Antibiotic use in nursing homes

Get Smart About Antibiotics Week
November 18-24, 2013

Did you know?

1. Antibiotic resistance is one of the world's most pressing public health threats.
2. Antibiotics are the most important tool we have to combat life-threatening bacterial diseases, but antibiotics can have side effects.
3. Antibiotic overuse increases the development of drug-resistant germs.
4. Patients, clinicians, healthcare facility administrators, and policy makers must work together to employ effective strategies for improving antibiotic use – ultimately improving medical care and saving lives.

Scope of the problem in nursing homes

- Antibiotics are among the most commonly prescribed medications in nursing homes.
- Up to 70% of long-term care facilities' residents receive an antibiotic every year.
- Estimates of the cost of antibiotics in the long-term care setting range from $38 million to $137 million per year.
- Among the antibiotic-resistant organisms most commonly found in nursing home populations are multidrug-resistant Gram-negative bacteria, methicillin-resistant *Staphylococcus aureus* (MRSA), and vancomycin-resistant enterococci (VRE).

Antibiotic resistance in long-term care is associated with:
- Increased risk of hospitalization
- Increased cost of treatments
- Increased risk of death

Why focus on nursing homes?

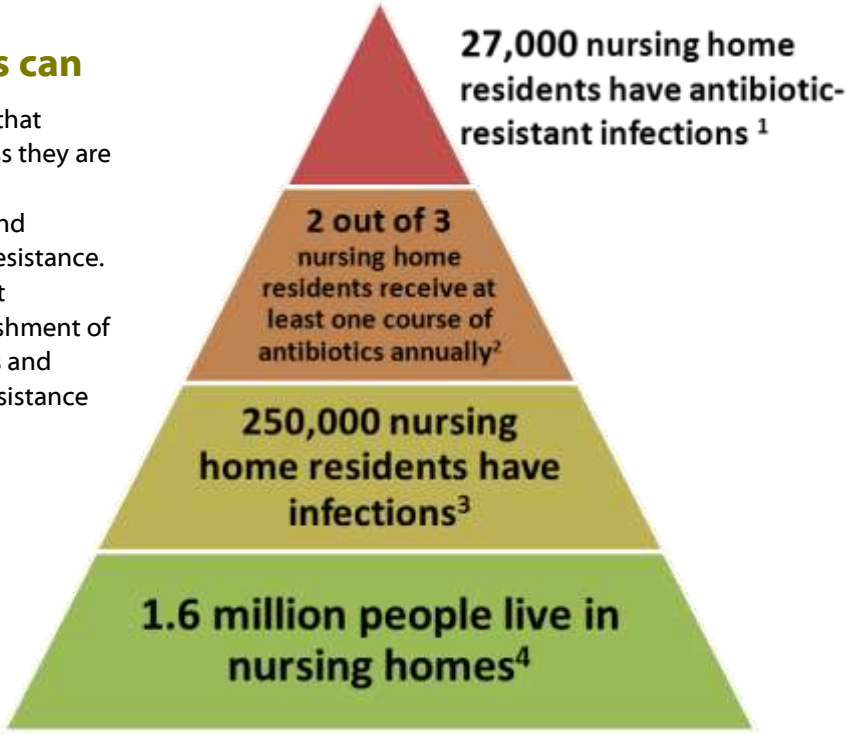
- Many long-term care residents can be "colonized" with bacteria, meaning that germs can live on the skin, wound surfaces or even in the bladder without making the person sick. Challenges with separating colonization from true infection can contribute to antibiotic overuse in this setting.
  - Studies have consistently shown that about 30%-50% of frail, elderly long-term care residents can have a positive urine culture even without any symptoms of a urinary tract infection. Unfortunately, many of these patients are placed inappropriately on antibiotics.
- Poor communication when patients transfer facilities, for example from a nursing home to a hospital, can result in antibiotic misuse.
- Antibiotic-related complications, such as diarrhea from *C. difficile,* can be more severe, difficult to treat, and lead to more hospitalizations and deaths among people over 65 years. Long-term care facility residents are particularly at risk for these complications.

Nursing homes administrators can

- Have clear policies and practices to ensure that patients are not started on antibiotics unless they are needed.
- Review the facility's microbiology reports and antibiogram to detect trends in antibiotic resistance.
- Implement policies that encourage prudent antimicrobial prescribing, including establishment of minimum criteria for prescribing antibiotics and review of antibiotic appropriateness and resistance patterns.

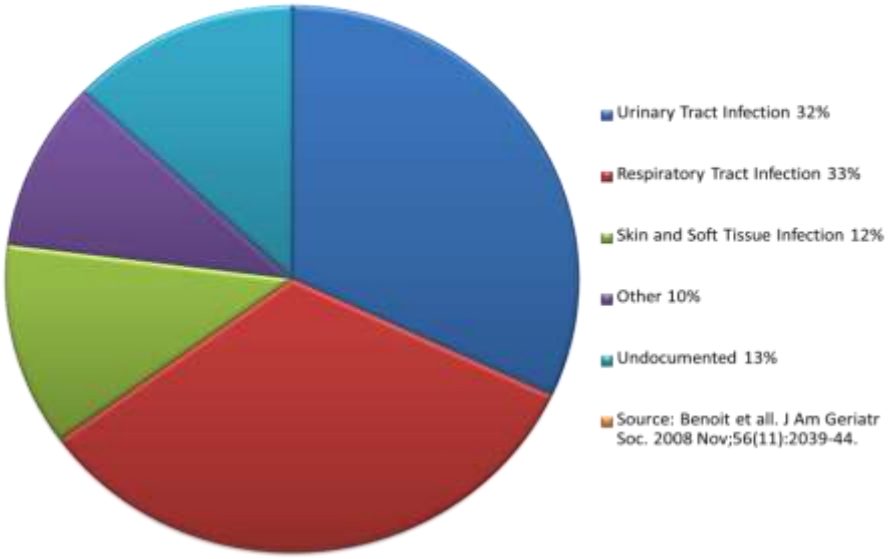
Nursing home providers can

- Obtain microbiology cultures prior to starting antibiotics when possible so antibiotics can be adjusted or stopped when appropriate.
- Remember that treatment with antibiotics is only appropriate when the practitioner determines, on the basis of an evaluation, that the most likely cause of the patient's symptoms is a bacterial infection.
- Use antibiotics only for as long as needed to treat infections, minimize the risk of relapse, or control active risk to others. Antibiotics are generally not indicated to treat colonization.
- Avoid use of antibiotics to treat viral illnesses such as colds, influenza, and viral gastroenteritis.
- Engage residents and their family members in addressing the need to improve antibiotic use in your facility.



[1] Centers for Medicare and Medicaid Services, Long Term Care Minimum Data Set, Resident profile table as of 05/02/2055. Baltimore. MD.
[2] Loeb, M et.al. Antibiotic use in Ontario facilities that provide chronic care. J Gen Intern Med 2001; 16: 376-383.
[3] Centers for Disease Control and Prevention, National Center for Health statistics, 1999 National Nursing Home Survey. Nursing Home Residents, number, percent distribution, and rate per 10,000, by age at interview, according to sex, race, and region: United States, 1999.

Most common infections treated with antibiotics in nursing homes



Developed in partnership with the ***American Medical Directors Association***

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