

2010 Communicable Disease Conference

Friday Center, University of North Carolina at Chapel Hill

Healthcare-Associated Infection Session Notes

Constance D. Jones RN, CIC - Levi Njord MSc

23 July 2010

Background: Healthcare-associated infections (HAIs) are a unique public health problem. They are unique from other public health problems in the following ways. First, HAIs arise from a very easily defined environment which is more easily controlled than a standard community. Second, evidence-based best practices exist for prevention of the more common HAIs. Third, there is a high morbidity and mortality associated with HAIs. Fourth, HAIs exert a large financial burden on the US healthcare system which translates to higher cost healthcare for patients. It is because of these reasons that the Centers for Disease Control and Prevention (CDC) has listed HAIs as one of the 5 winnable battles in public health and has provided monetary support and expertise to help states address HAI problems within their respective jurisdictions. The following are brief synopses of topics associated with HAIs in the United States.

Impact: HAIs have a large financial and health impact on the United States healthcare system. Each HAI cost patients, healthcare providers and public / private insurance tens of thousands of dollars for treatment, extra time spent in a facility, legal fees, etc. The cost of an individual HAI can be low in the case of mild food-borne illness or can be in the tens of thousands of dollars for a bloodstream infection. Mortality too is affected by HAI. Each year thousands of preventable deaths occur in healthcare facilities due to HAI.

Pathogens and prevention: The diversity of pathogens present in healthcare facilities nationwide is as diverse as the patient populations that populate such facilities. The National Healthcare Safety Network (NHSN) gathers information on the causal agents when available and lists their respective frequencies. In a recent report the top 10 pathogens associated with HAIs in alphabetical order were: *Acinetobacter baumannii*, *Candida* species, Coagulase-negative Staphylococci, *Enterobacter* species, *Enterococcus* species, *Escherichia coli*, *Klebsiella pneumoniae*, *Klebsiella oxytoca*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus*. Other common HAIs are *Clostridium difficile* and Norovirus which are more commonly associated with localized outbreaks. HAIs are considered to be some of the more preventable communicable diseases in public health and evidence-based prevention measures exist for the majority of infections. Although a comprehensive list of every recognized preventative measure would be impractical in this summary, the salient measures surround hand hygiene, disinfection and sterilization. More comprehensive guidelines may be found in the American Journal of Infection Control.

Epidemiology: HAIs can occur in any healthcare facility and not simply found in hospitals alone. Currently more emphasis is being placed on surveying and responding to HAIs in ambulatory care centers, long term care facilities and home health units. HAIs are spread through a variety of methods but around 78% of them are transmitted through the use of a medical device (i.e. Central-venous catheter, urinary catheter, ventilator or surgical device).

NC Statewide Program to Reduce HAI: For the past several years a nationwide movement has been building to more strongly address the issue of HAI and healthcare quality. In the state of North Carolina, state government grew interested in responding to HAI during the 2008 legislative session and convened a joint study committee to make a recommendation to the legislature regarding HAI. The following year in January 2009 the joint study committee recommended to the legislature that they implement a mandatory, state operated, statewide hospital acquired infection surveillance and reporting system to be housed within the Department of Health and Human Services, Division of Public Health. Legislation was drafted and House Bill 296 and Senate Bill 300 were introduced and receive strong political support. Unfortunately, due to the recent recession and budget constraints, the bills were put on hold until the state financial climate improved. In 2009, the CDC announced that American Recovery and Reinvestment Act “Stimulus” money would be made available to improve state infrastructure to address HAI. The state legislature drafted a special provision to allow the Division of Public Health to apply for stimulus money to establish state-level infrastructure to accomplish the recommendation of the joint study committee. After applying, the Division of Public Health was awarded a grant to establish the HAI program within the Division of Public Health. With the introduction of funding the Division of Public Health led the establishment of the statewide HAI advisory committee which guides the development of the state plan. The advisory committee has since determined that the state HAI advisory committee will focus on two HAI targets, catheter-associated urinary tract infections and central line-associated bloodstream infections. The plan can be accessed at <http://www.cdc.gov/HAI/pdfs/stateplans/nc.pdf> in a diagrammatic fashion.

For further inquiry or for reproductions of the original presentation please contact:

Constance (Connie) D. Jones, RN, CIC
Healthcare-Associated Infections Coordinator
North Carolina Division of Public Health
Constance.d.jones@dhhs.nc.gov
(919)410-2201

Levi Njord, MSc
Healthcare-Associated Infections Epidemiologist
North Carolina Division of Public Health
Levi.njord@dhhs.nc.gov
(919)410-2196

Presentation slides

* This slide set is an abridged version of the conference presentation, for a complete copy of the presentation please contact the NC-DPH Healthcare-Associated Infections Program

HAI MANIA

Correct answer = Large Candy for YOU

Incorrect answer = Small Candy for EVERYONE ELSE

Rules

1. The first person with their hand up "after the question has been read" gets to answer
2. The host decides who was first after consultation with co-host

COST

MORBIDITY

MORTALITY

TRANSMISSION

LEGAL

PATHOGENS

INCIDENCE

PREVENTION

SITES

WHY IS THE STATE GETTING INVOLVED IN HAI ACTIVITIES?

1. National movement under way to reduce HAI in acute care hospitals, long-term care facilities and ambulatory health centers
2. CMS will no longer pay for many HAIs
3. Increased CDC involvement and funding for HAI activities
4. Political interest from NC state legislature
5. Consumer driven interest

THE NORTH CAROLINA PLAN FOR HEALTHCARE-ASSOCIATED INFECTIONS



April 2008 - NC General Assembly convenes the Joint Study Committee on Hospital Infection Control and Disclosure.



Senator William Purcell



Representative Martha Alexander

January 2009 - Legislative Study Committee made the following recommendation to NC General Assembly:

“Implement a mandatory, State-operated, Statewide hospital acquired infection surveillance and reporting system... operating within the DHHS, Division of Public Health”

LEGISLATION

NC House Bill 296/Senate Bill 300 were introduced with strong support but the state’s fiscal reality meant funding was not available in this 2009 session.

THE FEDERAL ALTERNATIVE

NC Legislators drafted a Special Provision when the availability of ARRA “stimulus” funds were announced for HAI activities.

THE SPECIAL PROVISION

NC DHHS to apply for federal funds *“to implement a mandatory, statewide hospital-acquired infections surveillance and reporting system as recommended by the Joint Study Committee on Hospital Infection Control and Disclosure.”*

“Purpose of Project”

...create new state level competencies and tools that will persist after the Recovery Act and leave behind a sustainable infrastructure for reporting on long-term progress toward meeting the US HHS HAI prevention targets...

June 2009 NC HAI Project Narrative

Current Project Activities

September 2009 – December 2011

HAI PROJECT’S THREE EMPHASES



NC HAI ADVISORY GROUP

Chaired by Dr. Megan Davies, State Epidemiologist
Advisory Group Members

NC Legislature (Senate and House)
NC Division of Public Health
NC Center for Hospital Quality and Patient Safety
SPICE
APIC-NC
DICON
SHEA
NC Assoc. of Local Health Directors
Carolinas Center for Medical Excellence
NC Division of Health Service Regulation
Consumer Advocates
Indian Health Services
Federally Funded Health Care
Blue Cross Blue Shield of North Carolina
NC Medical Society
Perinatal Quality Collaborative of NC
Healthcare Economist
NC Laboratory Response Forum

AD HOC COMMITTEES OF THE STATE HAI ADVISORY GROUP

Laboratory Surveillance
Economic Impact of HAI
Reporting of Surveillance Data
Outbreak Reporting

HAI PROJECT TARGETS



ACTIONS IN PROGRESS

- A.State HAI Plan**
- B.Prevention Collaboratives**
- C.Adoption of National Healthcare Safety Network (NHSN) as the platform for HAI reporting**
- D.Surveillance Data Validation**

FUTURE PROJECTIONS

- A.Complete review/revision of the State Plan**
- B.Recommend change to NC Communicable Disease Reporting Rule to include reporting of HAI Outbreaks to LHD and CLABSI in intensive care units through NHSN**
- C.Enroll all NC hospitals in NHSN**