

# Infection Prevention, Outbreaks, and the Role of Public Health

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Public Health: Legal Framework

# Public Health Laws and Rules:

- General Statutes
- NC Administrative Code rules

## Health Director's Authority (State & Local)

- Surveillance
- Investigation
- Control Measures



# Public Health Law

#### General Statutes §130A-144: Investigation and Control Measures

(a) The **local health director shall investigate**... cases of communicable diseases and communicable conditions reported to the local health director

(b) Physicians, persons in charge of medical facilities or laboratories, and other persons shall... permit a local health director or the State Health Director to examine, review, and obtain a copy of medical or other records...

(d) The **attending physician shall give control measures**... to a patient with a communicable disease or communicable condition and to patients reasonably suspected of being infected or exposed to such a disease or condition.

(e) The local health director shall ensure that control measures... have been given to prevent the spread of all reportable communicable diseases or communicable conditions and any other communicable disease or communicable condition that represents a significant threat to the public health.

(f) All **persons shall comply with control measures**, including submission to examinations and tests...



10/ co	A NCAC 41A .0103: Duties of local health director: report mmunicable diseases
(a) <b>loc</b>	Upon receipt of a report of a communicable disease or condition… the <b>cal health director</b> shall:
	(1) immediately investigate the circumstances [to] include the collection and submission for laboratory examination of specimens necessary to assist in the diagnosis and indicate the duration of control measures;
	(2) determine what control measures have been given and ensure that proper control measures have been given and are being complied with;
(c) rec <b>pu</b> me	Whenever an <b>outbreak of a disease or condition</b> occurs which is not quired to be reported but <b>which represents a significant threat to the blic health</b> , the local health director shall give appropriate control easures and <b>inform the Division of Public Health</b>

# Public Health Law

#### **10A NCAC 41A .0101**: Reportable diseases and conditions

#### 80+ reportable diseases and conditions

- Timeline of reporting varies between immediately and within 7 days
- Laboratory reporting requirements



## Public Health Law

#### • 10A NCAC 41A .0106

• Infection Prevention – Reporting of Healthcare Associated Infections

#### • 10A NCAC 41A .0201

General Control Measures

#### • 10A NCAC 41A .0206

• Infection Prevention – Health Care Settings; 1992

#### • 10A NCAC 41A .0202 - .0205

• Control Measures for HIV, Hepatitis B, STDs, TB





NC Division of Public Health



Mission



North Carolina Public Health works to promote and contribute to the highest possible level of health for the people of North Carolina.



# NC SHARPPS Program

SHARPPS= Surveillance for Healthcare-Associated Infections and Resistant Pathogens Patient Safety

#### **Mission**

To work in partnerships to prevent, detect, and respond to events and outbreaks of healthcare-associated and antimicrobial resistant infections in North Carolina.









# What Happens After Public Health Is Called?

- Data review
- Clinical investigation
- Environmental investigation
- Control measures
- CommunicationResident/staff/family/public
- Laboratory Support









# Examples of Responses

- Multidrug Resistant Acinetobacter (CRAB) in a nursing home
- Acute Hepatitis B among shared glucometer patients
- Potential C. auris transmission in dialysis facility
- Post-op endocarditis among patients receiving same surgical device
- · Legionellosis associated with healthcare facilities
- National responses:
  - Non-tuberculosis mycobacterium (NTM) and heater-cooler units
  - Resistant Pseudomonas and artificial tears
  - Botulism-like illness following cosmetic surgery













North	Carolina H Non-Hosp	epatitis Ou pital Setting	is Outbreaks, ettings	
Setting	Year	Туре	No. Incident Infections	
Cardiology	2008	HCV	5	
ALF	2010	HBV	8	
SNF	2010	HBV	6	
SNF	2010	HBV	6	
Dialysis	2013	HBV	1	
Total			26	

• Also, a more recent SNF HBV outbreak















https://epi.dph.ncdhhs.gov/cd/diseases/hai.html

## Significance of MDROs

- Affects vulnerable patient populations
- Are easily transmitted in and between healthcare / congregate care settings
- Difficult to treat
  - Require more toxic antimicrobials to treat
- Improper treatment
  - Some organisms may produce another enzyme that makes it easier to transmit resistance
- Cause increase in:
  - Mortality
  - Healthcare costs
  - · Length of stays
- Estimates of economic costs vary, up to 20 BILLION dollars in direct healthcare costs



## Significance of Carbapenemase-producing Organisms (CPO)

- Carbapenemase-producing organisms
  - Mobile genetic elements, such as plasmids
  - Highly resistant
- Urgent public health threat
- Over 9,000 healthcare-associated infections each year
- Up to 50% mortality







# MDRO Colonization

- Colonization means that a person is carrying a MDRO but does not have symptoms of an infection.
- Colonized people play a large role in the spread of MDROs to other people in healthcare settings (require infection control action).



# Targeted MDRO Specific Infection PreventionMeasuresTB0

- Laboratory Notification
- Private room
  - Indefinite contact precautions for colonized and infected patients.
  - Enhanced barrier precautions in long-term care
    - For *C.auris*, with approval by DPH.
  - If necessary, cohort infected residents.
- Adherence to hand hygiene and transmission-based precautions.
- Clean with List P disinfectant for C. auris.
- Conduct screening.
- Educate staff about organism and reasons for precautions.
  - Including non-clinical staff like EVS
- Review infection prevention policies and procedures.
- Communicate diagnosis with other facilities on transfer or discharge.
- Antimicrobial Stewardship



#### Slide 35

#### **TB0** See comment on Major Findings slide Breeyear, Taylor L, 2024-09-17T19:35:24.716



#### Slide 36

**TB0** See comment on Major Findings slide. Talk more about screening collaboration with DPH Breeyear, Taylor L, 2024-09-17T19:35:51.669

### Communication between Healthcare Facilities

- Useful
  - Patient status/needs
  - Care plan
- Beneficial
  - Protects patients/residents
  - Controls healthcare costs
  - Prevents spread of MDROs
- Required by CMS
  - Reform of Requirements for Long-Term Care Facilities
  - Revisions to Requirements for Discharge Planning for Hospitals, Critical Access Hospitals, and Home Health Agencies











10/22/2024

# #1: (Un)Safe Injection Practices









Cases identified	8	
Mean age	70.6 years	
Hospitalized	8 (100%)	
Died	6 (75%)	

	Attack rate (%)		
Exposure	Exposed	Not exposed	
Assisted BGM	8/15 (53)	0/25 (0)	
Injected medication	4/16 (25)	4/22 (18)	
Phlebotomy	4/25 (16)	4/15 (27)	
Blood transfusion	0/1 (0)	8/38 (21)	
Catheter device	0/3 (0)	8/37 (22)	
Wound care	1/8 (13)	6/28 (21) 👞	

# Infection Control Observations

- Glucose meters
  - Used for more than one resident
  - Not disinfected between uses
- Adjustable lancing devices
  - Used for more than one resident







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	CMS Required Reporting
Center for C	linical Standards and Quality/Survey & Certification Group
	Ref: S&C: 14-36-A
DATE:	May 30, 2014
10:	State Survey Agency Directors
FROM:	Director Survey and Certification Group
SUBJECT:	Infection Control Breaches Which Warrant Referral to Public Health Authorities
	Memorandum Summary
• Infection Survey A generally them to a	<i>Control Breaches Warranting Referral to Public Health Authorities:</i> If State gencies (SAs) or Accrediting Organizations (AOs) identify any of the breaches of accepted infection control standards listed in this memorandum, they should refer ppropriate State authorities for public health assessment and management.
Identifice Associate preferred with Stat identifiee http://www.sociate http://wwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwww	ntion of Public Health Contact: SAs should consult with their State's Healthcare ed Infections (HAI) Prevention Coordinator or State Epidemiologist on the referral process. Since AOs operate in multiple States, they do not have to confer e public health officials to set up referral processes, but are expected to refer breaches to the appropriate State public health contact identified at: w.cdc.gov/HAI/state-based/index.html

## Surveyors must report to State

#### **Breaches to Be Referred**

When one or more of the following infection control breaches is identified during any survey of a Medicare- and/or Medicaid-certified provider/supplier, the SA or AO should make the appropriate State public health authority aware of the deficient practice:

- · Using the same needle for more than one individual;
- Using the same (pre-filled/manufactured/insulin or any other) syringe, pen or injection device for more than one individual;
- Re-using a needle or syringe which has already been used to administer medication to an individual to subsequently enter a medication container (e.g., vial, bag), and then using contents from that medication container for another individual;
- Using the same lancing/fingerstick device for more than one individual, even if the lancet is changed.





#### More Outbreaks! Group A Streptococcus

#### LTC residents at higher risk of invasive disease

• Older age and comorbidities, breaks in skin, indwelling devices

#### Wound care

Careful attention to IP practices essential to prevent transmission

#### Response to LTC invasive GAS (iGAS) case

- LHD and public health will provide guidance on response steps
  - · Identify additional symptomatic cases
  - · Identify potential asymptomatic carriers
  - Assess and re-emphasize infection prevention practices





- Key response and control measures-
  - · Screened by culture residents (throats and wounds) and epi-linked staff
  - Site visits
  - Emphasized education on IP and wound care practices
  - · Invasive cases and several non-invasives had wound care as a risk factor









# Regional Infection Prevention Support (RIPS) Teams Work collaboratively with facilities to ensure they are providing the highest quality care. Not regulatory or punitive Provide: Staff training/education on infection prevention policies and practices Site assessments and consultation RIPS is now a smaller-scale program with four consultants covering all NC counties



