Hopefully Helpful: Long-Term Care Hot Topics

Regulatory Changes

Glove Use in Long Term Care

Standard, Enhanced Standard, and Transmission-Based Precautions

Deb Patterson Burdsall PhD, RN-BC, CIC, FAPIC

Learning Objectives

• Describe the proposed CMS Medicare and Medicaid Programs: Reform of Requirements for Long-Term Care Facilities as they relate to infection prevention and control programs in long-term care

• Identify the potential for cross contamination associated with the use of non-sterile clinical gloves

• Review policies and procedures relating to Centers for Disease Control and Prevention (CDC) Transmission-based Precautions for organisms commonly found in long-term care

Part I

Long-Term Care Regulatory Changes and Infection Prevention and Control

New Territory
Personal Cost of Healthcare Associated Infections (HAI)

• Between 1.6 and 3.8 million (HAIs) in nursing homes every year

• Infections result in an estimated 150,000 hospitalizations, 388,000 deaths

*Carville, et al. Nursing home deficiency citations for infection control, American Journal of Infection Control, May 2011;39, 4

CMS Long-Term Care Participation Revisions 2016

• Revises participation requirements for Medicare and Medicaid programs

• The changes reflect evidence-based practice

• CMS working to achieve broad-based improvements
  - Quality of health care
  - Patient safety

• Reduce procedural burdens on providers


* with apologies to J.R.R. Tolkien

Illustrates change from LTC as “home” to LTC as “rehab”
Major Changes

• Infection Prevention and Control Program
• Dedicated Infection Preventionist
• Specialized training, education, certification, or experience

Source: Federal Register: Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities Final Rule

Major Changes

• Antimicrobial Stewardship including antibiotic use protocols and a system to monitor antibiotic use
• Coordinate and participate in QAPI
• National Healthcare Safety Network (NHSN) (not required as of 2016...yet)

Source: Federal Register: Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities Final Rule

Antimicrobial Stewardship

• Require antibiotic stewardship program, antibiotic use protocols, and a system for monitoring antibiotic use
• CDC Core Elements for LTC
  • Policy and Practice Review and Change
  • Leadership
  • Accountability
  • Tracking antibiotic use and outcomes
  • Education
  • Drug Expertise

Source: Federal Register: Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities Final Rule

http://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html
Infection Prevention and Control Program (IPCP)

- Require a system for
  - Preventing
  - Identifying
  - Reporting
  - Investigating
- Controlling infections and communicable diseases
- All residents, staff, volunteers, visitors, and other individuals providing services
- based upon facility and resident assessments that are reviewed and updated annually


Facility-wide Assessment

- “Determine what resources are necessary to care for its residents competently during both day-to-day operations and emergencies”
- The facility must review and update that assessment:
  - As necessary
  - At least annually
  - “Whenever there is, or facility plans for, any change that would require a substantial modification to any part of this assessment”


Must Address: Residents, Patients, and Clients

- The facility’s resident population, including, but not limited to:
  - Number of residents
  - Facility’s resident capacity
- The care required by the resident population:
  - Types of diseases
  - Conditions
  - Physical and cognitive disabilities
  - Overall acuity
  - Other pertinent facts that are present within that population
- Any ethnic, cultural, or religious factors that may potentially affect the care provided:
  - Activities
  - Food
  - Nutrition
**Must Address: Building and Operations**

- The physical environment and resources
  - Equipment
  - Services (therapies, pharmacy, rehab services)
  - Other physical plant considerations necessary to care for population
- All buildings
- Physical structures
- Vehicles
- Equipment (medical and non-medical)
- Contracts, memorandums or 3rd party agreements

**Must Address: Personnel**

- Staff competencies that are necessary to provide the level and types of care needed for the resident population
- Any ethnic, cultural, or religious factors that may potentially affect the care
- Services provided
- All personnel, including managers, staff (both employees and those who provide services under contract), and volunteers, as well as their education and/or training and any competencies related to resident care

**Education**

- Goal: staff comply with infection control practices
- Initial and ongoing infection control education
- Updated education and training
  - When policies and procedures are revised
  - When there is a special circumstance (e.g. outbreak)
- Requires modification or replacement of current practices.
Training and Competency

- Task and discipline-specific infection control training
- Insertion of urinary catheters
- Suctioning
- Intravenous care
- Blood glucose monitoring
- Follow-up competency evaluations identify staff compliance

“A facility-based community-based risk assessment, utilizing an all-hazards approach”

Qualified Infection Preventionist

- Designate specific infection preventionist (IP) (Infection Preventionists)
- Position may be shared
- Require education/training, certification, or experience for IP responsible for Infection Prevention and Control Program
**Quality Assurance and Performance Improvement (QAPI)**

- Maintain documentation and demonstrate evidence of ongoing QAPI program
- Present the QAPI plan to the State Agency Surveyor
- Address all systems of care and management practices
- Include clinical care, quality of life, and resident choice
- Utilize the best available evidence to define and measure indicators of quality and facility goals
- Reflect facility case mix and care

**Quality Assurance Performance Improvement (QAPI)**

- Element 1: Design and Scope
- Element 2: Governance and Leadership
- Element 3: Feedback, Data Systems and Monitoring
- Element 4: Performance Improvement Projects (PIPs)
- Element 5: Systematic Analysis and Systemic Action


**QAPI Tools**

- Tools for each of the 5 QAPI Elements
- University of Minnesota and Stratis Health
- CMS created “process” tools
- Use to implement and apply some of the basic principles of QAPI
- A Process Tool Framework has been created to crosswalk each CMS Process Tool to the QAPI Five Elements

https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/qapitools.html
Summary

• Infection Prevention and Control has been prioritized in long-term care
• Illinois already requires long term care facilities to have an IP
• The CMS regulations enhance current Illinois requirements
• CMS has provided tools in the QAPI toolkit
• Risk-based programs are required.
• Long term care may benefit by looking at psychotropic reduction as a model for antimicrobial stewardship

PART II
EXPLORING INAPPROPRIATE GLOVE USE IN LONG-TERM CARE

Burdell, et al., 2016. Exploring Inappropriate Glove Use in Long Term Care Manuscript submitted for publication
Background

• Patient care requires human touch

• Healthcare personnel (HCP) frequently wear exam gloves during patient care to protect themselves from blood, body fluids, and other potentially infectious materials that may contain pathogens

• Gloves protect HCP and patients when used appropriately

• When HCP use gloves inappropriately they may spread pathogens and increase the risk of healthcare associated infection (HAI)

Purpose

1. Describe the degree of inappropriate glove use with the structured observational tool
2. Explore the association between inappropriate glove use and selected HCP and patient care event characteristics
3. Determine the interrater reliability of the Glove Use Surveillance Tool (GUST ©)
GUST® Tool

• The Five Facets of Glove Use®
  1. Touch Points (Gloved and Bare-Handed)
  2. Gloved Touch Points
  3. Glove Change Points
  4. Actual Glove Changes
  5. Glove Changes at a Glove Change Point

GUST® Tool

• Two Indicators of Inappropriate Glove Use ©
  1. Failed Glove Changes
  2. Contaminated Touch Points

Results

• Degree of inappropriate HCP glove use
  • HCP overused gloves
    • HCP failed to change gloves 66% of the time when a glove change was indicated
    • Over 44% of the HCP gloved touch points were defined as contaminated

• HCP overused gloves

• HCP failed to change gloves 66% of the time when a glove change was indicated

• Over 44% of the HCP gloved touch points were defined as contaminated
N = 351  
Glove Change Points

N = 121  
Glove Changes at Glove Change Point

N = 230  
Failed Glove Changes

N = 802  
Contaminated Touch Points

N=76 HCP in 76 Patient Care Events

Setting up a "field" of wipes

Repeatedly handling the wipes packages with contaminated gloves during the patient care event to get additional wipes
Conclusions

- Gloves have been shown to be a powerful tool for protecting both HCP and patients
- If HCP continue to use gloves after touching surfaces contaminated with blood, body fluids, or other potentially infectious materials they may cross contaminate between patients and the healthcare environment
- HCP used gloves inappropriately in 83% of the patient care events in this study
- The GUST® was shown to be a reliable tool in this study

Future Steps

- Glove use is an under-examined phenomenon
- Missing link in cross contamination of healthcare environment?
- More study needed about how and why HCP use gloves
- Remove barriers to appropriate glove use
- Develop effective training and monitoring systems
- The goal is cost effective, evidence-based interventions to prevent healthcare associated infections

PART III
PRECAUTIONS, OUTBREAKS, AND A SOCIAL MODEL OF CARE
Standard Precautions
Enhanced Standard Precautions
Transmission-Based Precautions

• Standard Precautions:
• Transmission Based Precautions
• Enhanced Standard Precautions
  • For lower risk residents/patients (e.g. independent, can perform hand hygiene, continent, with no uncontained wounds)
  • Hand hygiene when entering resident room
  • Gown and gloves for hands-on care (e.g. toileting, wound care and suctioning)


Burdass High C's of Infection Prevention and Control

Clean Hands and Gloves
Clean Clothes
Clean Equipment and Environment
Contained Drainage
Covered Wounds
Careful Assessment
Careful Use of Antimicrobials
Collaborative Approach
Communication

Standard Precautions and Transmission Based Precautions in a Social Model

Biopsychosocial Model of Care
Epidemic or Outbreak Situation
Respiratory: Viral pneumonia in Older adults

- Comorbidities increase the risk of infection and complications
- Decline in innate immune functioning may impair viral clearance
- Loss of respiratory muscle strength and mucous levels allows viruses to spread more easily to the lower respiratory tract causing inflammation


Cost of Hospitalization with Pneumonia in Medicare Beneficiaries

- 50% hospitalization rate
- 30 day mortality HAI 13.4% CAI 6.4%
- $15,682 higher medical costs compared to matched control patients without pneumonia
- Annual excess cost hospital treated pneumonia is estimated conservatively at > $7 billion in 2010


Influenza Vaccination

- Vaccinate healthcare workers
- Encourage families and visitors
- Older adults- High Dose (HD) vaccine works!
- Persons 65 years of age or older:
  - Significantly higher antibody responses
  - Provided better protection
  - Well-tolerated and more immunogenic

What does this type of outbreak look like in the middle of Influenza Season?

Importance of identifying circulating viruses

• Viruses play a larger role than previously thought
• Estimated that 13-50% of pathogen-diagnosed community-acquired pneumonia are viral in origin
• 8-27% of cases as mixed bacteria-virus infections
• Targets treatment and avoids unnecessary medication
• Reduces cost with targeted use of oseltamivir
• Stops comments like:
  • “I got a flu shot and I still got the flu”


Respiratory Virus Panel: PCR from Swab, Aspirate or Washing

• Human Metapneumovirus (FAR, ESR, TAG)
• Rhinovirus (FAR, ESR, TAG)
• Influenza A (FAR, ESR, TAG, VRV)
• Influenza B (FAR, ESR, TAG, VRV)
• Enterovirus (FAR)
• RSV (FAR, ESR, TAG, VRV)
• Parainfluenza Virus (FAR, ESR, TAG)
• Adenovirus (FAR, ESR, TAG)
• Coronavirus (FAR)
• B. pertussis (FAR)
• C. pneumoniae (FAR)
• M. pneumoniae (FAR)

www.viracor.com

Slide: Peterson, L
With Viral Identification

[Graph showing viral identification]

CDC Isolation Precautions

- **Adenovirus** - Contact and Droplet Precautions
- **Influenza A and B** - Droplet Precautions
- **Human Metapneumovirus (hMPV)** - Contact Precautions
- **Respiratory Syncytial Virus (RSV)** - Contact Precautions
- **Enteroviral infections** (i.e., Group A and B Coxsackie viruses and Echo viruses) (excludes polio virus) Standard Precautions
  - BUT "Use Contact Precautions for diapered or incontinent children/persons for duration of illness and to control institutional outbreaks"

Source CDC: 2007

Multiple viruses in the same cohort

- A person could be sick with influenza A
- Then come down with influenza B
- Then RSV
- Then adenovirus
- Or be sick with more than one virus at a time
Intervention Bundle

• Communication, within facility, interfacility, and with public health
• Hand Hygiene
• Interdisciplinary cleaning and disinfecting
• Twice a day temperatures
• Focus on avoiding presenteeism in staff and visitors
• Mask training and use
• Restrictions on group activities, and movement

How to Wear a Mask
Perform Hand Hygiene
Remove Mask from Box - wear yellow side out
Place mask over nose, mouth and chin
Fit flexible nose piece over nose bridge
Secure on head with ties or elastic
  • Adjust to fit. Try pulling at the bottom for comfort
  • The front of the mask is considered contaminated and not be touched after it is fitted
  • Change when coming out of isolation room
  • Change if soiled or touched when wearing in public areas
  • Remove by handling only the ties or bands starting with the bottom then top tie or band.
  • Lift the mask or respirator from the face and discard it into the trash.
Perform Hand Hygiene

Source CDC.gov PPE use

Discontinuing Transmission-based Precautions in Outbreak

• Contact/Droplet Precautions
  • 7 days
  • 48 hours after completion of therapy when asymptomatic and afebrile

• Follow either IDPH LTCF
  • Acute gastroenteritis recommendations (AGE)
  • Influenza like illness (ILI)
Influenza B and RSV Mixed Respiratory
March 2013
7 Influenza B, 1 RSV, and 12 unknown
20 cases +198 x15= 20/2970 person days
x1000 = Rate of 6.73 ILI per 1000 person days

Respiratory Complex Definition:
Cough, Weakness, Fever, Infiltrate
Attack Rate 27%
Met Definition of Respiratory Complex: No Testing
Confirmed Combined HMPV and RSV
Confirmed HMPV
Started Bundled Approach

Norovirus is Not Influenza
• Norovirus is a stomach virus
• There is no vaccine for norovirus
• Pay attention to residents, patients, volunteers, and staff who complain they are nauseated or who have loose stools or vomiting
• Send employees, visitors, volunteers or clients home
• Keep residents or patients in their rooms
• Immediately place residents or patients with these symptoms on Droplet/Contact Precautions
• Clean all surfaces every 1-2 hours with advanced hydrogen peroxide or bleach/detergent wipes
• Wash hands with soap and water
FOR COMPARISON 2011
Norovirus Confirmed Gastrointestinal Outbreak
101 Cases/453 Residents = 22% Attack Rate.

Acute Gastroenteritis Dementia Unit January 2013
8 cases on 1 unit = 42 residents
Attack Rate: Residents and Staff 6.6%
Attack Rate: Residents only 16%
9 Cases: 3 Confirmed Norovirus

THANK YOU!!! WHAT A GOOD JOB!
You stopped an outbreak!!!
Lessons Learned

• Prompt identification of symptoms and use of Transmission-Based Precautions is critical
• Not everyone with confirmed respiratory illness OR norovirus met the case definition. Don’t ignore subtle symptoms if there is an association with a case
• QI project determined outbreaks responded quickly when everyone was identifying, isolating, and cleaning/disinfecting with the proper products in this care community

Hospitals, Long Term Care, Home Care, Home Health, and Public Health must communicate and work together

Infection Prevention and Control is a **Human** issue, and needs to be dealt with within a biopsychosocial and spiritual framework
THANK YOU!

• Lutheran Home/Lutheran Life Communities Staff, Residents, and Families
• Dr. Stephanie Black, and the entire Chicago Department of Public Health team
• APIC and APIC Consulting Services
• Northwest Community Healthcare Micro and Reference Lab
• Dr. Lance Peterson, Dr Richard Thompson, Donna Schora, Anna Marie Ogle, Marc-Oliver Wright and the NorthShore University Health System Laboratory
• Judith Conway, IDPH
• Dr. Loreen Herwaldt and University of Iowa Hospitals and Clinics Epidemiology and Infection Prevention
• The University of Iowa College of Nursing

Thank you
Dbursdall@gmail.com
Nothing to disclose

References

• Burdsall, et al., 2016. Exploring Inappropriate Glove Use in Long Term Care Manuscript submitted for publication.
• Centers for Disease Control and Prevention [CDC], (2014). National Study of Long Term Care Providers, retrieved from http://www.cdc.gov/nchs/nsltcp.htm
References, continued


