



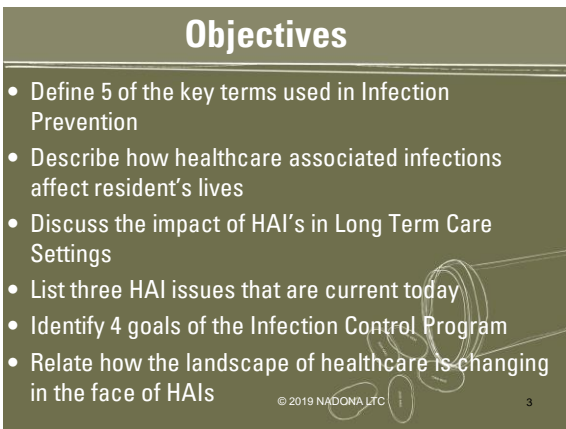
Infection Prevention and Control Certificate of Mastery

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Week Four: Healthcare Associated Infections & Regulatory Agencies

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Objectives

- Define 5 of the key terms used in Infection Prevention
- Describe how healthcare associated infections affect resident's lives
- Discuss the impact of HAI's in Long Term Care Settings
- List three HAI issues that are current today
- Identify 4 goals of the Infection Control Program
- Relate how the landscape of healthcare is changing in the face of HAIs

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Key Definitions

- Antimicrobial: Any substance of natural, semisynthetic or synthetic origin that kills or inhibits the growth of microorganisms but causes little or no damage to the host
- Antibiotic: A medicine (such as penicillin or its derivatives) that inhibits the growth of or destroys microorganisms or refers to substances produced by microorganisms that act against another microorganism.
- Antiseptic: Substances that prevent the growth of disease-causing microorganisms. Compounds that are used to kill or counter microorganisms on and near the surface of the body.

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Key Definitions-cont

- Antisepsis: Prevention of infection by inhibiting or arresting the growth and multiplication of germs (infectious agents). *Antisepsis* implies scrupulously clean and free of all living microorganisms.
- Antiviral:
 - chiefly a drug or treatment effective against viruses.
 - An agent that kills a virus or that suppresses its ability to replicate and, hence, inhibits its capability to multiply and reproduce
 - example, amantadine (Symmetrel) is a synthetic *antiviral*. It acts by inhibiting the multiplication of the influenza A virus

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Healthcare-Associated Infections (HAIs) Stats

- 1 out of 25 hospitalized patients affected
- Associated with increased mortality
- Attributed costs: \$26-33 billion annually
- HAIs occur in all types of facilities,
- including:
 - Long-term care facilities
 - Dialysis facilities
 - Ambulatory surgical centers
 - Hospitals

– CDC

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Significance of HAIs

- Healthcare-associated infections (HAIs) cause significant morbidity and mortality
 - Sicken > 2 million people annually
 - Kill appx. 23,000 people annually, a with an additional 15,000 dying from *Clostridium difficile*
 - Healthcare environments are important reservoirs for infectious microorganisms and are critical to address
 - Targeted prevention efforts can reduce the rate of some HAIs by 70%
 - All healthcare personnel play a critical role in targeted prevention efforts
- Magill SS, et al. N Engl J Med. 2014;33:1198-1208
 CDC. 2014 National and State healthcare-associated Infections Progress Report 2016CC Writable Battles PowerPoint

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Related Health Reforms

- Congress
 - Bills proposing mandatory national public reporting
 - HAI prevention tied to Medicare/Medicaid payment
- Affordable Care Act
 - Section 3001 – Hospital Value Based Purchasing
 - Program “...value-based incentive payments are made in a fiscal year to hospitals that meet the performance standards.”

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Changing Landscape of Healthcare

- Organizational factors affect HAI prevention
 - Administrative policies
 - Antimicrobial utilization
 - Staffing
 - Education
- Increasing prevalence of antimicrobial-resistant pathogens
- **Growing populations at risk**
 - Immunocompromised individuals
 - Low birth weight, premature neonates
 - Transplant recipients on immunosuppressive therapy
 - Elderly & Patients with increased comorbidities

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Changing Landscape of Healthcare cont.

Special environments

- Intensive care and burn units
- Long-term care, LTAC
- Ambulatory surgery, endoscopy, and infusion services



HAI Issues Today

- Zika Virus
- Ebola virus
- Enterovirus D68
- Measles

Measles

Measles can be dangerous, especially for babies and young children.

PERTUSSIS

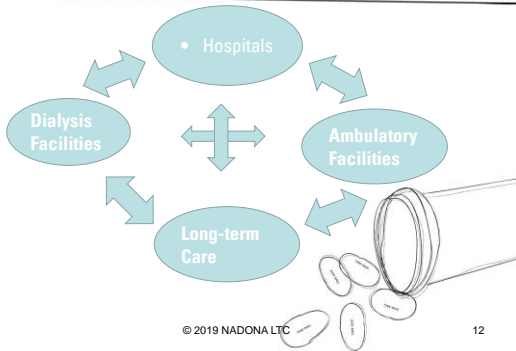
Whooping cough is a highly contagious respiratory illness that causes severe coughing fits.

Keep Your Child from Getting and Spreading ENTEROVIRUS D68

EBOLA OUTBREAK

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Healthcare has moved beyond hospitals



States with legislation for public HAI reporting

Only the following states have reporting laws for HAIs:

- California
- Nevada
- Pennsylvania
- Florida

• Source APIC 7/30/12

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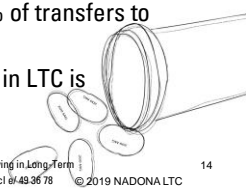


Why Be Concerned?

- Infections have a significant negative influence on health status and function of residents
- Defense mechanisms against infection decline with age
- Infections cause 26% - 50% of transfers to hospitals
- 25% - 70% of antibiotic use in LTC is inappropriate

Chilton, L. Infections and Antimicrobial Resistance in the Elderly Living in Long-Term Care Settings. Available at <http://www.medsca.pe.com/vi/ewa/rfci/>

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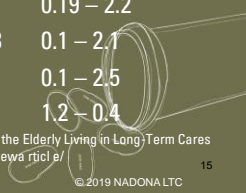


Common Infections

• Infection	Prevalence %	Incidence / 1000 Patient Days
All Infections	1.0 – 32.7	1.8 – 13.5
Respiratory	0.3 – 3.7	0.3 – 4.7
Urinary	0.6 – 21.8	0.19 – 2.2
Skin and Soft Tissue	1.1 – 8.8	0.1 – 2.1
Gastrointestinal	_____	0.1 – 2.5
Bloodstream	_____	1.2 – 0.4

Chilton, L. Infections and Antimicrobial Resistance in the Elderly Living in Long-Term Care Settings. Available at <http://www.medsca.pe.com/vi/ewa/rfci/>

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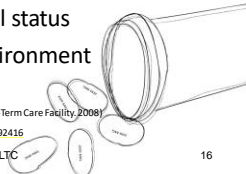
GOALS OF AN EFFECTIVE INFECTION PREVENTION PROGRAM

- Decrease morbidity/mortality attributed to infections
- Prevent and control outbreaks
- Prevent acquisition of infection by staff
- Limit costs of care attributable to infections
- Maintain resident functional status
- Maintain optimal social environment for residents

• SHEA/APIC Guideline: Infection Prevention and Control in the Long-Term Care Facility, 2009
 • Available at <http://www.journals.uchicago.edu/doi/pdf/10.1086/592416>

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Regulatory Agencies

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Objectives

- Identify 3 Agencies involved with Infection Control
- Discuss the role of the Food and Drug Administration and the Environmental Protection Agency in the usage of infection control products
- Review the current regulatory classification of healthcare disinfectants, skin antiseptics, and hand hygiene products
- Discuss the appropriate steps to evaluate infection prevention and control products
- Review the regulatory affairs aspect of Infection Prevention and Control
- Discuss evidence based strategies to reduce contamination in the outpatient settings and also available resources to support the IPC program

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Regulatory Agencies or Committees

- Department of Health and Human Services
 - HHS has 11 operating divisions, including eight agencies in the U.S. Public Health Service and three human services agencies. These divisions administer a wide variety of health and human services and conduct life-saving research for the nation, protecting and serving all Americans.
 - Food and Drug Administration
 - Regulates medical devices, food and other items such as hand sanitizers, drugs etc.
 - National Healthcare Safety Network (NHSN) <https://www.cdc.gov/nhsn/cms/index.html> for list of reportable Infections
 - National Surveillance system that healthcare facilities report HAI data to

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Regulatory Agencies or Committees cont.

- Centers for Disease Control and Prevention (CDC)
 - Must be notified of federal notifiable diseases such as Ebola Virus
- Centers for US National Academy of Sciences Engineering, and Medicine are the nation's pre-eminent source of high-quality, objective advice on science, engineering, and health matters.
- Medicare and Medicaid Services (CMS)
 - Regulates the implementation of infection prevention and control in facilities
- Centers for Disease Control and Prevention Infection Control Practices Advisory Committee
 - Provided the evidence – based guidelines for the prevention of HAIs
- Advisory Committee on Immunization Practices (ACIP)
 - This organization makes recommendations regarding immunizations
- Occupational Safety and Health Services
 - Responsible for the safety of the workforce by implementing evidenced solutions and rules governing safety

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Regulatory Agencies or Committees cont.

- Institute For Medicine
 - A nonprofit organization established in 1970 as a component of the of government to provide evidence-based research and recommendations for public health and science policy. Provides reports such as medical errors.
- The Joint Commission
 - An independent, not-for-profit organization founded in 1951
 - The nation's oldest and largest standards-setting and accrediting body in health care
- Local Health Department –
 - Helps facilitate the exchange of infection – related trends and regional information across multiple healthcare facilities and settings

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LEARN FROM THE PAST PREPARE FOR THE FUTURE

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To Move from the Past to the Future -
It's a journey

Historic Focus: prevention of Transmission of Infection

Hybrid Approach (A little of each)

Futuristic Focus: Prevention of the Cause of Infection (Prophylaxis)

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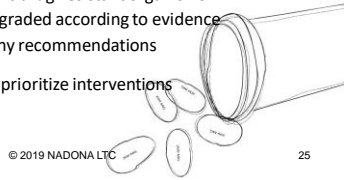
RESOLVE THE PROCESS,
NOT BRING IN ANOTHER PRODUCT

- Most lapses in Infection Prevention and Control Practices are not related to products, but rather related to systems and practice violations
- These practice lapses are opportunities for improvement and the system must be designed to be highly reliable and sustainable
- It is important to address underlying practice related issues prior to implementation of any products
- Most infection prevention and control challenges do not require a "new product" but rather integration of the infection prevention and control practices to address the problems of today, tomorrow, and the future

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EVIDENCE-BASED MEDICINE

- Guidelines developed for each type of infection and based on systematic reviews of medical literature
 - Prevention of central line-associated blood stream infections
 - Prevention of catheter-associated urinary tract infections
 - Prevention of surgical site infections
 - Prevention of healthcare-associated pneumonia
 - Management of multidrug-resistant organisms
 - Recommendations graded according to evidence
- Guidelines contain many recommendations
- Current efforts to help prioritize interventions that are most effective



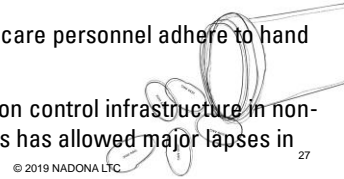
IMPACT TO OUR RESIDENTS

- 1 to 3 million serious infections every year in long-term care
- As many as 380,000 patients die of the infections they contract
- Infections are among the most frequent reasons LTC patients get admitted to hospitals



MUCH OPPORTUNITY!!!!

- Many HAIs are preventable with current recommendations
- Failure to use proven interventions is unacceptable
- Only 30%-38% of U.S. hospitals are in full compliance
- Just 40% of healthcare personnel adhere to hand hygiene
- Insufficient infection control infrastructure in non-acute care settings has allowed major lapses in safe care



Opportunities cont.

CDC estimates

- 722,000 estimated HAI's in the US healthcare system in the acute care population alone
- 75,000 deaths from HAI's in hospitalized patients
- ½ of HAI's are now occurring outside of the traditional ICU setting
- 1 in 25 hospitalized patients contract an HAI

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Recent Outbreaks

- E. coli-Chipotle
- Norovirus-Schools
- Salmonella-Pork
- CRE-Endoscopes
- Salmonella-Cucumbers
- E. Coli – Romaine Lettuce

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Most Recent Outbreak - June 15, 2018

- Multistate Outbreak of *Salmonella*
- Linked to Kellogg's Honey Smacks Cereal / Fish crackers/ Salsa/ Ritz Bits (WHEY)
- Facts: Case Count: 73(<https://www.cdc.gov/salmonella/mbandaka-06-18/epi.html>)
- States: 31(<https://www.cdc.gov/salmonella/mbandaka-06-18/map.html>)
- Deaths: 0
- Hospitalizations: 24
- Recall: Yes(<https://www.cdc.gov/salmonella/mbandaka-06-18/advice.html>)

– CDC <https://www.cdc.gov/salmonella/Mbandaka-06-18/index.html>

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Week Four Follow-Up
1. Take the quiz
2. If you have any questions
please contact me (Cindy) @
cindy@nadona.org or call
me at 651-324-8415
Thanks for joining this week.
More to come next week!