Meaningful Use Update and NC DPH Data Use Overview
Agenda

• Meaningful Use Update
  • NCIR
  • NCCCR
  • Syndromic Surveillance
  • ELR
  • Electronic Case Reporting

• Data Use Overview:
  • NCEDSS
  • NCDETECT
NC Immunization Registry Update

Wendy Holmes
Immunization Branch Head
Immunization Branch
North Carolina Department of Health and Human Services
The North Carolina Immunization Registry also known as the NCIR is a secure, internet-based immunization information system (IIS).

At the point of clinical care, the NCIR can provide consolidated immunization histories for use by a vaccination provider in determining appropriate client vaccinations.

At the population level, the NCIR provides aggregate data on vaccinations for use in surveillance and program operations, and in guiding public health action with the goals of improving vaccination rates and reducing vaccine-preventable disease.

- Participating providers: 3,010
  - 1,218 (40%) VFC Providers
  - 1,501 (50%) Pharmacy
  - 291 (10%) Non VFC providers
- Client records created: Over 8.2 million
  - 109% of NC children age 5 and under*
  - 127% of NC adolescents age 11 through 17*
  - 62% of NC adults over age 18*
- Vaccinations Documented: Over 98 million
Where are We

- Meaningful Use registration opened on Feb. 15, 2016 to Feb. 29, 2016
  - Total number of registrations 10,986
    - EPs 10,870
    - EHs 116
- Detailed information on Immunization Branch website at: [http://www.immunize.nc.gov/providers/ncirdataexchange.htm](http://www.immunize.nc.gov/providers/ncirdataexchange.htm)
- In the testing phase with various EHR and provider organization hubs
- Current projects in process:
  - NC HIE UNC/EPIC-HER
  - Allscripts-EHR
  - DUMC/EPIC-EHR
  - Athena Health-EHR
  - Discussions with Novant Health Care/EPIC-HER
- NCIR currently meets requirements and standards proposed for Meaningful Use Stage 3.
NC Central Cancer Registry Update

Chandrika Rao, PhD
Director, Central Cancer Registry
State Center for Health Statistics
North Carolina Department of Health and Human Services
NCCR MU Overview

- MU2 Onboarding Process
- Transport Mechanism
- Current Status
- Challenges
- Lessons Learned
MU2 Onboarding Process

Eligibility
- Only for ambulatory providers.
- Only for those providers that diagnose and/or treat cancer

Registration
- Register with NC-CCR
- Testing is prioritized by the EP facility's reporting period and in the order with which registrations are received.

Test & Validation
- EP Data to be received securely transport using SFTP.
- Data has to be in HL7 CDA format.
- Once received, data will be first pilot tested and validated using validation tool developed by CDC

Submission Confirmation
- Once ongoing submission is achieved. A Go-live date will be coordinated by NC-CCR

Go-live
EHR Eligibility Criteria

• Listing of Certified EHR can be found at http://oncchpl.force.com/ehrcert

• In order to participate in Cancer Reporting for Stage 2 Meaningful use purposes, the EHR product MUST be certified for BOTH cancer reporting criteria: (f)(5) Cancer Case Information AND (f)(6) Transmission to Cancer Registries.
Registered EP’s with Certified EHR Vendors

About 400 Registered EP's

- Athena Health: 33%
- Nextech: 26%
- Nextgen/TSI Healthcare: 23%
- Modernizing Medicine: 15%
- Altos: 1%
- IMS/Suitemed: 2%

Registered EP's with Certified EHR Vendors
EP’s Based on Specialty Reporting/Testing

- Dermatology: 16%
- Hematology and Oncology: 2%
- Radiation Oncology: 5%
- Surgery: 6%
- Urology: 4%
- Womens Health: 0%
- Nephrology: 3%
- Internal Medicine: 18%
- Gastroenterology: 6%
- Head and Neck: 40%
File Transport Options available with NC-CCR

Secure FTP file upload
Transport Options
Current Status

• 2,272 physicians currently registered for MU2 cancer reporting as of August 2016.
• 380 Eligible Physicians - Registered with Certified EHR’s
• 41 practices - Actively testing and validating files
• 5 Physicians - Sending complete cancer files.
• Continuing to onboard providers based on vendor readiness, cancer volume and specialty
Challenges

- Getting the buy-in from all the stakeholders-physician offices, EHR vendors.
- Varying vendor capabilities for data exchange.
- Lack of attention to the data items/details in the implementation guide.- Data Quality Issues
- Physician offices struggle to integrate technology into the workflow.
- Communication gaps between the EP offices and EHR vendors.
- Registrations from hospital ambulatory providers.
- CMS rules keep changing- lack of clarity/ guidance, need for NC-CCR to update documents accordingly and respond to various queries from physician offices, hospitals, vendors etc.
Stage 3 Readiness

• NC- CCR is declaring readiness for Meaningful Use Stage 3

• registrations will start on January 1, 2017.

• Please visit http://epi.publichealth.nc.gov/cd/meaningful_use/ for additional information.
Meaningful Use Contacts- NCCCR

Nigar Salahuddin-
nigar.salahuddin@dhhs.nc.gov

Sumana Nagaraj-
sumana.nagaraj@dhhs.nc.gov
Acknowledgement

• The Centers for Disease Control and Prevention for its support of the staff and the resources to produce this presentation, under cooperative agreement NC 5U58DP003933 awarded to the North Carolina Central Cancer Registry. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Centers for Disease Control and Prevention.
References

- https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/eligibility.html#BOOKMARK_1
- www.cdc.gov/cancer/npcr/meaningful_use.htm
- www.dshs.state.tx.us/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=8589971163.
Syndromic Surveillance Update

Emilie Lamb, MSPH
Systems Surveillance Unit
Epidemiology Section
North Carolina Department of Health and Human Services
Syndromic Surveillance

• Current Capabilities
  • NC DPH is capable of accepting electronic Syndromic Surveillance data from eligible hospitals transmitting data from 2014 Edition ONC Certified Electronic Health Record Technology

• Stage 3
  • NC DPH is currently evaluating the possibility of accepting syndromic surveillance data from 2015 Edition ONC Certified Electronic Health Record Technology via the NCHESS+ Platform
Electronic Laboratory Reporting Update

Emilie Lamb, MSPH
Systems Surveillance Unit
Epidemiology Section
North Carolina Department of Health and Human Services
Electronic Laboratory Reporting

• NC EDSS currently receives electronic reports from:
  • LabCorp (HL7 2.3.1)
  • State Laboratory of Public Health (HL7 2.5.1)
  • Carolinas Healthcare System (13 facilities, HL7 2.3.1)
  • Mayo Clinical Laboratory (HL7 2.3.1)
  • Vidant Healthcare (HL7 2.5.1)
  • Cape Fear Valley Health System (HL7 2.5.1)
Currently On-boarding for ELR

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<tr>
<th>On-Boarding Steps</th>
<th>Not Started</th>
<th>In Process</th>
<th>On Hold</th>
<th>Completed</th>
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<td>Steps 6 and 7: Connectivity configured and tested</td>
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<td>9</td>
<td>30</td>
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Challenges for ELR

• Conformance to HL7 2.5.1 Implementation Guide for ELR to Public Health
  • Snap Shot Processing
  • Batch Reporting

• Availability of Resources and Personnel

• Competing Priorities
Electronic Case Reporting Update

Emilie Lamb, MSPH
Systems Surveillance Unit
Epidemiology Section
North Carolina Department of Health and Human Services
Electronic Case Reporting

• Stage 3
  • NC DPH is currently evaluating the possibility of accepting electronic case reporting from 2015 Edition ONC Certified Electronic Health Record Technology
Data Use Overview
Core Public Health Services

• Communicable Disease Control
  • Surveillance, outbreak investigation, testing and treatment (STDs and TB), other control measures (e.g., I & Q, PEP)

• Immunizations
  • Assurance and enforcement

• Birth and Death Registration

• Preparedness
Public Health Systems

- NC Immunization Registry
- NC Vital Records
- NC Electronic Disease Surveillance System
- NC DETECT (NCHESS)
- NC SLPH STARLIMS
NC Electronic Disease Surveillance System (NCEDSS)

• The NC Electronic Disease Surveillance System is a secure web-based disease surveillance system designed to collect ALL reportable communicable diseases (75) as well as childhood and adult lead surveillance data
  • Only for Surveillance Data
  • Not a Clinical Repository
  • Access for Local Health Department Users as well as State Users
NCEDSS

• Provides a single, secure, integrated system and set of procedures for all communicable disease (and vaccine-preventable disease) reporting.

• Has statewide outbreak management and contact tracing capability.

• Provides better tracking of lab results and stores lab data with case data.
NCEDSS

• Creates a centralized repository of person-based public health data.

• Makes it possible to analyze morbidity patterns across diseases.

• Can track co-morbidity of specific patients (e.g., HIV/TB, syphilis/hepatitis B) to provide better disease control.
Implementation of NCEDSS

• In 2006-2007, NCDPH began implementing NC EDSS to report tuberculosis (TB) in 14 local health departments (LHDs).

• As of December 2012, we now have historical communicable disease data integrated into a single platform
  • general communicable disease data (since 1993),
  • HIV/AIDS reports (since 1984),
  • syphilis reports (since 1999)
  • partner services and case management data (since 1993)
Data within NCEDSS

• Ultimate Goal: All reportable disease surveillance activities are within a single administrative unit (Communicable Disease Branch)
  • HIV and STDs
  • Hepatitis B &C
  • Vaccine Preventable Disease
  • Rabies
  • Foodborne, vector-borne, & waterborne diseases
  • General Communicable Diseases
  • Zoonotic Diseases
  • TB
Data Black hole?

• How do we use the data?
  • Outbreak investigation and management

  • Use HIV/AIDS surveillance data for descriptive purposes at a state or local level

  • Use surveillance data for HIV Prevention Planning (Community Planning)

  • Integration of HIV Prevention Community Planning and Ryan White CARE Planning
Outbreak Management

• A total of 682 outbreaks were reported to the Communicable Disease Branch (CDB) from January 1, 2012 - December 31, 2015; an average of 171 outbreaks per year (including salmonella, norovirus, etc.).

• As required by North Carolina Administrative Code (10A NCAC 41A .0103), local health departments must submit a written report of the investigation within 30 days of the end of the outbreak.
# Outbreak Management

## Type and Etiology

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<thead>
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<th>Type</th>
<th>Etiology</th>
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<td>80</td>
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<td>78</td>
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<td><strong>Total</strong></td>
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<td>1</td>
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<td>33</td>
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<td>Other</td>
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<td>16</td>
<td>6</td>
<td>6</td>
<td>36</td>
<td>69%</td>
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<tr>
<td>Scabies</td>
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<td>5</td>
<td>4</td>
<td>2</td>
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<td>31%</td>
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<tr>
<td><strong>Total</strong></td>
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<td>13</td>
<td>21</td>
<td>10</td>
<td>8</td>
<td>52</td>
<td></td>
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<tr>
<td><strong>Total Outbreaks</strong></td>
<td></td>
<td>141</td>
<td>159</td>
<td>197</td>
<td>185</td>
<td>682</td>
<td></td>
</tr>
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</table>

*Pertussis was at epidemic levels in 2014, therefore individual outbreaks were not reported.*
Outbreak Management in NCEDSS

• In 2016, NC DPH will integrate North Carolina outbreak reporting directly within NC EDSS, rather than involving a separate process in Survey Monkey.

• Modifying NC EDSS to capture all outbreak report data, with entry open to both local and state users, will improve outbreak reporting accuracy and timeliness while providing a data entry platform consistent with individual disease reporting.
Enhanced Surveillance in NC – NC DETECT

Lana Deyneka
Systems Surveillance Unit
Epidemiology Section
North Carolina Department of Health and Human Services
NC DETECT Background

• Based on efforts dating back to 1999
• 2005: Mandatory reporting of civilian emergency department (ED) data
• 2008-Present: Statewide ED daily reporting*
• Core funding by NC DPH Communicable Disease Branch with CDC funds

* Denominator is in flux with EDs opening and closing as well as data quality issues
Emergency department data reporting

(a) For the purpose of ensuring the protection of the public health, the State Health Director shall develop a syndromic surveillance program for hospital emergency departments in order to detect and investigate public health threats that may result from (i) a terrorist incident using nuclear, biological, or chemical agents or (ii) an epidemic or infectious, communicable, or other disease.

The State Health Director shall maintain the confidentiality of the data reported pursuant to this section and shall ensure that adequate measures are taken to provide system security for all data and information. The State Health Director may share data with local health departments and the Centers for Disease Control and Prevention (CDC) for public health purposes. Local health departments are bound by the confidentiality provisions of this section. The Department shall enter into an agreement with the CDC to ensure that the CDC complies with the confidentiality provisions of this section. The State Health Director shall not allow information that it receives pursuant to this section to be used for commercial purposes and shall not release data except as authorized by other provisions of law.

*Effective 1/1/2005
*Law modified in 2007 to allow sharing of reported hospital ED data with CDC
Emergency department data reporting

For the purpose of ensuring the protection of the public health, the State Health Director shall develop a syndromic surveillance program for hospital emergency departments in order to detect and investigate public health threats that may result from

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*Effective 1/1/2005

*Law modified in 2007 to allow sharing of reported hospital ED data with CDC
NC DETECT Data Flow

EMS (PreMIS)  Statewide Daily

Emergency Department (ED)  Statewide  Twice daily

Carolinas Poison Center (CPC)  Statewide  Hourly

Regional Data  Urgent care  Daily

ILINet  (Aggregate ILI data)

NSSP/BioSense /CDC  (ED Data only)

NC DETECT  ETL, data repository, analytic components, Web portal
(Typical) Data Transmission Process

- Data Provider does NOT filter or categorize data prior to transmission to public health agency
NC DETECT ED Data Elements

- Patient and Visit IDs
- Hospital
- Date of Birth, Sex
- City, County, State, ZIP
- Arrival Date/Time
- Transport Mode to ED
- Insurance Coverage

- Chief Complaint
- Initial ED Temp & BP
- Triage Notes
- ED Disposition
- Diagnosis, Injury and Procedure Codes (ICD-9-CM, CPT)
NC DETECT Reporting Basics

• 24/7/365 Secure Web access
• Tables, graphs and maps
• Aggregate and line listing reports
• Customization options
• Updates twice a day for ED data (every hour for CPC data)
• Role-based access
NC DETECT Purpose: “All Hazards”

• Early Event Detection, Situational Awareness, Seasonal Trends, Annual Reports, etc.
  • Infectious Disease
  • Injuries
  • Post-disaster
  • Mass gatherings
  • Chronic Diseases
NC DETECT Reports Examples

Reports

Overview / At-a-glance Reports
1. General Dashboards with Line Listing Access
2. Charlotte Region Dashboards
3. Sandhills Region Dashboards / US Open Surveillance
4. ED Infectious Disease, PREMS and CPC Syndrome Overview
5. Disaster, Animal-related, Injury and Chronic Disease Overview

Line Listing Reports
1. ED Infectious Disease, PREMS and CPC Syndrome Line Listing
2. Line listings for Disaster, Animal-related, Injury and Chronic Disease Syndromes
3. Basic Line Listing Report
4. ED Custom Search Report
5. Line Listing for Bioterrorism Agent Syndromes and Emerging Threats
6. Custom Event Line Listing
7. ED ICD-9-CM Group Line Listing

PHI Access
1. Retrieve ED Medical Record Number

Metadata / Data Quality Reports
1. Counts Grouped by Day / Week / Month
2. Data Quality Issues

Statewide (aggregate) Reports
1. County-level Dashboards
2. Influenza Like Illness Weekly Counts and Percentages - Download to Excel
3. Influenza Like Illness Weekly Graphs
4. County-level Custom Event Aggregate Report
5. Weekly ED Infectious Disease Syndrome Graphs
6. Statewide Infectious Disease Syndrome Maps
7. Multi Data Source Signal Summary Report
8. County-level ED Infectious Disease, PREMS and CPC Syndrome Overview Report
9. County-level ED Infectious Disease, PREMS and CPC Syndrome Aggregate Report
10. County-level Aggregate Report for Disaster, Animal-related, Injury and Chronic Disease Syndromes
11. Statewide Counts Grouped By Day / Week / Month
12. NC DETECT Annual Reports - Excel

Annotation Reports
1. Add Comments to Signals and Events
2. Create a New Event
3. View All Signals and Events
4. Weekly Infectious Disease Syndromic Report with Annotation
5. Syndromic Feedback Report (beta)

PHE Surveillance Reporting
1. PHE Data Entry By Week Report (Acute Resp Admits, Flu Resp)
2. PHE Data Entry By Date Report (CD, Education Outreach, Outbreak)
3. PHE Data Entry - Data Upload Using Excel (CD only)
4. Weekly Summary of PHE Surveillance
5. Monthly Summary of PHE Surveillance

Data Request Reports
1. Data Request Tracking

Administrative Reports
1. County-level annotation, user and data requests - Download to Word
### NC DETECT Annotation Report

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<tr>
<th>Entity Type</th>
<th>Location</th>
<th>Status</th>
<th>Details</th>
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<tbody>
<tr>
<td>Viral Encephalitis</td>
<td>Onslow</td>
<td>Monitoring</td>
<td>2015-02-03 13:58:00.0, Lana Dayniska - Monitoring.</td>
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<th>Status</th>
<th>Details</th>
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<td>Food Safety Threats</td>
<td>WFBMC</td>
<td>Monitoring</td>
<td>2015-03-15 10:54:00.0, Zachary Falgen - Monitoring. Child possibly exposed to shigella at a daycare. Health department notified the patient's parents about the possible exposure. 2016-03-17 09:51:00.0, Zachary Falgen - Monitoring. Related to known outbreak.</td>
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<th>Entity Type</th>
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<td>WFBMC</td>
<td>Active Investigation</td>
<td>2015-03-23 09:26:00.0, Zachary Falgen - Active Investigation. Shigella exposure. Related to known outbreak in a daycare center in Forsyth County.</td>
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<th>Entity Type</th>
<th>Location</th>
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<td>Viral Encephalitis</td>
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<td>2016-05-04 09:11:00.0, Zachary Falgen - Active Investigation. X-year old patient with a cc re: encephalitis. Admitted to hospital. 2015-06-04 10:19:00.0, Robert Willis - Investigation Completed. Pt is a X.y.o. male with a history of limbic encephalitis.</td>
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<td>Botulism-like Infants</td>
<td>WakeMed Raleigh</td>
<td>Investigation Completed</td>
<td>2016-05-11 14:58:00.0, Zachary Falgen - Investigation Completed. Contacted hospital. No mirc or other lab done. Symptoms consistent with viral infection. Fever resolved and patient &quot;perked up&quot; and was discharged on May 9.</td>
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<th>Entity Type</th>
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</table>

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<thead>
<tr>
<th>Entity Type</th>
<th>Location</th>
<th>Status</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Safety Threats</td>
<td>WFBMC</td>
<td>Investigation Completed</td>
<td>2016-05-14 08:40:00.0, Zachary Falgen - Active Investigation. 2016-05-14 08:41:00.0, Zachary Falgen - Active Investigation. Child with a diagnosis code of &quot;salmonella unspecified&quot; and a chief complaint of &quot;dehydration.&quot; Patient was discharged. 2016-05-14 10:20:00.0, Tammy Bischkef - Active Investigation. This patient had salmonella identified by GI Pathogen Panel (ICR). Stokes County HU was notified and provided with the corresponding clinical info 5/13/15. 2016-05-14 10:04:00.0, Zachary Falgen - Investigation Completed.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Entity Type</th>
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<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Safety Threats</td>
<td>WFBMC</td>
<td>Investigation Completed</td>
<td>2016-05-19 10:35:00.0, Tammy Bischkef - Investigation Completed. The patient's mother reported that she and a sibling to the patient had been sick with diarrhea and were positive for E. coli. After some investigation, found that the mother actually tested positive for C. diff. Spoke with the LHD to confirm they had received any reports of shiga toxin producing E. coli.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Entity Type</th>
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<th>Status</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral Encephalitis</td>
<td>WFBMC</td>
<td>Investigation Completed</td>
<td>2016-06-03 10:07:00.0, Zachary Falgen - Active Investigation. Patient reported eating tainted food and vomiting blood. 2016-06-03 16:38:00.0, Zachary Falgen - Investigation Completed. Husband had the same symptoms. But no other testing or lab work done. Patient educated about food safety. Discharged and told to return if symptoms did not get better.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>Location</th>
<th>Status</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Safety Threats</td>
<td>WFBMC</td>
<td>Monitoring</td>
<td>2016-06-03 10:07:00.0, Zachary Falgen - Active Investigation. XX pregnant patient admitted to hospital with diagnosis code of salmonella gastroenteritis. 2016-06-03 16:49:00.0, Zachary Falgen - Monitoring. 2 days of diarrhea. GI panel performed, tested positive for salmonella. Blood culture performed, no growth so far. IO note states source likely food from restaurant in mountains in VA. All there on 5/30 and got diarrhea several hours later. Cousin ate same food and has similar symptoms. Reported to the LHD.</td>
</tr>
</tbody>
</table>
Improving Syndromic Surveillance for Non-power Users: NC DETECT Dashboards
Sample Report

Click on any point to access line listing
# CARBON MONOXIDE POISONINGS

## 2015

### Emergency Department (ED) Visits

218 ED visits related to unintentional, non-fire related carbon monoxide (CO) poisoning were identified in North Carolina in 2015.

<table>
<thead>
<tr>
<th>Sex</th>
<th>N (%)</th>
<th>Disposition</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>108 (49)</td>
<td>Admitted</td>
<td>29 (13)</td>
</tr>
<tr>
<td>Male</td>
<td>112 (51)</td>
<td>Died</td>
<td>1 (&lt;1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discharged</td>
<td>157 (72)</td>
</tr>
<tr>
<td>Age Group (Yrs.)</td>
<td></td>
<td>Left without advice</td>
<td>6 (3)</td>
</tr>
<tr>
<td>0–17</td>
<td>29 (13)</td>
<td>Observation</td>
<td>5 (3)</td>
</tr>
<tr>
<td>18–34</td>
<td>70 (32)</td>
<td>Transferred</td>
<td>8 (4)</td>
</tr>
<tr>
<td>35–64</td>
<td>93 (42)</td>
<td>Other / Unknown</td>
<td>12 (5)</td>
</tr>
<tr>
<td>65+</td>
<td>20 (12)</td>
<td>Insurance</td>
<td></td>
</tr>
<tr>
<td>Exposure Site</td>
<td></td>
<td>Medicaid</td>
<td>45 (21)</td>
</tr>
<tr>
<td>Home</td>
<td>29 (13)</td>
<td>Medicare</td>
<td>34 (16)</td>
</tr>
<tr>
<td>Public Building</td>
<td>2 (1)</td>
<td>Private</td>
<td>42 (19)</td>
</tr>
<tr>
<td>School</td>
<td>0 (0)</td>
<td>Self-Pay</td>
<td>32 (15)</td>
</tr>
<tr>
<td>Vehicle</td>
<td>5 (3)</td>
<td>Worker’s Compensation</td>
<td>30 (14)</td>
</tr>
<tr>
<td>Workplace</td>
<td>32 (15)</td>
<td>Other / Unknown</td>
<td>35 (16)</td>
</tr>
<tr>
<td>Unspecified</td>
<td>150 (69)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percentages may not add to 100 due to rounding.

### Carolinas Poison Center (CPC) Calls

CPC received 219 calls\(^1,2\) related to unintentional CO exposure in North Carolina, 18 calls requesting CO information, and 20 calls related to CO alarm use.

- A total of 306 exposed people were mentioned:
  - 197 (47%) Female
  - 155 (52%) Male
  - 14 (<1%) Unknown
- Site of exposure:
  - 7 (1%) Public area
  - 289 (78%) Residence
  - 1 (<1%) School
  - 56 (18%) Workplace
  - 13 (5%) Other / Unknown

\(^1\) We do not have ability to determine the extent of overlap between CPC calls and ED visits. Therefore, they are analyzed separately.

\(^2\) We do not have ability to determine if CPC calls were related to fires.

---

**Summary of ED Visits**

- A decline of ED visits for CO poisoning was observed in 2015 compared to 2014 (342), 2013 (266), and 2012 (255).
- February 2015 had the highest number of ED visits, potentially due to a high occurrence of ice and snow storms.
- Occupational CO exposures accounted for 15% of ED visits—these were equally distributed among males and females, 10% stayed overnight for observation, and 10% used self-pay as a method of payment instead of workers’ compensation.

---

**Figure 1.** ED visits related to unintentional, non-fire related CO poisoning by month and year, North Carolina, 2013–2015

---

**Figure 2.** 2015 North Carolina ED Visits by County

---


[2015 CO Report](http://epi.publichealth.nc.gov/oee/a_e/co.html)
Heat Illness in NC

Statewide Heat-Related Emergency Department Visits and Maximum Heat Index

Counts

Daily Max Heat Index (RDU)

**Weekend

Source: NC DETECT Data and State Climate Office at NC State University for Raleigh-Durham International Airport (RDU)
Animal-Related ED Visits by Week

- Animal Bite (ICD-9-CM)
- Rabies PEP and/or Animal Exposure with Tetanus (ICD-9-CM)
Soccer-related Head Injuries

ED: Count of Soccer-related Head Injuries (ICD-9-CM) Grouped by Week

Total Count: 174
Date Range: 12/29/2013 - 05/31/2014
Hospital: All NC DETECT Hospitals
Source: NC DETECT; Generated: 07/07/2014
**Epidemiology and Surveillance Situation Report: US Open 2014**

**Date:** 6/20/14  
**Time:** 1400

---

**X Regional Hospital**  
**Emergency Department Census**

- Syndromic surveillance summary report
  - ED census AT baseline.
  - Syndrome summaries for
    - Infectious disease AT baseline.
    - Injuries AT baseline.
    - Poison center calls AT baseline.

---

**Infectious Disease and Environmental Health Investigations and Outbreaks**

- No environmental hazards identified
- General communicable disease surveillance AT baseline.
- Urgent communicable disease cases: none
- Outbreak reports/investigations: none

---

**Heat Related Illness Surveillance**

- HEAT ADVISORY – Heat Index Max = 99°F
- Heat Related Illness is ELEVATED
  - HRI visits continue at Medical Tents and EMS Carts on 6/19
  - No increase in HRI at Hospitals
- Additional messaging needed:
  - Moore County EM responded: Additional Cooling/Water stations implemented onsite; need to ensure they remain filled.
Disaster & Other Surveillance Overview Report

Notes:
- The ICD-9-CM-based syndromes in the disaster reports (those with ICD-9-CM in the name) use diagnosis codes (most often extracted from hospital billing systems). These are better suited for retrospective, near-real-time surveillance, as some hospitals may take up to three months to send final diagnosis codes.
- Searching by ALL counties or ALL PHRST regions excludes records with NULL and non-NC counties in ED data, search by ALL hospitals.
- View Case Definitions.

Data Source: ED


Location Type:
- Region
- County
- Hospital

View Syndrome by:
- Disaster Module: Hurricanes/Severe Floods
- Disease/Syndrome Category: Acute Illness

Syndrome:
- All
  - Affective Symptoms
  - Bite/Sting
  - Burn/Fire
  - Carbon Monoxide Poison (ICD-9-CM)
  - Carbon Monoxide Poison (keyword)
  - Chronic Cardio
  - Chronic Resp
  - Dehydration
  - Drowning (ICD-9-CM)
  - Drowning (keyword)
  - Drug/ETOH
  - Electrocution
  - Food Safety Threats
  - GI Severe
  - Jaundice
  - Med Refill (ICD-9-CM)
  - Med Refill (keyword)
  - MenEnc
  - Motor Vehicle Collision
  - Respiratory
  - Suicidal Thoughts
  - Trauma
  - Water Safety Threats

Stratified by:
- Location then Syndrome
- Syndrome then Location

Stratified by Age: Display Rows With Signals Only

Search
### Tornado Hospital Emergency Department Surveillance Report

**4/19/2011**

#### REASON FOR VISIT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury/Trauma (major, minor)</td>
<td>78</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>Major (e.g. broken bones, blunt force injuries, head trauma)</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Minor (e.g. scratches, debris in eyes, minor cuts/bruises)</td>
<td>70</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Chronic Disease Exacerbations (e.g. Asthma, Cardiovascular Disease)</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Psychiatric/mental health</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Prescription refill/medication</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Other (if visit does not fit category above, please explain in comments section)</td>
<td>22</td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>

*Total* 110

#### DISCHARGE/ADMITS

<table>
<thead>
<tr>
<th></th>
<th>4/16/2011</th>
<th>04/17/11</th>
<th>04/18/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharged</td>
<td>78</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>Admitted</td>
<td>11</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

*Total* 110

*Due to lag times associated with data transmissions these numbers should be treated as preliminary counts.

*ED data are based on a keyword search of Tornado OR storm in hospital emergency department (ED) visit chief complaints or triage notes (when available). Therefore, these data may not include all visits related to the tornado.*
Monitoring Asthma Severity (EV-D68)

Asthma ED Visits by Children 0–14 years — NC, 2013 & 2014

Source: Zack Moore
Stroke: Keyword (Custom Search)

ED Custom Search: Count Grouped by Week

Total Count: 57774
Date Range: 01/01/2012 - 05/09/2015
County: All NC Counties
Chief Complaints: (stroke [C0038454])
Source: NC DETECT; Generated: 05/11/2015
Who Monitors Anomalies?

• Communicable Disease Branch - daily

• Hospital Public Health Epis - daily
• 7 total
• Stationed in major hospital systems
• Using NC DETECT is part of their job description

• NC DPH Branches (Injury, OEEB), LHD, PHPR - as needed
NC DETECT Fact Sheets
https://ncdetect.org/data-reports/fact-sheets

- Animal Bites
- Assault
- Fireworks
- Medication/Drug Overdose
- MV Traffic Crashes
- Motorcycle Crashes
- Pedestrian Injury
- Poisoning
- What are E-codes and why are they important?

- Recreational Water-Related Injury
- School-aged Children ED Visits
- Self Harm
- Snake and Lizard Bites
- Traffic-Related Motorcycle Crashes
- Trampoline-Related Injury
- Traumatic Brain Injury