July 2015 Commitment to Care Quality Topic

Focus on Infection Control in Long Term Care

According to the Texas Department of Aging and Disability Services (DADS), infection control and prevention continues to be the top ranked cited deficiency in the state of Texas over the last decade. In fiscal year 2014, over 600 total deficiencies were cited in Texas long term care facilities. These deficiencies potentially harm residents and have an assumed impact on healthcare costs and quality of care.

The Centers for Disease Control (CDC) estimates that approximately 2 million infections occur in US long term care facilities each year, resulting in as many as 380,000 deaths.

As most providers are aware, urinary tract, respiratory, skin, and soft tissue infections are the most common endemic infections among nursing home residents.

These infections are associated with frequent hospital transfers and extended hospital stays.

Long term care residents are at a greater risk of developing infection due to their age, comorbidities, immune deficiencies, functional impairment and limited mobility in addition to the presence of indwelling devices such as feeding tubes and urinary catheters. Other prominent risk factors include the overuse and sometimes inappropriate use of antimicrobials to treat suspected infections leading to the development of *multi-drug resistant organisms* (MDROs) and *Clostridium difficile* (*C. diff*).

The following are examples of the most common infections acquired in nursing homes and the latest care strategies in identifying and treating them:

- Urinary tract infection (UTI) is the most common and most over-diagnosed infection in nursing facilities. Long term care residents with indwelling catheters are more likely to have UTIs or bacteriuria with MDROs than are residents without these devices. It is estimated that 50% of nursing home residents with a urinary catheter will have symptomatic catheter associated urinary tract infections (CAUTIs) each year. In addition, residents with urinary catheters for longer than 30 days have a mortality rate higher than residents without a catheter (Kunin et al.). Residents are also commonly colonized with MDROs (Mody et al.) and colonizing organisms may be transferred to other residents.

    - Guidelines to prevent CAUTI include limiting the use of urinary catheters, minimizing the duration of urinary catheter use, diligent hand hygiene before and after and manipulation of the catheter, using aseptic technique to insert the catheter, maintaining a closed drainage system, and keeping the retention bag below the level of the bladder.

- Pneumonia and lower respiratory tract infections are the leading causes of mortality in nursing home residents and the primary reason for resident transfer to a hospital. Seasonal outbreaks of influenza are also common. It has been reported that nursing home residents account for 10-18% of all people hospitalized for pneumonia, corresponding to an average hospital cost of approximately $10,000 per admission (Konetzka et al.). Inadequate oral care, oropharyngeal dysphagia, regurgitation of gastric contents and the presence of feeding tubes all increase the risk of respiratory infection. To complicate matters, elderly residents may not present with "typical" signs and symptoms of pneumonia such as fever.

    - Chest x-rays are helpful to determine the presence of a new infiltrate; however, many nursing facilities have limited access to radiological services or may use mobile services which can make it difficult to make a definitive clinical diagnosis.

- Viral and bacterial gastroenteritis like *norovirus* and *C. diff* cause the majority of diarrheal outbreaks in nursing homes. It has been estimated that 8-33% of nursing home residents treated with antibiotics acquire *C. diff* and nearly 10-30% are colonized at any given time (Makris et al.). *C. diff* persists in the environment as spores that contaminate inanimate surfaces such as bed rails, furniture, toilets, scales and therapy equipment. This widespread contamination potential increases the possibility for cross-transmission to other vulnerable older adults, as well as healthcare workers and visitors.

These spores are notoriously difficult to eradicate from surfaces and alcohol based hand gels are ineffective for hand hygiene.

  - The CDC recommends using US Environmental Protection Agency registered disinfectants with sporicidal claim for environmental surfaces in contaminated patient areas and hand hygiene with soap and water to effectively remove spores from skin surfaces.

- Skin and soft tissue infections such as pressure ulcers, cellulitis and scabies are common in long term care facilities. It has been estimated that pressure ulcers occur in up to 20% of residents in long term care facilities and are attributed to immobility, pressure, friction, moisture, incontinence and malnutrition. Frail older adults with pressure ulcers are at risk for developing infections that may vary from cellulitis to osteomyelitis, bacteremia, septicemia and death.

  Guidelines and multiple educational material and resources are available on infection prevention and can be found on various websites such as www.Texas Quality Matters.org. Nursing facility based education has been demonstrated to significantly reduce colonization and infection rates and has the potential to greatly enhance current efforts to improve overall quality of care.

Evidence suggests there are some knowledge gaps for long term care healthcare workers regarding infection control and prevention practices specifically relating to MDRO best practices.

In an attempt to address some of these knowledge gaps Impera Consulting, LLC recently received CMS' Civil Monetary Penalties (CMPs) funds to provide educational trainings on prevention and control of infections in nursing homes, specifically tailored to nursing facility staff and physicians.

Goals of the training seminar include improving knowledge of:

- MDRO and C. diff infection control and best practices;
- contact precautions and hand hygiene; and
- appropriate use of antibiotics.

Seminar attendees will be required to conduct a quality improvement project of their choosing within their facility and submit their results over a six month period.

This **free** seminar will be held in multiple cities across Texas beginning winter (2015) through Spring 2016. **Registration will be coming soon!**

To better align seminar content with the needs of the participant, we would like your input! Please complete this brief questionnaire here by July 31, 2015.

To receive more information about the seminar, please contact Rachel Hardegree at rachel@imperaconsulting.com.

References:

Kunin C, Douthitt S, Dancing J, et al. The association between the use of urinary catheters and morrbidity and mortality among elderly patients in nursing homes. *Am J. Epidemiol* 1992. Infect. Control Hosp. Epidemiol. 2010;31:319-326.

Mody L, Bradley SF, Galecki A, et al. Conceptual model for reducing infections and antimicrobial resistance in skilled nursing facilities: focusing on residents with indwelling devices. *Clin Infect Dis* 2011;52(5):654-661.

Konetzka R, Spector W, Shaffer T. Effects of nursing home ownership type and resident payer source on hospitalization for suspected pneumonia. *Med. Care.* 2004;42:1001-1008.

Makris A, Gelone S. Clostridium difficile in the long-term care setting. *J. Am. Med. Dir. Assoc.* 2007;8:290-299.