

Use of Syndromic Surveillance for Outbreak Detection and Management, North Carolina 2008-9

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Background

- NC DETECT
 - Statewide syndromic surveillance in North Carolina: ED, Poison Control, Pre-hospital
 - Users
- Evaluation
 - Conceiving of syndromic surveillance as part of public health surveillance system.
 - Effectiveness: % using data for outbreak management and policy and program development

Objectives

- How and by whom are syndromic surveillance data being used for outbreak detection and management?
- What are facilitators and barriers?
- What changes can be made to increase the effectiveness of the public health surveillance system?

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Methods: User Survey

- State, regional, local
- Familiarity, training, use
- Outbreak detection and management
- Likes and dislikes
- Recommendations

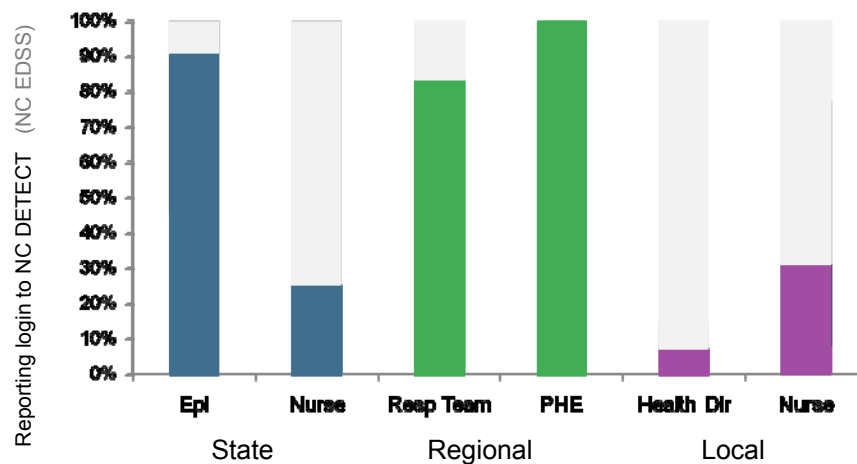
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Results: Population

- June-September 2009
- 62 interviewees identified
 - State: Epi (CD, STD, TB, Immunization, Chronic), public health nurse (CD, TB, Immunization), preparedness staff
 - Regional: Hospital-based public health epis, LHD-based regional response teams,
 - Local: CD Nurses or Nursing Directors and Local Health Directors from 15/86 LHDs
- Response rate: 92% (57/62)
 - State n=18
 - Regional n=11
 - Local n=26 (14 LHDs)
 - Data presented from 55/57 interviews

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Results: Staff using syndromic and reportable disease surveillance systems n=55 interviewees



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Results: Staff access to NC DETECT data n=55 interviewees

- Direct vs. indirect access
- Staff reporting
 - No NC DETECT access: 21%
 - Direct access: 13%
 - Indirect access: 29%
 - Direct and Indirect access: 37%

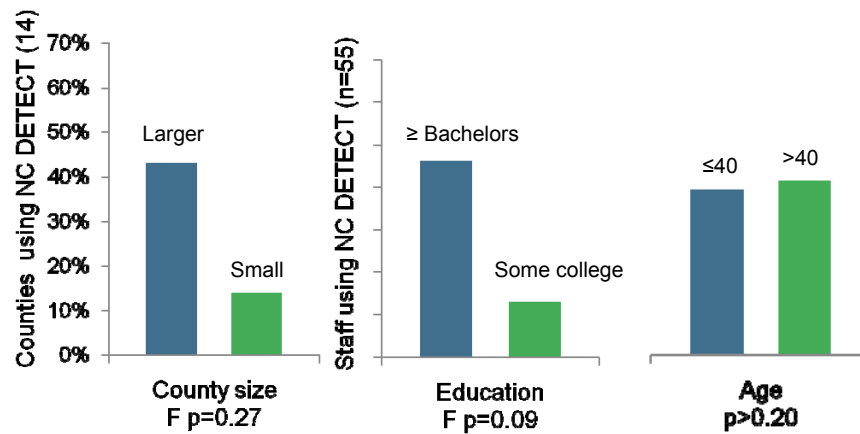
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Results: Use of NC DETECT data for outbreak n=41 outbreaks

- Outbreaks: Norovirus, salmonellosis, pertussis, syphilis, TB, shigella, *E. coli*, rabies, hepatitis A and C, ciguatera poisoning, chemical exposure
- Reporting use of NC DETECT for outbreak: 39% (16/41)
 - Used to detect outbreak: 7% (3)
 - Used for outbreaks of: pertussis, *E. coli*, hepatitis A, salmonellosis, norovirus, chemical exposure
 - ED and hospital data

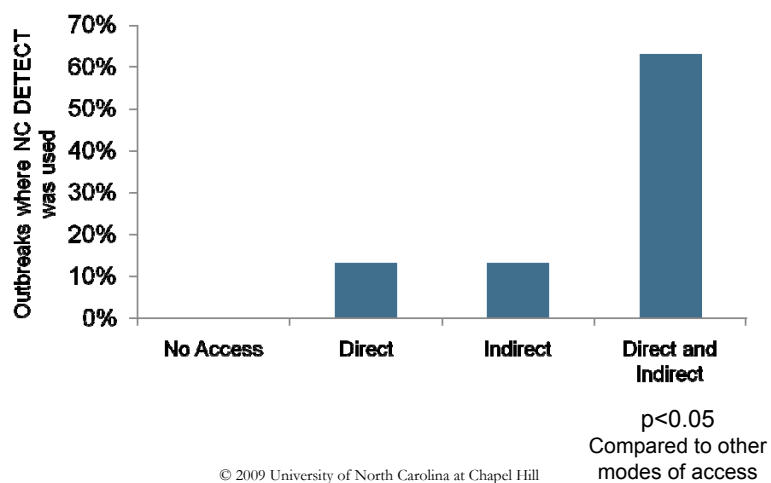
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Results: Factors associated with NC DETECT use for outbreak detection and management



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Results: Source of NC DETECT data is associated with use of NC DETECT for outbreak



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Results: Using NC DETECT data for H1N1 flu response

- Reporting use of NC DETECT for H1N1 outbreak: 67% (37/55)
- Uses of NC DETECT:
 - Initial use of NC DETECT for severity assessment
 - Use of NC DETECT data in weekly reports
 - CDC reporting

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Results: Barriers and Improvements

- Barriers
 - Lack of training, time
- Improvements
 - User-based boolean search capacity
 - Additional training, incl LHD
 - Ongoing communication on NC DETECT topics
 - New data sources incl ambulatory care, schools
 - Connection to reportable disease reporting system

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Limitations

- Small sample size
- Case study format
- Generalizability to other settings

Conclusions and Recommendations

- NC DETECT is used, but use is limited
- Training
- Regional point-person
 - automated report production
- Connection to reportable disease system
- Increases in information
 - Information in system
 - Information added to system

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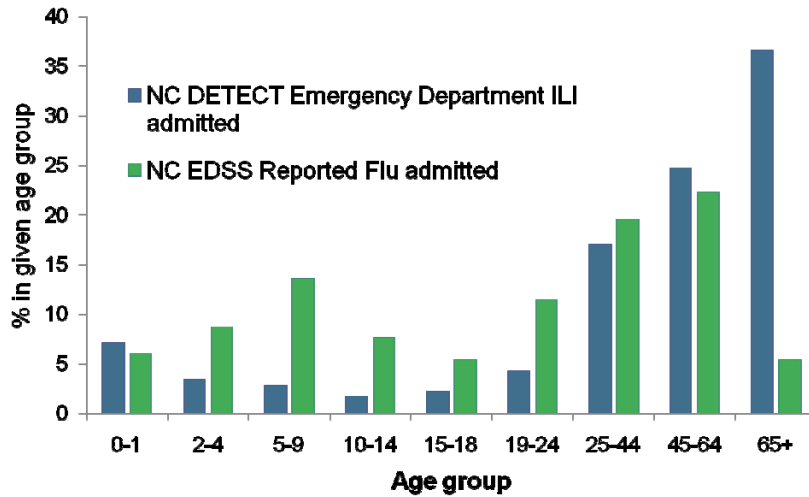
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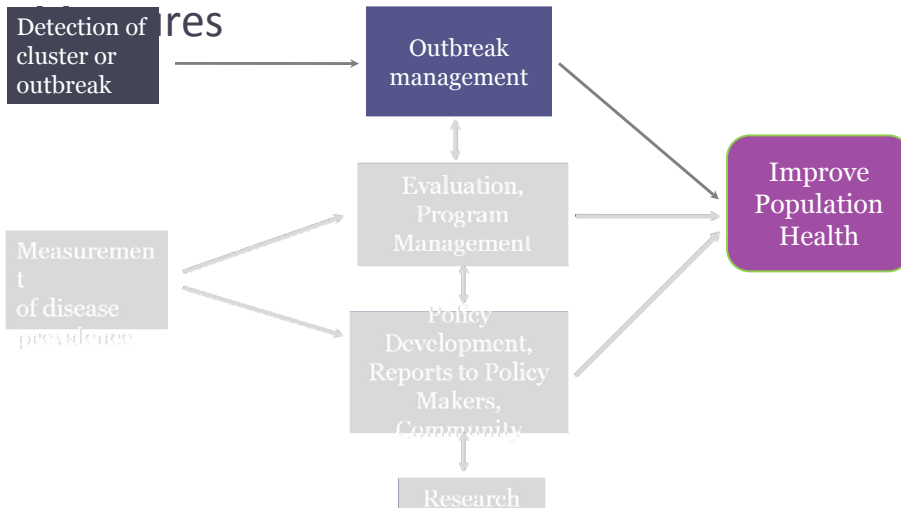
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Results: North Carolina Influenza Surveillance Admitted cases, MMWR weeks 22-31, 2009



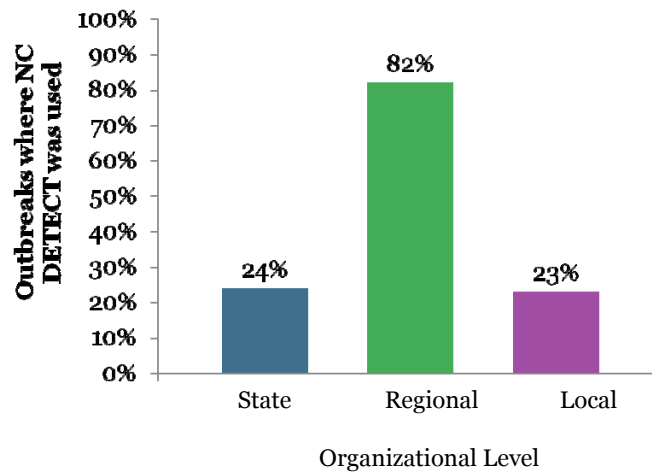
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Methods: Logic Model and Outcome



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Results: NC DETECT data for outbreak by organizational level (n=40 outbreaks)



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Results: Barriers

- Inappropriate disease
- Not knowing how to use the system
- No access to system
- Uses for chronic disease not clear
- Uses for local health departments not clear
- Lack of person-time

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Results: System data

Timeliness

- Visits available in NC DETECT
 - within 24 hours: 70%
 - Within 1 week: 95%
 - Median hours between visit and data availability: 17
 - Mean: 22
- Users
 - Syndromic surveillance staff
 - 34/86 LHDs
 - Regional response teams, hospitals, state health dept.

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Results: What they liked

- Ease of use: website organization and responsive technical support
- Access to population level ED data + hospital data where available
- Categorization by syndromes
- Data manipulation capacity – sorting, reports

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Results: Who is using both syndromic and reportable disease systems?

