 30, 2005, NC DETECT is receiving data every 12 hours from 62 of the 113 24/7 EDs in North Carolina. North Carolina has a mandate requiring collection of ED data via a system called the North Carolina Hospital Emergency Surveillance System (NCHESS) and all 113 hospitals are expected to be reporting by 2006. The ED data are stored in an ED data repository called the North Carolina Emergency Department Database (NCEDD), which was created in 1999.

ED visits are grouped into six syndromes based on analyses of the chief complaint, initial ED temperature and history of present illness (when available). An ED visit can be "binned" into one or more of the following syndromes:

- Fever/Rash Illness
- Gastrointestinal All illness
- Gastrointestinal Severe illness
- Influenza-like Illness
- Neurological Illness
- Respiratory Illness

The syndromes are based on the CDC's Syndrome Definitions for Diseases Associated with Critical Bioterrorism-associated Agents (October 23, 2003) and all syndromes except Gastrointestinal All require the presence of constitutional symptoms.

Poison Center Data

The Carolinas Poison Center receives over 100,000 calls every year from residences as well as health care facilities and roughly 25% of these calls are assigned one or more "clinical effects." The clinical effects are grouped into larger categories and analyzed in EARS. NC DETECT currently monitors cardio, dermal, fever, gastro, neuro, ocular and resp clinical effect groups.

Pre-hospital Data

NC DETECT downloads daily files from the NC Pre-hospital Medical Information System (PreMIS), a mandated statewide system for collecting and analyzing EMS data. 70% of counties in NC are currently represented in these data. NC DETECT will soon use EARS to monitor the PreMIS data based on the standardized pick lists for dispatch complaint and primary symptom.

Wildlife Data

Data from the Piedmont Wildlife Center (PWC) are downloaded every day and will soon be available for analysis. The PWC is one of four regional wildlife centers in North Carolina and is a non-profit organization dedicated to wildlife rehabilitation, education, and scientific study of health and disease in wildlife populations. PWC admits approximately 3,000 animals annually, including mammals, birds, and reptiles, the majority of which are from 21 counties in central North Carolina.

The PWC defines 8 syndromes and assigns each patient visit to none, one or as many syndromes as are appropriate based on clinical case definition. Some wildlife syndrome definitions are similar to human syndromes (e.g. rash, gastrointestinal, respiratory, botulism-like, and neurological) while others are more wildlife specific (e.g. spontaneous abortion, vesicular, and lymphadenopathy).

Veterinary Medicine Laboratory Data

The NC State College of Veterinary Medicine Laboratories (CVML) sends data daily to NC DETECT from three of its laboratories: vector-borne disease, microbiology and immunology. Analyses of select lab orders and results will soon be available in NC DETECT.

Users

NC DETECT serves hospital-based and public health users at the local, regional and state levels. All users must be approved by the NC Division of Public Health before access to the system is granted. Depending on the assigned user role and data source, users have access to secure, Web-based county- and/or hospital-based views of the data and can access a variety of tabular, graphical and map-based reports. On several reports, users can specify the date ranges and can cross-reference the results against ICD-9-CM final diagnosis codes. A Web-based tool to generate customized aggregate reports for ED data is also available.

For More Information

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