Antibiotic Stewardship Education in SNFs

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Objectives

- Discuss evidence-based communication strategies to more effectively share antimicrobial stewardship best practices with nursing staff.
- Explore why unnecessary urine cultures can lead to increases in urinary tract infection rates and resident harm.

Core Elements of Antibiotic Stewardship

Leadership commitment	• Demonstrate support and commitment to safe and appropriate antibiotic use in your facility
Accountability	• Identify physician, nursing and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities in your facility
Drug expertise	• Establish access to consultant pharmacists or other individuals with experience or training in antibiotic stewardship for your facility
Action	• Implement at least one policy or practice to improve antibiotic use
Tracking	• Monitor at least one process measure of antibiotic use and at least one outcome from antibiotic use in your facility
Reporting	• Provide regular feedback on antibiotic use and resistance to prescribing clinicians, nursing staff and other relevant staff
Education	• Provide resources to clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving antibiotic use

https://www.cdc.gov/antibiotic-use/core-elements/pdfs/core-elements-antibiotic-stewardship-H.pdf

Common causes of antibiotic misuse in long-term care facilities

- Treatments for colonization (e.g. asymptomatic bacteriuria)
- Urinary tract infection prophylaxis
- Antibiotic treatments for viral infections (e.g. influenza)
- Unnecessary use of topical antibiotics
- Absence of reassessment of antibiotic therapies at around day 3
- Longer-than-necessary durations

O.J. Dyar, L. Pagani, C. Pulcini, Strategies and challenges of antimicrobial stewardship in long-term care facilities, Clinical Microbiology and Infection, Volume 21, Issue 1, 2015, Pages 10-19, ISSN 1198-743X,https://doi.org/10.1016/j.cmi.2014.09.005. (https://www.sciencedirect.com/science/article/pii/S1198743X14000366)

Effects of Antibiotic Misuse

30-50% of antibiotic use in LTCFs is for UTI treatment

Antibiotic resistance is more common in LTCFs

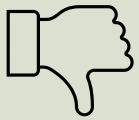
Many UTIs are inappropriately treated

2.8 million

antibiotic-resistant infections

Recommended Antimicrobial Stewardship Strategies in long-term care facilities

1



Discourage antibiotic prescribing without clinical examination

2

Provide education to medical and nursing staff, patients and their families.

3

Target areas where antibiotic misuse is common: antibiotic prophylaxis, bacterial colonization, topical antibiotics, durations of treatment.

4

Use locally adapted diagnostic and therapeutic guidelines for the most common infections.

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Additional Recommended Antimicrobial Stewardship Strategies

REASSESS ANTIBIOTIC TREATMENTS AT AROUND DAY 3

LIMIT UNNECESSARY MICROBIOLOGICAL INVESTIGATIONS

IMPROVE THE REPORTING FROM THE MICROBIOLOGY LABORATORY

USE POINT-OF-CARE DIAGNOSTIC TESTS

O.J. Dyar, L. Pagani, C. Pulcini, Strategies and challenges of antimicrobial stewardship in long-term care facilities, Clinical Microbiology and Infection, Volume 21, Issue 1, 2015, Pages 10-19, ISSN 1198-743X,https://doi.org/10.1016/j.cmi.2014.09.005. (https://www.sciencedirect.com/science/article/pii/S1198743X14000366)

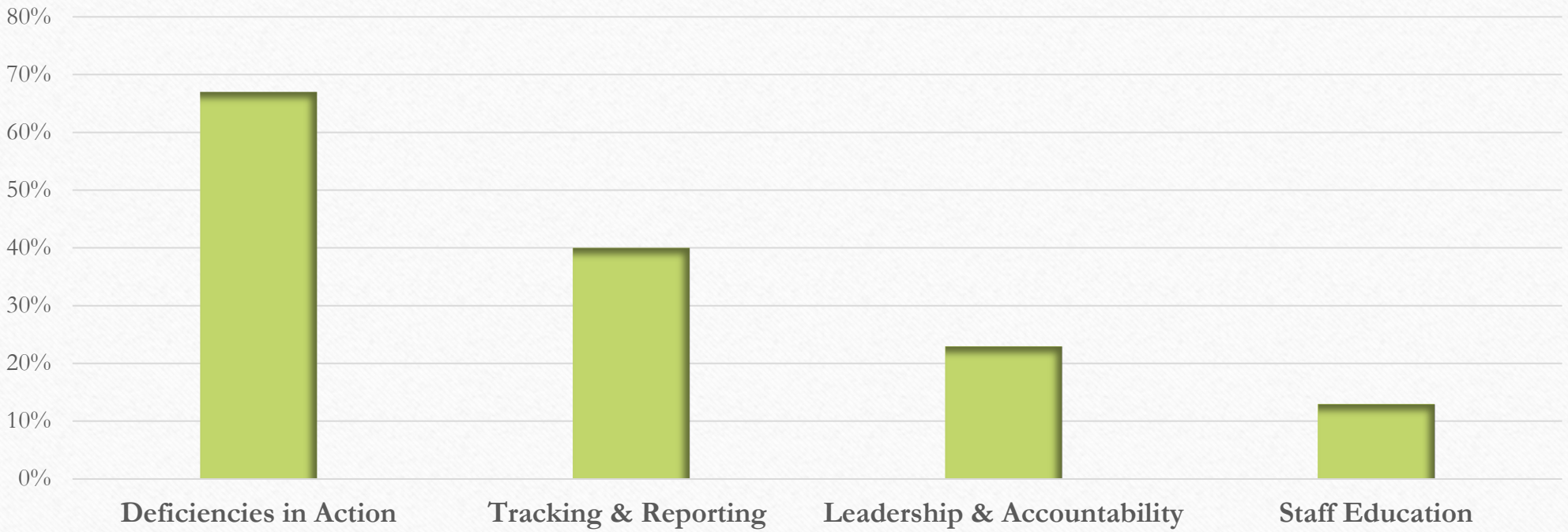
Deficiencies in Staff Education and Antibiotic Stewardship Knowledge and the Impact on Resident Care

631 nursing homes that received an antibiotic stewardship deficiency **were more likely** to be for-profit or have small bed size (≤ 99) compared to **14,841** nursing homes that did not receive a citation.

318 randomly selected citation texts were categorized into **1 or more of 4 main categories** based on the CDC's Core Elements of Antibiotic Stewardship.

https://www.infectioncontroltoday.com/view/how-to-improve-nursing-home-antibiotic-stewardship-programs

Antibiotic Stewardship Deficiencies Citations for SNFs (2018-2019 in the U.S.)



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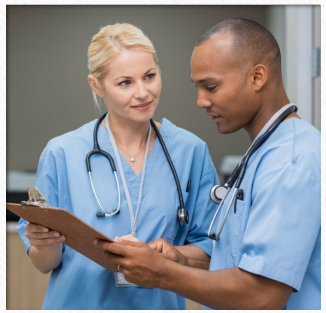
Provider Education

ARE NURSING STAFF EDUCATED ON HOW TO RECOGNIZE, ASSESS, COMMUNICATE, AND DOCUMENT A CHANGE IN RESIDENT'S CONDITION?



DO HEALTHCARE STAFF AND PROVIDERS RECEIVE REGULAR ANTIMICROBIAL STEWARDSHIP EDUCATION AND TRAINING?

DO NURSING STAFF USE EDUCATION AND TRAINING TOOLS TO ACCURATELY RECOGNIZE, ASSESS, DOCUMENT, AND COMMUNICATE A RESIDENT'S CHANGE IN CONDITION?

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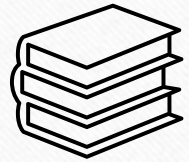
Passive vs. Active Education

Passive

- Instructor-centered
- Observation, listening, and reading
- Educational sessions, posters

Active

- Learner-centered
- Experimentation, application, and synthesis
- Audit and feedback, practice scenarios



https://www.learntowin.com/blog/active-passive-learning-differences

Educate the medical staff

Continuing Medical Education for physicians working in LTCFs should target most common causes of antibiotic misuse and be regularly repeated.

Audit and feedback assessing antibiotic prescribing can be another useful complement.

Regular feedback of antibiotic prescribing profiles (both facility and individual physician levels) can also be a powerful tool

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Ideas for education

- Interactive sessions
- Videos
- Written material (Flyers, pocket guides, newsletters)
- Outreach visits
- One-on-one interviews with prescribers
- Antibiotic guide (antibiogram) sent to physicians
- Antibiotic prescribing profile (feedback) sent to physicians
- ID on-site consultation service
- Introduction of new form for all nursing staff

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Role-specific Interventions

Nurses: discourage the collection of urine cultures in the absence of symptoms

Physicians: no antibiotics for asymptomatic bacteriuria

Minimum information, such as dose, duration and indication of antibiotic therapy should be documented in the medical record

**Partly to help guide other physicians caring for the patient to change or stop therapy when appropriate.

Standardize antibiotic treatments for frequently encountered infections

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Culture of Culturing

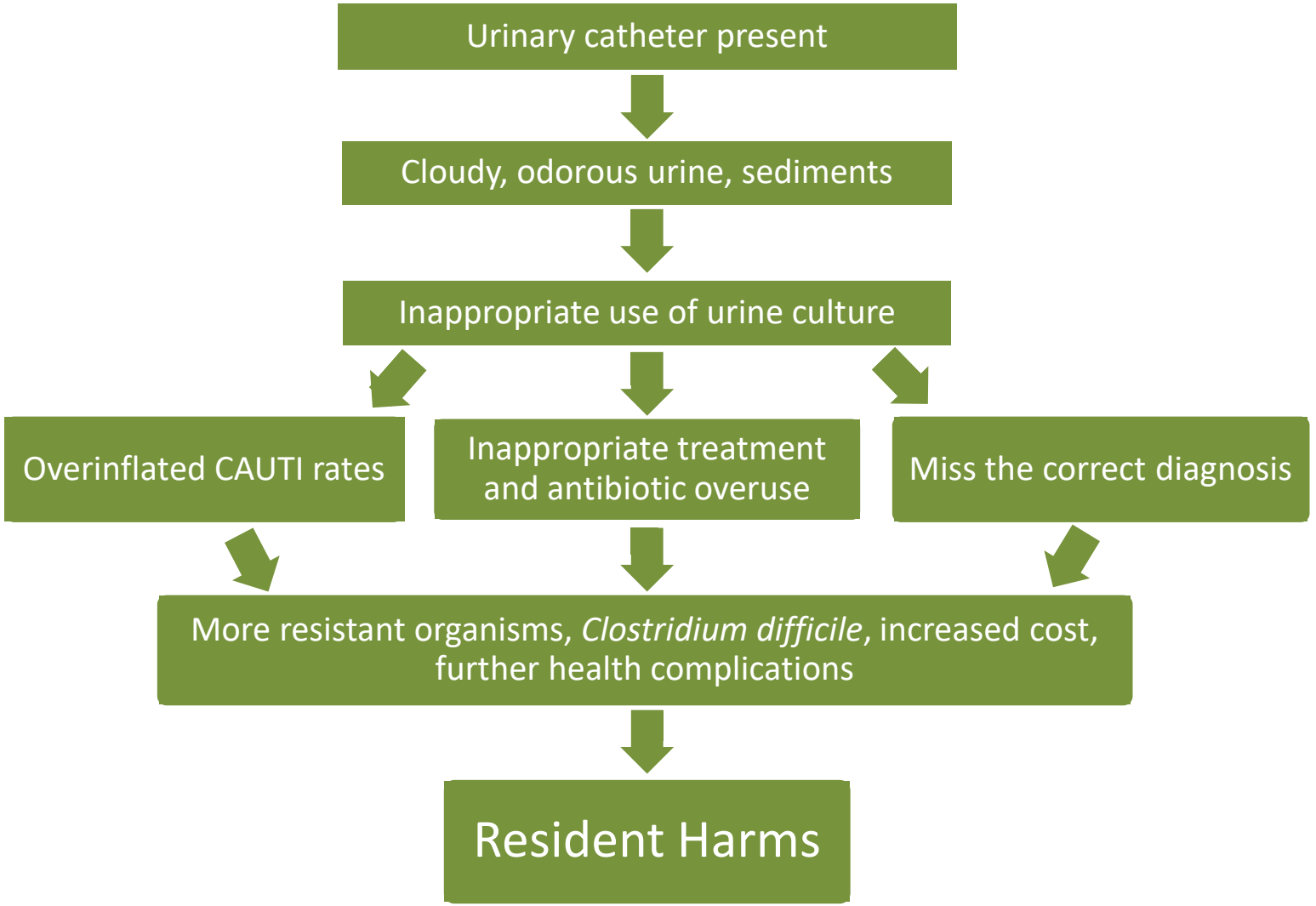
Overdiagnosis of UTI is one of the most common reasons for unnecessary use of antibiotics in long-term care

Most residents in these settings who have a positive result on urine culture testing do not actually have a UTI but rather asymptomatic bacteriuria (ASB)

Surveillance studies consistently show that in residents of long-term care who do not have a catheter, the prevalence of ASB is 30-50%, whereas UTI is far less common, with prevalence of less than 2%

Piggott KL, Trimble J, Leis JA. Reducing unnecessary urine culture testing in residents of long term care facilities. BMJ. 2023 Aug 9;382:e075566.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10466199/

How Can Ordering Urine Cultures Lead To Resident Harms?



Treating Asymptomatic Bacteriuria

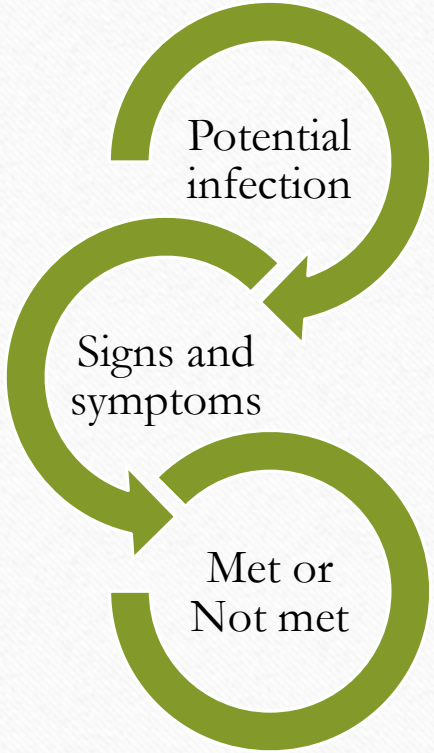
At least nine randomized controlled trials have shown the lack of clinical benefit of treating ASB with antibiotics in adults, as well as significant potential harms.

Despite this, observational studies in long term care settings across different countries show that 30-80% of residents with ASB receive antibiotics.

Piggott KL, Trimble J, Leis JA. Reducing unnecessary urine culture testing in residents of long term care facilities. BMJ. 2023 Aug 9;382:e075566. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10466199/

Minimum Criteria for Antibiotics Tool

- Found at this website: https://www.ahrq.gov/nhguide/toolkits/determine-whether-to-treat/antibiotic-tool.html



When to Culture

Culture if:

- CAUTI is suspected:
- Symptoms present with no other identified cause
- Fever, costovertebral angle tenderness, pelvic discomfort, dysuria, urgency, suprapubic pain

Don't culture if:

- There is a change in urine color
- Urine only smells foul
- Urine is cloudy
- There is urinary sediment
- Symptoms are not present

Avoid Culturing:

- Screening upon admission without signs or symptoms
- Screening for non-urologic surgery
- Due to automatic triggers for cultures such as increase in temperature or white blood cells in urine

Communication with Residents and Families

Communication

Effective communication with residents and their families helps to address treatment expectations and places the resident at the center of care.

Nursing home healthcare professionals can help reduce inappropriate antibiotic use by utilizing the 4-part communication strategy

Communication skills training has been shown to significantly reduce inappropriate antibiotic prescribing in outpatient settings.

https://www.cdc.gov/antibiotic-use/pdfs/NursingHome-Toolkit-508.pdf

Healthcare professionals can use the 4-part **Communication Strategy**[6] to discuss appropriate antibiotic use when there is a change in the resident's condition.

1. Review findings:

Review relevant information such as symptoms or physical examination findings that support the decision about appropriate testing and antibiotic use.

2. Deliver a clear diagnosis:

Deliver a clear diagnosis that explains the change in the resident's condition.

3. Provide a FIRST negative, THEN positive treatment recommendation:

When an antibiotic is not needed, FIRST provide a negative treatment recommendation that "rules out" the need for antibiotics. THEN provide a positive recommendation for further evaluation, management, and monitoring.

4. Discuss a contingency plan:

Outline a contingency plan that details what actions will be taken if the resident does not improve, or if their condition worsens.

Communication Strategy Scenario

- 1. **Review findings**:
  - *Ms. Smith is less talkative than usual today. She is not complaining of pain or urgency when she urinates and she has no other symptoms to suggest an infection. On exam, she does not have a fever, her lungs sound clear, and her abdomen is not tender.*
- 2. **Deliver a clear diagnosis**:
  - *Her urine is darker than usual, which seems more consistent with fluid deficit than a urinary tract infection.*
- 3. **Provide a FIRST negative, THEN positive treatment recommendation**:
  - *Since the clinical findings do not indicate a urinary tract infection, an antibiotic will not help and may cause side effects, such as diarrhea. Instead, we will give her fluids and monitor her over the next 24 hours.*
- 4. **Discuss a contingency plan**:
  - *If Ms. Smith does not improve, develops a fever, or any new symptoms consistent with an infection, we will perform further testing and start antibiotics if needed.*

Surveillance Outcomes

- **Number of antimicrobials prescribed for suspected UTIs**
- **Antibiotic use compared with guidelines**
- **Timely antibiotic initiation for unstable patients**
- **Total antibiotic use**
- **Appropriateness of urine culture collection**
- **Proportion of quinolones prescribed for UTIs**
- **Proportion of recorded infections treated with an antibiotic**
- **Proportion of infections labeled "wait and see"**
- **Positive *C.difficile* tests**

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Other Resources

- **Talking to residents**: https://www.ahrq.gov/nhguide/toolkits/educate-and-engage/index.html
- **Toolkits:** https://www.ahrq.gov/nhguide/index.html
- **Resources:** https://qsep.cms.gov/data/251/AntibioticStewardshipProgramResourcesCMS508.pdf
- **12 moments:** https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/4_TK2_T2-Antibiotic_Pocket_Cards.pdf

Wrap-up!

- Follow recommendations to provide routine antimicrobial stewardship education to staff and providers to improve antibiotic stewardship practices.
- Develop methods of communication and education that are best suited for your facility staff to assist with access to the information.
- Educate nursing staff and healthcare providers on the importance of appropriate culturing to deter inappropriate uses of antibiotics.

Contact Us

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.pdf

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Learn to Win. Active Learning vs. Passive Learning – Learn to Win

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