

# The State of Stewardship Research: Post-Acute & Long-Term Care

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# Speaker Disclosures

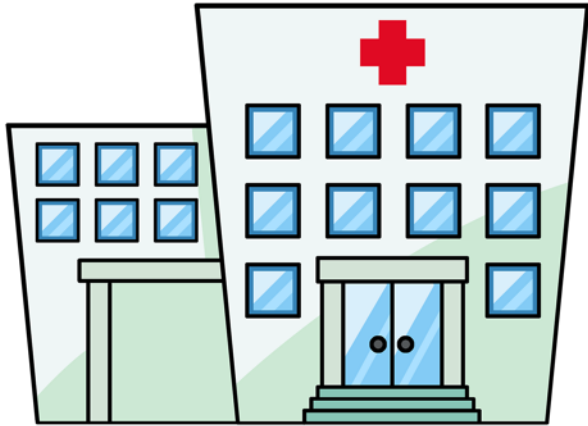
Dr. Jump has no direct conflicts of interest related to this presentation.

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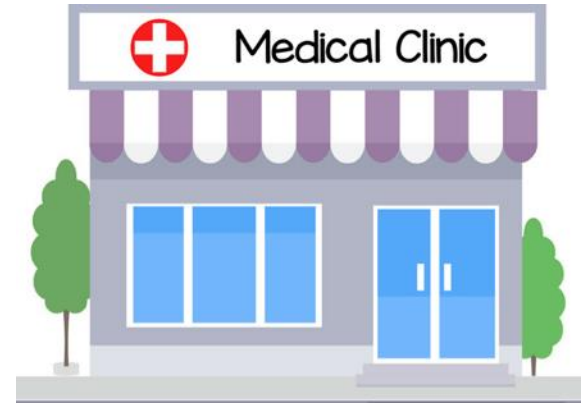
The opinions presented herein are my own and do not represent those of the Veterans Affairs system or the federal government.

# Health Care Settings

Inpatient

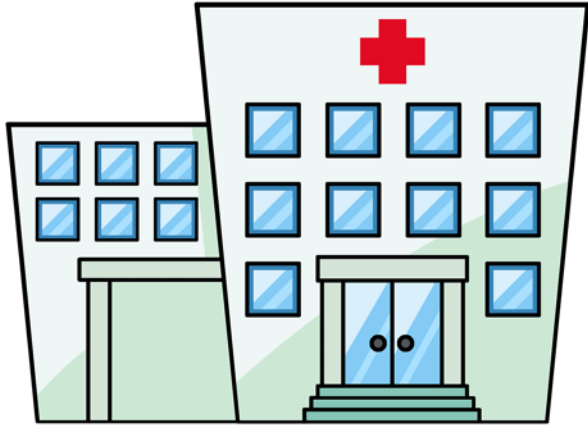


Outpatient



# Health Care Settings

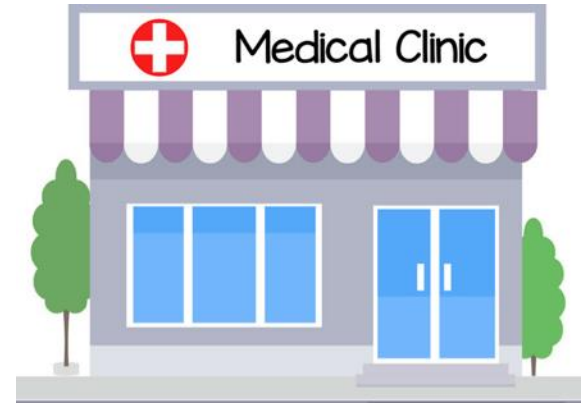
Inpatient



Post-Acute &  
Long-Term Care



Outpatient



# Health Care Settings

## Post-Acute & Long-Term Care



# Health Care Settings

**Nursing Homes**

Hospice

Assisted Living

Adult day care

Long-term acute  
care hospitals

**Post-Acute &  
Long-Term Care**



# Health Care Settings

**Nursing Homes**

**Post-Acute &  
Long-Term Care**



# Health Care Settings

## Nursing Homes

## Post-Acute & Long-Term Care

- 15,600 centers
- 1.7 million beds
- 3.9 million people cared for each year



AHCA: [https://www.ahcancal.org/research\\_data/trends\\_statistics/Pages/Fast-Facts.aspx](https://www.ahcancal.org/research_data/trends_statistics/Pages/Fast-Facts.aspx)

AARP Nursing Homes Fact Sheet: [https://assets.aarp.org/rgcenter/il/fs10r\\_homes.pdf](https://assets.aarp.org/rgcenter/il/fs10r_homes.pdf)



# Health Care Settings

## Nursing Homes

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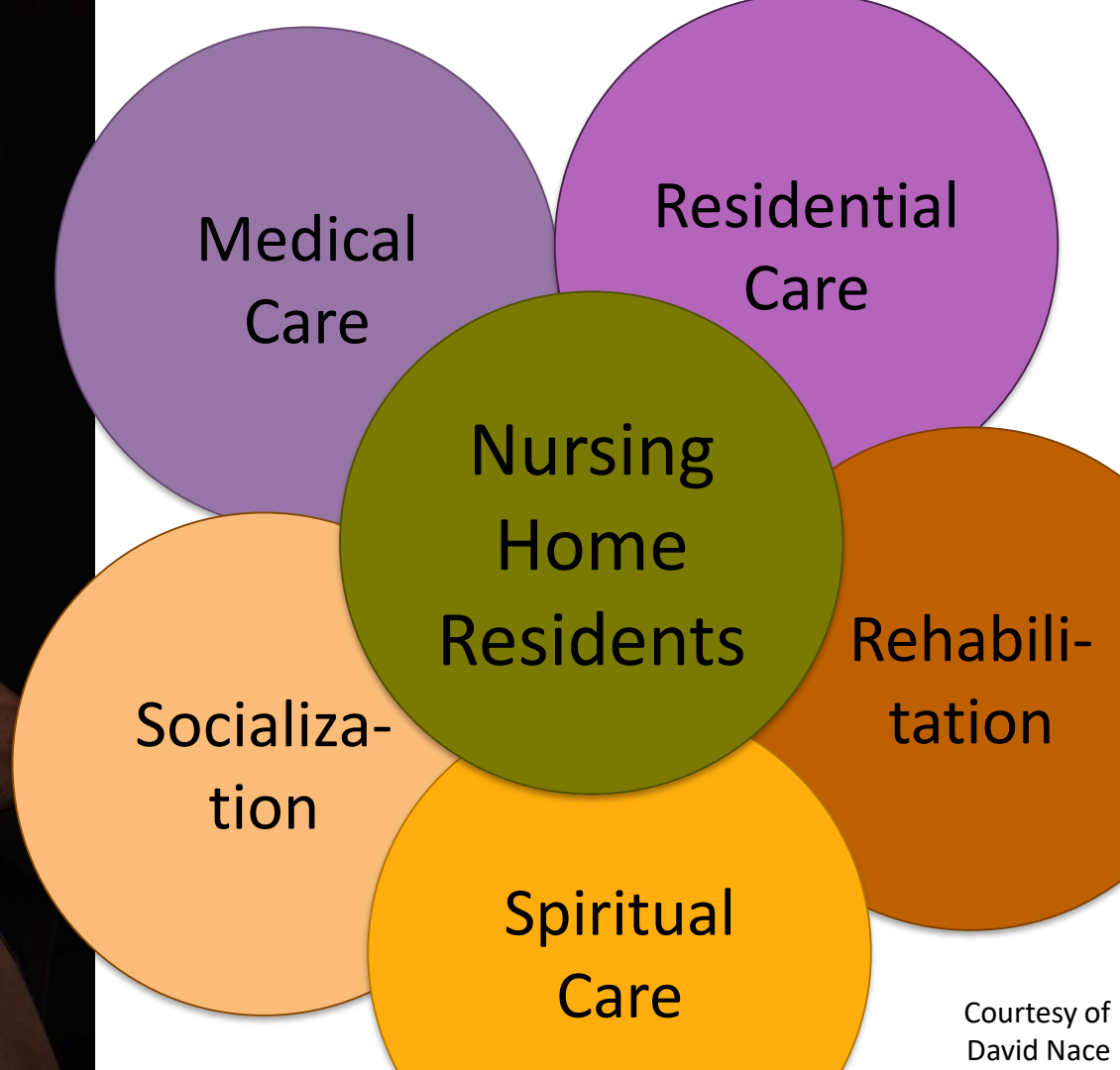
## Post-Acute & Long-Term Care



1 in 3 adults  
>65 years  
will receive  
some care in  
a nursing  
home in  
their lifetime

AHCA: [https://www.ahcancal.org/research\\_data/trends\\_statistics/Pages/Fast-Facts.aspx](https://www.ahcancal.org/research_data/trends_statistics/Pages/Fast-Facts.aspx)

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# Recent Research

- Reviewed **20** studies with quantitative outcomes
  - 5 randomized controlled trials; 15 quasi-experimental analyses
- Quality: 11 good, 7 fair, 2 poor
- **14 with measurable changes**
  - Reduced antibiotic starts
  - Reduced total antimicrobial use
  - Increased adherence to guidelines
  - Reduced *C. difficile* and/or drug-resistant bacteria

# Effective Implementation

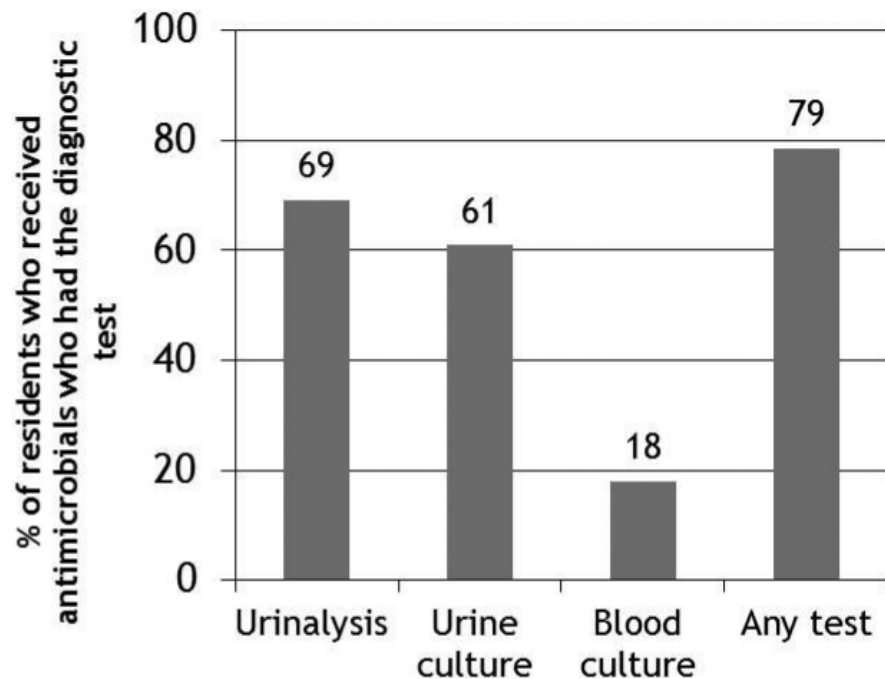
1. Structured Education
2. Involve Nurses
3. Integrate changes into workflow
  - Nurses—*pre-prescription*
  - Prescribers—*post-prescription*
4. Involve professionals with infectious disease expertise

# What are the Initial Steps in Antibiotic Prescribing?

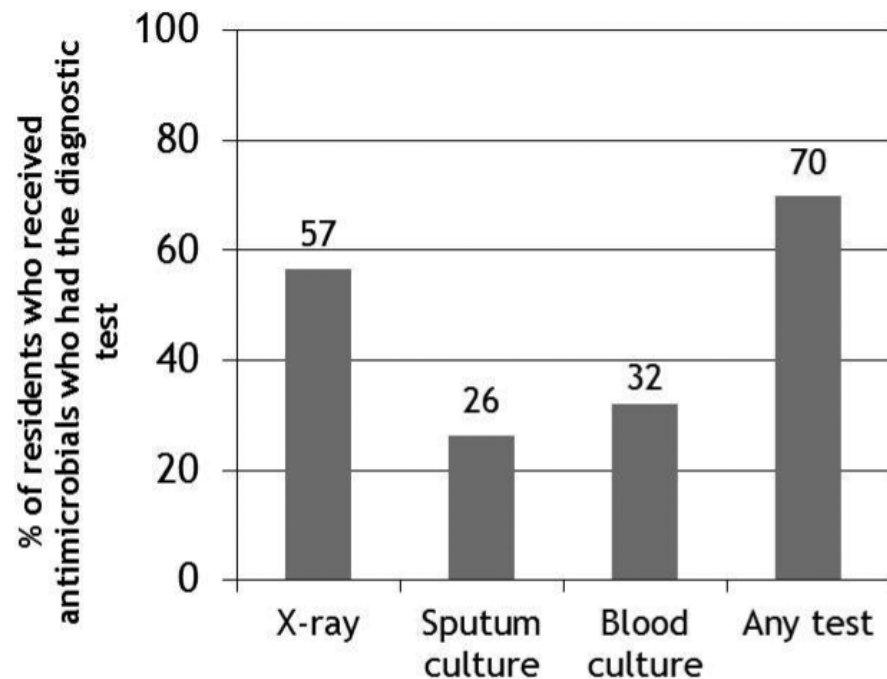
- Prospective longitudinal study
  - 162 nursing home (NH) residents in 6 NHs
  - Indwelling devices
    - 49% urinary catheter
    - 33% feeding tube
    - 18% both
- **100/162 (62%) received 344 courses of antibiotics during follow-up ( $104 \pm 122$  days)**

# Diagnostic Test $\leq 7$ Days Before Antibiotic Prescribed

## Urinary Tract Infection



## Pneumonia



# Is There an App for That?

- Figure out what information is needed to help front-line staff recognize true UTI (vs. asymptomatic bacteriuria)
- Developed a Clinical Decision Support System for mobile devices
- **Supports LPNs, RNs with assessment and communication *Pre-prescription***
- **Supports prescribers recognition of symptoms, choices for empiric therapy and interpretation of culture results *Post-prescription***

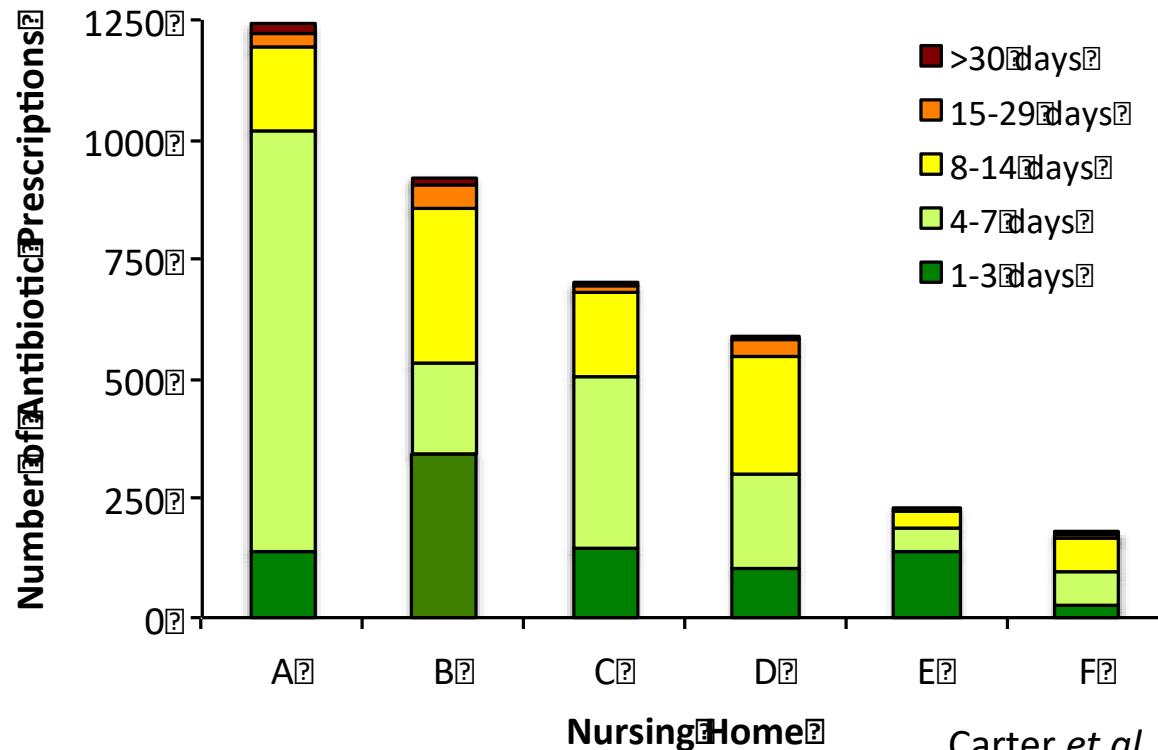
12:48 PM

Uti Decide [Start Over](#)

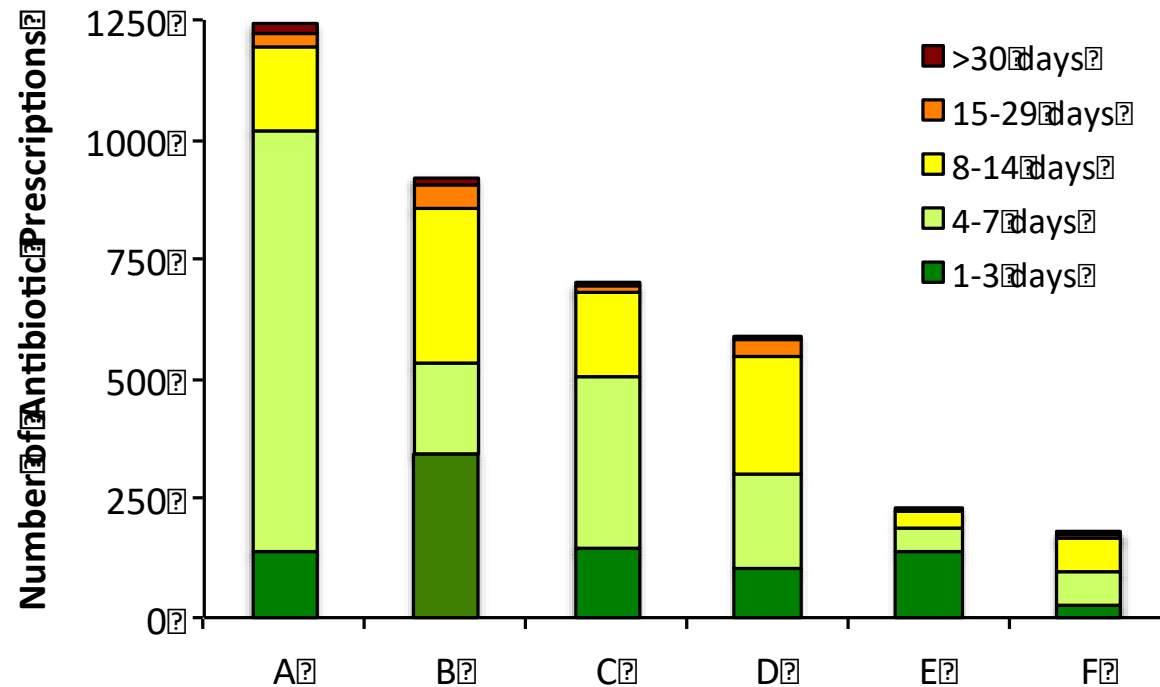
Which, if any, of these signs or symptoms of a UTI are exhibited?  
Select only if it represents a change.

- Vital signs:
  - ☒ Fever ⓘ
  - ☐ Rigors (shaking chills)
  - ☐ Hypotension (low blood pressure)
- Reported or observed:
  - ☒ Suprapubic pain
  - ☐ Dysuria, urgency, or frequency
  - ☐ Hematuria (blood in the urine)
  - ☐ Costovertebral angle (CVA) pain or tenderness
  - ☐ Pain, swelling, or tenderness of

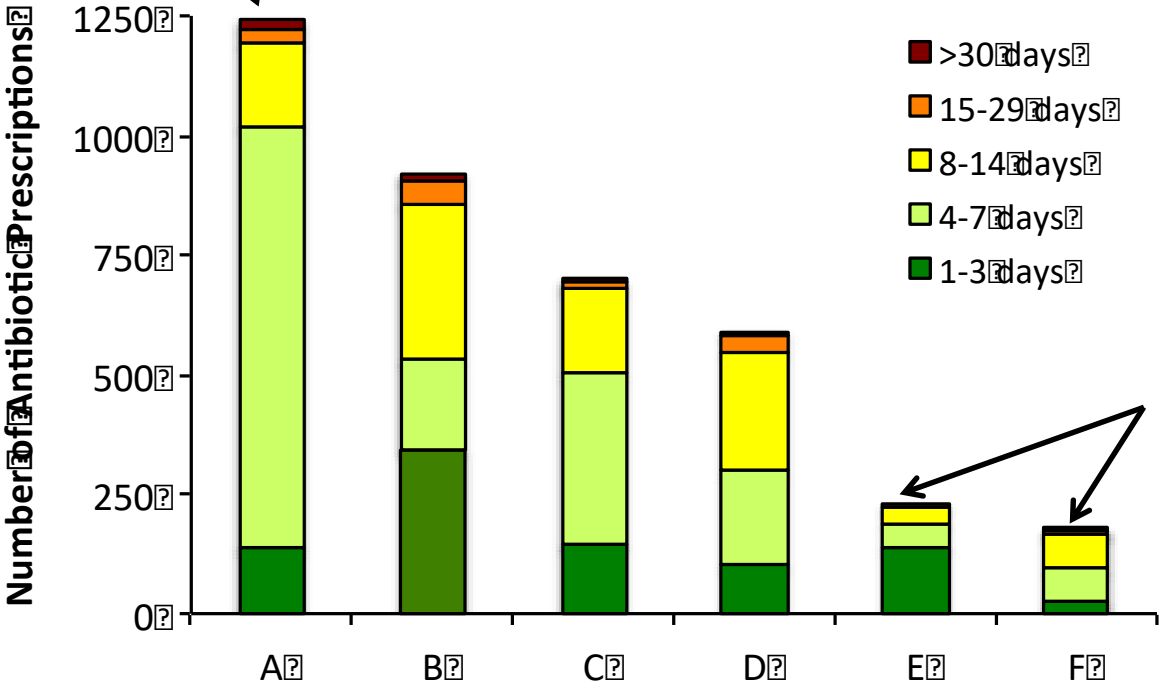
# Does Facility Culture Influence Antibiotic Stewardship?







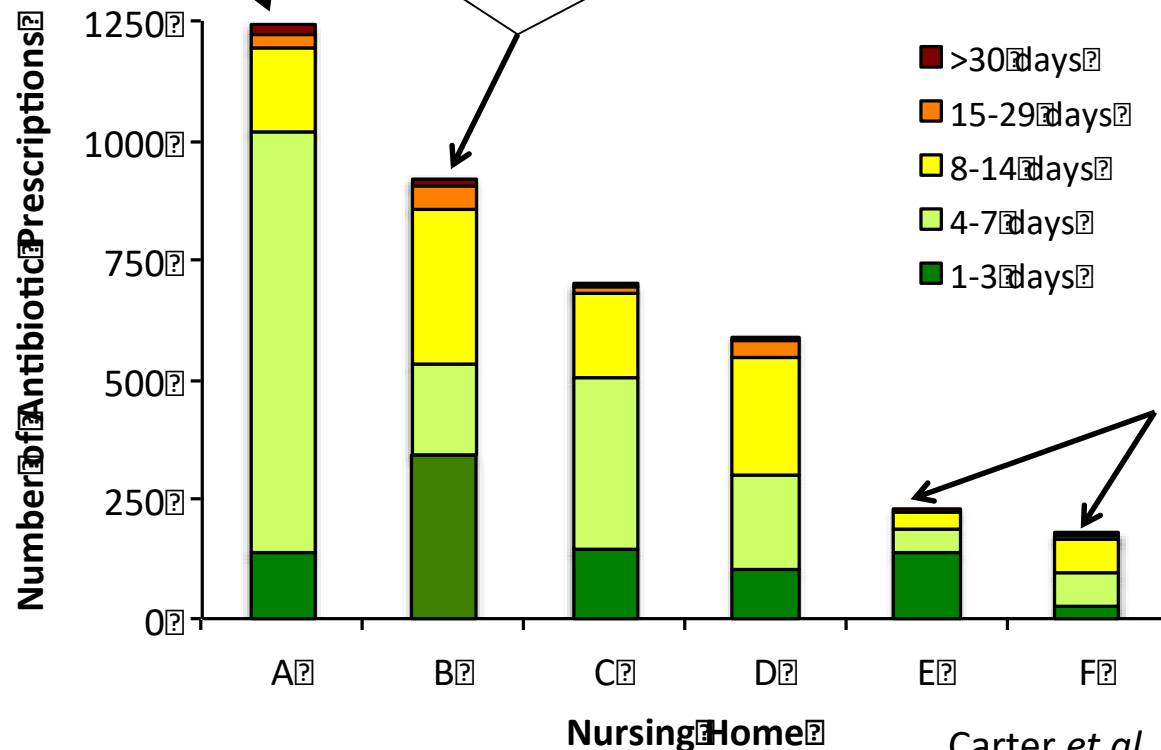
Did not  
respond to  
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interviews



Medical Director, DON and  
Infection Control RN talked  
with us, together

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"I think the providers always  
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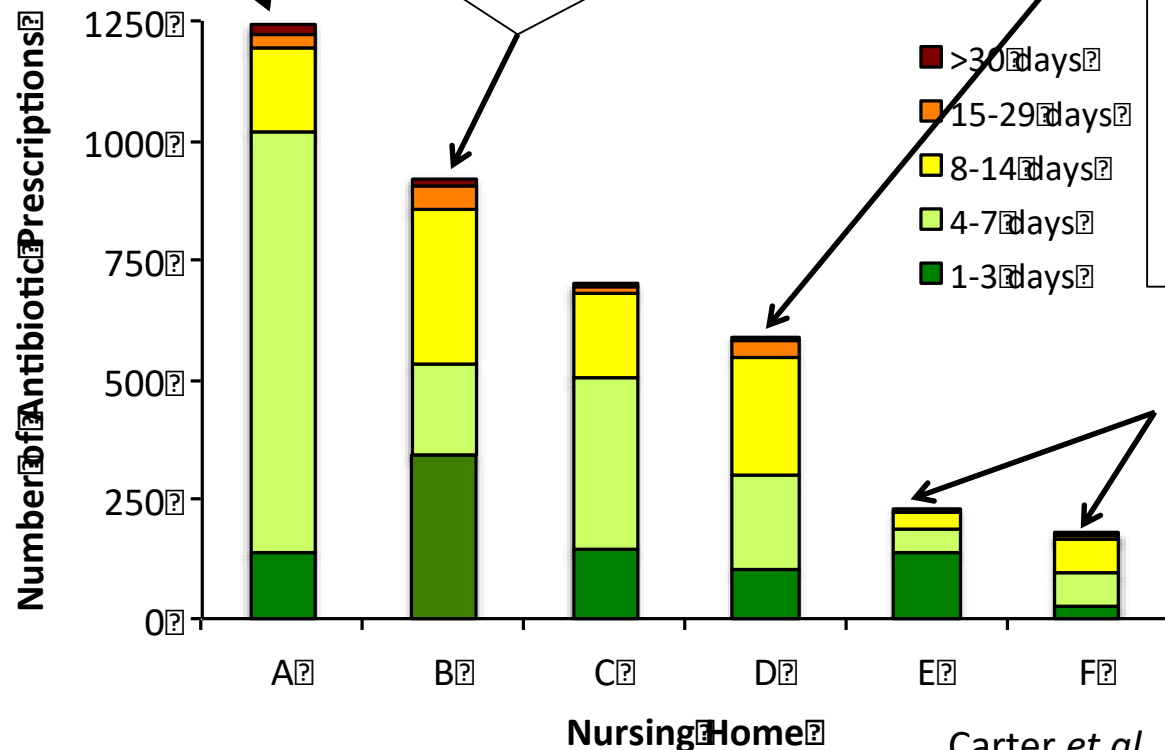


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"I think the providers always  
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the way that maybe we were  
hoping for?"

"In the beginning it was  
kind of a scary step, [to  
question] a doctor.... I tell  
them, 'The CDC's  
recommendation isn't that  
we treat for 14 days every  
time now, can we cut it  
down a few?' "



Medical Director, DON and  
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# Audience Poll

If you were going to improve antimicrobial stewardship in a post-acute or long-term care facility, where would you start?

- A. Pre-prescription by focusing on workflow of nursing staff.
- B. Post-prescription by focusing on workflow of prescribers.
- C. Focus on stewardship of diagnostic tests.
- D. Cultural transformation to improve communication between nurses and prescribers.
- E. Bring in an MD or PharmD with infectious diseases expertise

# Acute Needs



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The Daily Journal of the United States Government

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 **Rule**

## Medicare and Medicaid Programs; Reform of Requirements for Long-Term Care Facilities

A Rule by the [Centers for Medicare & Medicaid Services](#) on 10/04/2016



<https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>

# Acute Needs



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(3) An antibiotic stewardship program that includes antibiotic use protocols and a system to monitor antibiotic use.

## November 28<sup>th</sup> 2017

<https://www.federalregister.gov/documents/2016/10/04/2016-23503/medicare-and-medicaid-programs-reform-of-requirements-for-long-term-care-facilities>



JAMDA

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## Special Article

# Template for an Antibiotic Stewardship Policy for Post-Acute and Long-Term Care Settings



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# Research Gaps

In PA/LTC settings.....

- **Which antibiotic use measures are meaningful & feasible?**
- What measures demonstrate “good” antibiotic stewardship? Rate of antibiotic use, appropriateness, adherence to guidelines?
- How does implementing antibiotic stewardship influence infection prevention and control measures? (synergistic education? Diverting resources and time?)
- Is testing stewardship (pre-prescriptive) more effective/successful than antibiotic stewardship (post-prescriptive) measures?
- Do antibiograms improve empiric antibiotic choices?
- How should antibiograms be developed? (Distinct from hospitals? Combined with other PA/LTCs in region? Focus only on urine cultures?)

# Antibiotic Stewardship Haiku

Do those bugs need drugs?

Antibiotic stewardship:

Only when needed

**Thank you!**

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