

Antimicrobial Stewardship in Post-Acute and Long-Term Care Facilities: Strategies and Resources for Implementation

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Speaker Disclosures

- Dheeraj Mahajan, MD: No relevant financial relationship to disclose
- Muhammad S. Ashraf, MBBS : No relevant financial relationship to disclose
- Elizabeth Frentzel, MPH: No relevant financial relationship to disclose
- Nimalie Stone, MD: No relevant financial relationship to disclose

Learning Objectives

- Recognize practical approaches towards developing a formal antimicrobial stewardship program in post-acute and long-term-care setting using CDC core elements
- Identify different stewardship strategies and tools relevant to the Core Elements
- Learn about the effectiveness and limitations of various post acute and long-term care facilities antimicrobial stewardship programs.

USING CDC CORE ELEMENT FOR ANTIMICROBIAL STEWARDSHIP PROGRAM DEVELOPMENT

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President and CEO

Chicago Internal Medicine Practice and Research (CIMPAR, SC)

DEFINITION

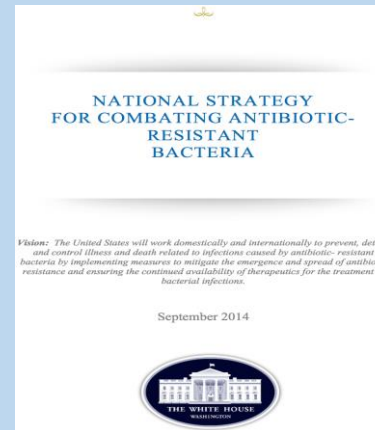
Antibiotic stewardship refers to a set of commitments and activities designed to **“optimize the treatment of infections while reducing the adverse events associated with antibiotic use.”**

Background

- **70%** of NH residents **receive** one or more courses of antibiotics in a year
- **40%-75%** of antibiotics prescribed in NH may be **unnecessary or inappropriate**
- **Cost** of antibiotic use in NHs is **\$ 38 to 137 million** per year
- Residents with higher antibiotic use are at **24 % higher** risk of antibiotic related **harm**
- **20 %** of **providers prescribe 80 %** of antibiotics
- **40-75%** of antibiotics in NH are prescribed **incorrectly**
- **50 %** of antibiotics in NH are prescribed for **longer duration than necessary**

Calls for Action

- White House call [for combating antibiotic resistant bacteria](#) (2014)
- CDC's [Core Elements of Antibiotic Stewardship for Nursing Homes](#) (2015)
- CMS regulations on LTC antimicrobial stewardship (2016)
- Joint Commission's 2017 standard on antimicrobial stewardship



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

42 CFR Parts 405, 431, 447, 482, 483, 485, 488, and 489

[CMS-3260-F]

RIN 0938-AR61

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

AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Final rule.

Side by Side



Core Elements of Antibiotic Stewardship for Nursing Homes



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

Leadership Commitment

- **Written statements** of Leadership support
- **Define Duties** of leaders and champions
- Notify and **communicate**
- Create and promote a **culture**

Accountability

- The medical director
- The director of nursing
- The pharmacist



LEADERS

- The Infection prevention program coordinator
- The laboratory
- State and local health departments

Drug Expertise

- Work with consultant **pharmacists with additional training**
- Network with area hospital with similar AMS philosophy and **engage with Infection prevention personnel**
- Develop relationships with **infectious disease consultants**

Policy and Practice Change

- Policies that support optimal antibiotic use
- Broad interventions
 - Algorithms for resident assessments
 - Communication tools
 - Antibiograms
 - Antibiotic-time outs
 - Program to prescribe antibiotic for shortest duration needed to treat infection
- Pharmacy interventions (monitoring for adverse reactions and review of labs, cultures etc.)
- Infection and syndrome specific interventions (reduce antibiotic use for asymptomatic bacteriuria and antibiotic prophylaxis for UTI; optimize management of pneumonia and the use of chronic wound cultures)

Tracking and Reporting

- Tracking **how and why** antibiotics are prescribed (process measure)
- Tracking **how often and how many** antibiotics are prescribed (antibiotic use measure)
- Tracking the **adverse outcomes** and costs from antibiotics (outcome measure)

Education

- WHO

Physicians, NPPs, Nursing, residents and families

- HOW

Flyers, Newsletters, Emails/listserves and In-person sessions

....FEEDBACK goes a long way

CONCLUSION

- Antimicrobial stewardship core elements are similar for hospitals and nursing homes
- Start with 1 or 2 activities/interventions and build on success
- Celebrate your achievements and recognize the staff

ANTIMICROBIAL STEWARDSHIP IN POST-ACUTE AND LONG-TERM CARE SETTINGS:

Evidence-Based Interventions

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Division of Infectious Diseases
Medical Director,
Nebraska Infection Control Assessment and Promotion Program
Co-Medical Director,
Nebraska Antimicrobial Stewardship Assessment and Promotion Program
University of Nebraska Medical Center**



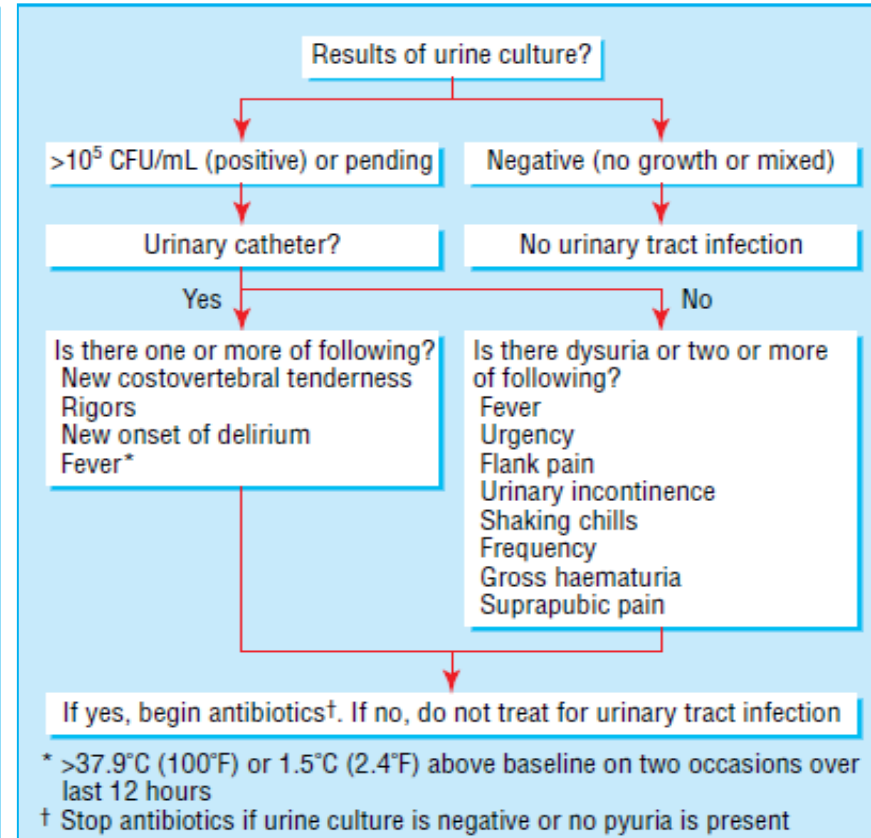
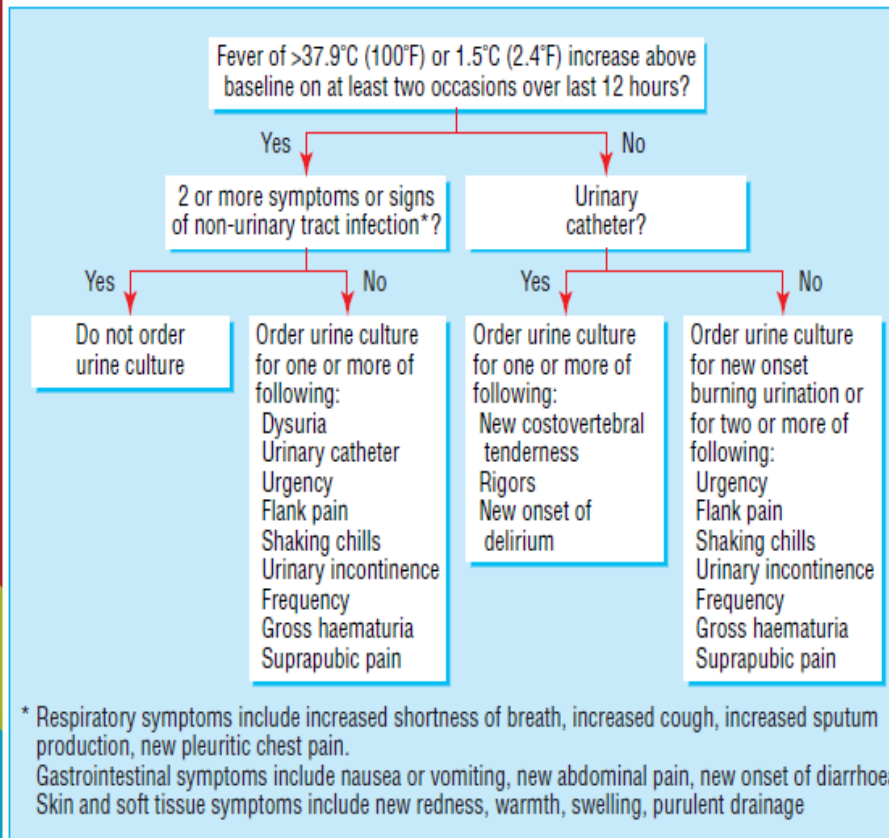
**University of Nebraska
Medical Center**

Evidence Based Interventions To Improve Antibiotic Use

- Pre-prescription Interventions:
 - Use of diagnostic and treatment algorithms
 - Use of communication/decision aid tools
 - Education of nursing staff and providers about guidelines
 - Use of nursing home AntibioGrams
- Post-prescription interventions:
 - Post-prescribing review of antibiotics (antibiotic time out)
 - Prospective audit and feedback
- Interventions targeting pre and post-prescription periods:
 - LTCF ID consultation service



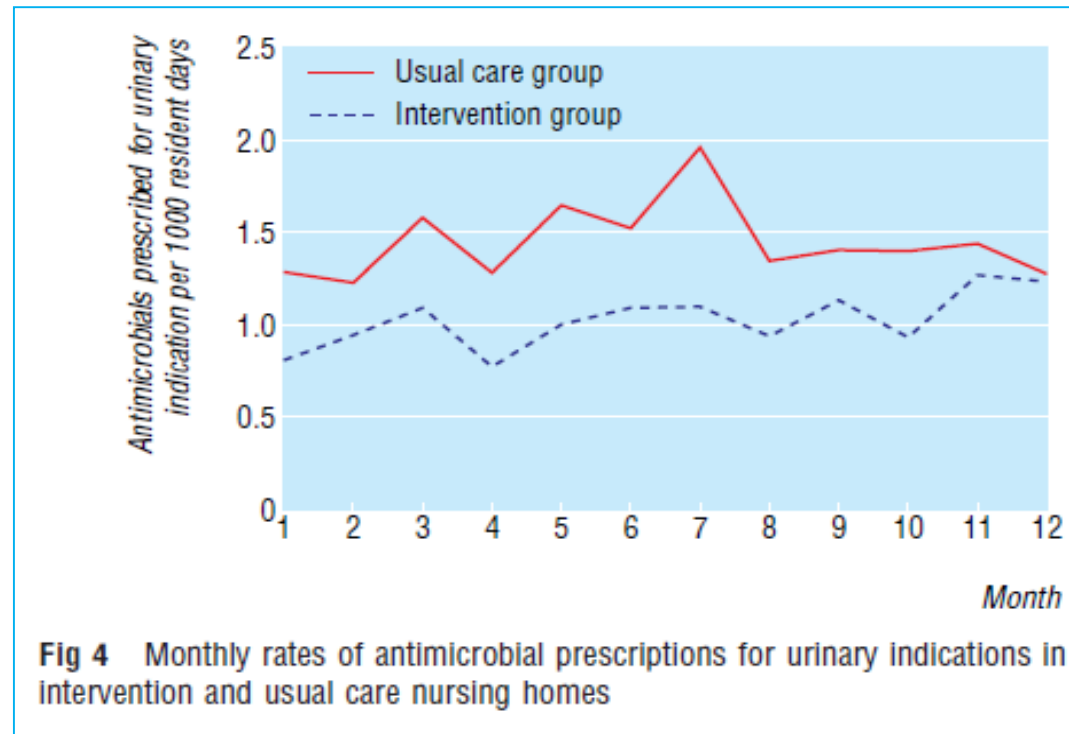
Utilizing Algorithms to Decrease Inappropriate Urine Cultures and Treatment of Asymptomatic Bacteriuria



Utilizing Algorithms (Intervention Impact)

Clinical algorithms targeted to physicians and nurses caused 31% decline in antibiotic use for UTI

Antibiotic use for other indications, along with total antibiotic use, did not change



Utilizing Algorithms (With Recurrent Educational Sessions)

	3-Month Pre-Intervention	Initial 6 Months Post-Intervention	7 to 30 Months Post-Intervention
Urine cultures/ 1000 patient days	3.7	1.5	1.3
ASB treated	67.6%	69.2%	44%
Antibiotic days/ 1000 patient days	167.7	117.4	109.0

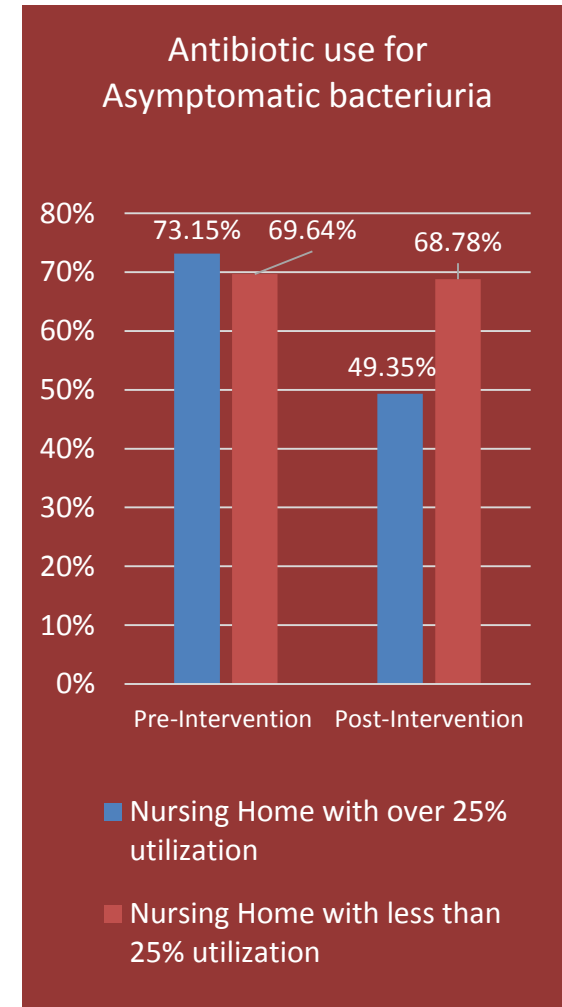
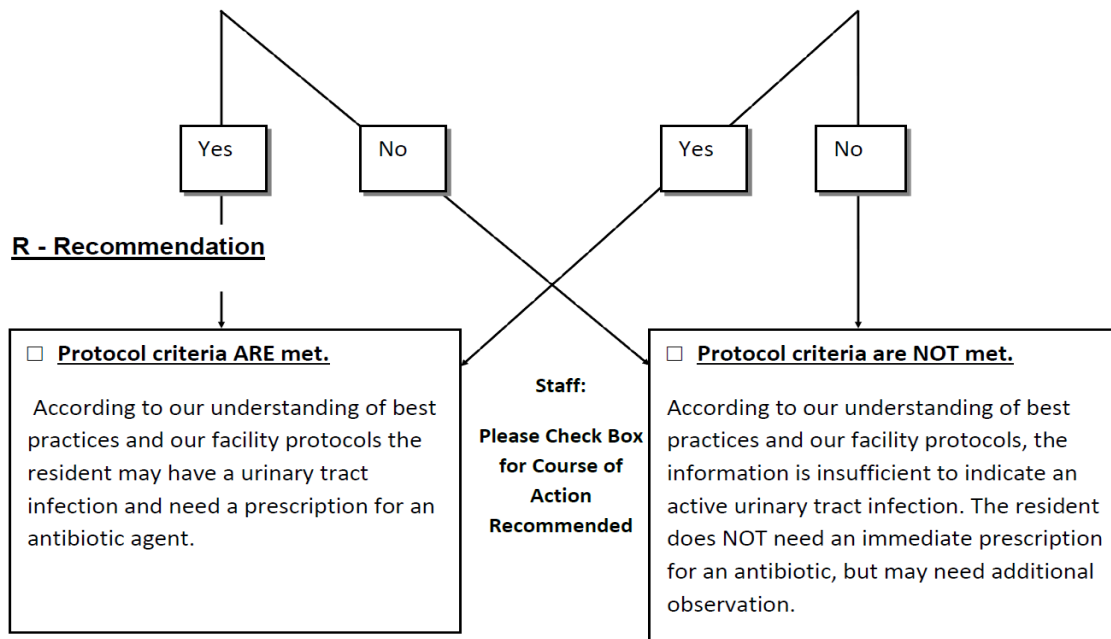
- Inappropriate urine cultures and total antibiotic days went down after setting up criteria for sending urine cultures and for the diagnosis of UTI.
- Required semi-annual follow-up educational sessions and individualized direct feedback in certain instances.



Use of Communication/Decision Aid Tool

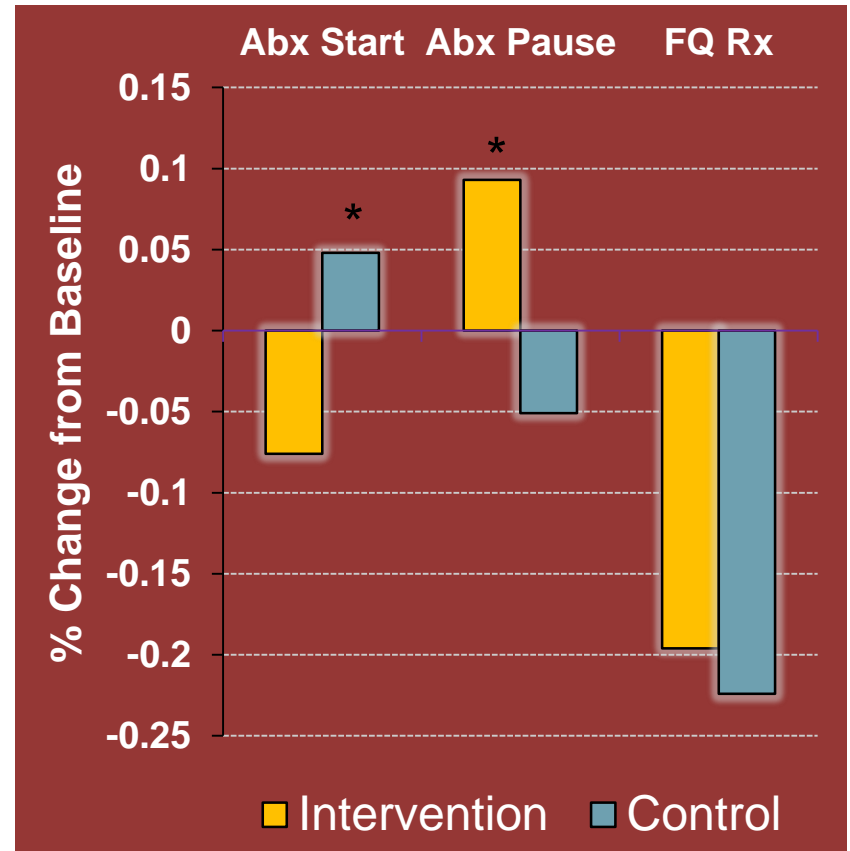
A – Assessment (check boxes and determine recommendation prior to call)

<p>Resident with indwelling catheter:</p> <ul style="list-style-type: none"> <input type="checkbox"/> fever of 100°F (38°C) or 2°F (1°C) greater than baseline <input type="checkbox"/> new costovertebral tenderness <input type="checkbox"/> rigors <input type="checkbox"/> new delirium <input type="checkbox"/> hypotension <p>Any one of the above present</p>	<p>Resident without indwelling catheter:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Acute dysuria alone; <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <input type="checkbox"/> Single temperature of 100°F (38°C), multiple at 99°F (37°C) or above, or 2°F (1°C) degrees greater than baseline AND at least one new or worsening of the following: <ul style="list-style-type: none"> <input type="checkbox"/> urgency <input type="checkbox"/> suprapubic pain <input type="checkbox"/> frequency <input type="checkbox"/> gross hematuria <input type="checkbox"/> costovertebral angle tenderness <input type="checkbox"/> new/worsening urinary incontinence
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Education of Nursing Staff and Providers About Guidelines

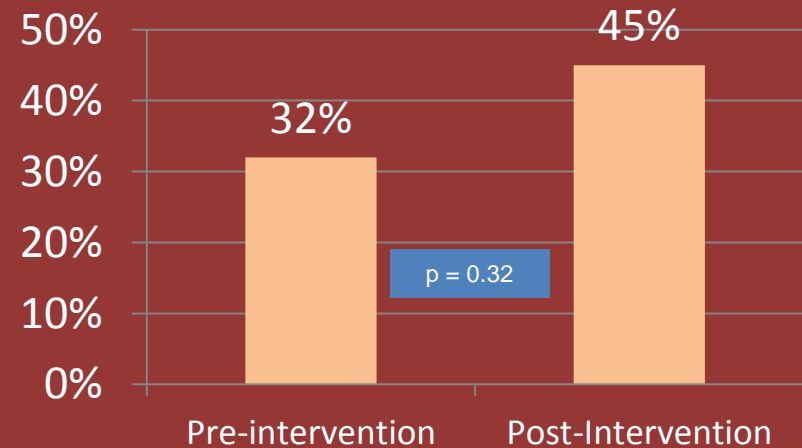
- Cluster RCT in 58 NHs in Sweden
- Prescribing guideline disseminated through interactive case-based sessions w/ nurses & providers
- Total antibiotic prescriptions decreased and wait and see approach by physicians increased



Use of Nursing Home Antibigram

- Up to 85% of treatment started empirically
- Where cultures available
 - only 32% of empiric antibiotic appropriate
- Antibigram was distributed to Nursing Staff, Administrators and Physicians in a meeting.
- 6 months later there was a modest increase in appropriateness; however, the difference was not statistically significant

Appropriate Empiric Antibiotic use



RAMP* Form Part B: Review of treatment

*Resident Antimicrobial Management Plan (part of STAUNCH Project)

Part B: Start to fill in 48-72 hours after commencing treatment
All sections should be completed by end of treatment period

Plan no.	Resident Name	Room no.
Good Practice Points		Nurse Records
B 1	<i>Review clinical progress after 48-72 hours of treatment</i>	<p>Review of progress: due 48-72h after commencing treatment (See section A6)</p> <p>Time: : [24 hr clock] Date: / /</p> <p>The resident: [tick all applicable]</p> <p><input type="checkbox"/> now has <u>no</u> signs or symptoms of infection <input type="checkbox"/> was in hospital</p> <p><input type="checkbox"/> has improved</p> <p><input type="checkbox"/> remains the same</p> <p><input type="checkbox"/> has new signs / symptoms [state details]</p> <p>Is resident worse? YES / NO If YES: State action taken</p> <p>.....</p>
B 2	<i>Stop date of treatment confirmed or review date planned</i>	<p>Total number of days treatment prescribed: (days)</p> <p>Treatment STOPPED: Time: : [24 hr clock] Date: / /</p> <p>OR</p> <p>REVIEW of treatment planned for: Date: / /</p>
B 3	<i>Resident re-examined by a doctor</i>	<p>Resident re-examined by a doctor for the <u>same</u> condition?</p> <p>YES / NO If YES was this:</p> <p><input type="checkbox"/> Scheduled GP visit <input type="checkbox"/> Extra GP visit <input type="checkbox"/> Out of Hours Service visit</p> <p><input type="checkbox"/> Hospital A&E visit <input type="checkbox"/> Hospital Admission <input type="checkbox"/> Hospital Out-Patient visit</p> <p>Time: : [24 hr clock] Date: / /</p>
B 4	<i>Results of samples / swabs recorded</i>	<p>Sample results: [tick all applicable] See section A4 overleaf</p> <p><input type="checkbox"/> No new samples or swabs sent before this treatment started</p> <p><input type="checkbox"/> Results not available yet</p> <p><input type="checkbox"/> Negative result (no growth)</p> <p><input type="checkbox"/> Positive result (micro-organisms grown)</p> <p>[state details if known]</p> <p>If positive result:</p> <p>Is this micro-organism sensitive to the antimicrobial prescribed?</p> <p>[tick one option] <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Not tested by laboratory</p>
B 5	<i>Outcome of antimicrobial treatment documented</i>	<p>Treatment outcome (at end of course)</p> <p><input type="checkbox"/> Symptoms completely resolved</p> <p><input type="checkbox"/> Symptoms partly resolved</p> <p><input type="checkbox"/> No improvement</p> <p>Additional antimicrobial treatment prescribed? YES / NO</p> <p>If YES: Commence new RAMP form</p>
For Study Use Only	Ref. No.	B1 B2 B3 B4 B5

Post – Prescribing Review of Antibiotics

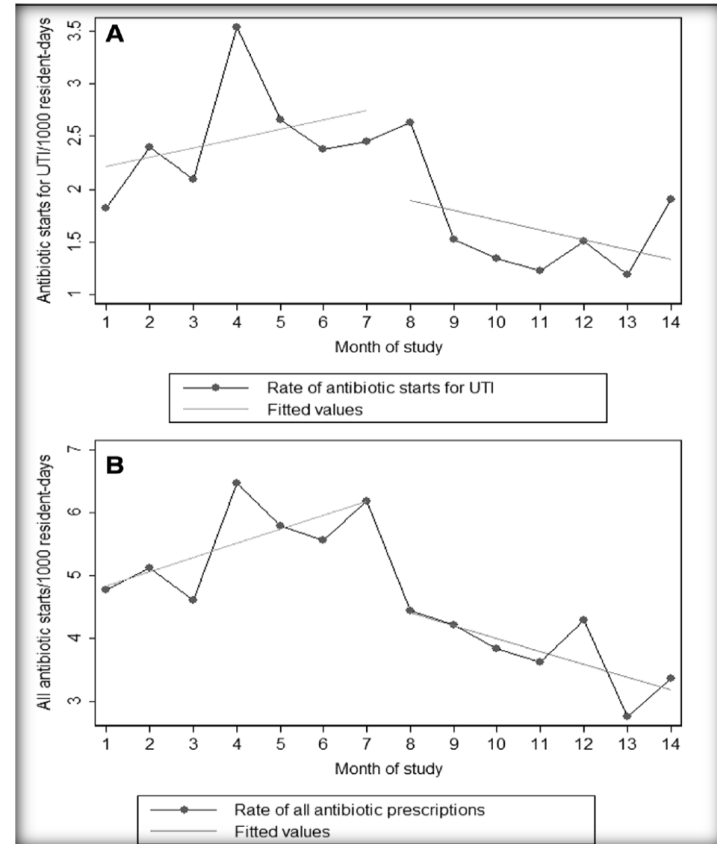
- Cluster RCT in 30 NHs in United Kingdom
- Introduced a form with Part A to be filled out at the start of antibiotic and Part B after 48 hour of treatment
- No additional intervention
- Part A was filled 86% of time and Part B 57% of time
- Antibiotic starts unchanged
- Antibiotic utilization decreased by 10%

Fleet E et al. J Antimicrob Chemother 2014; 69: 2265–73

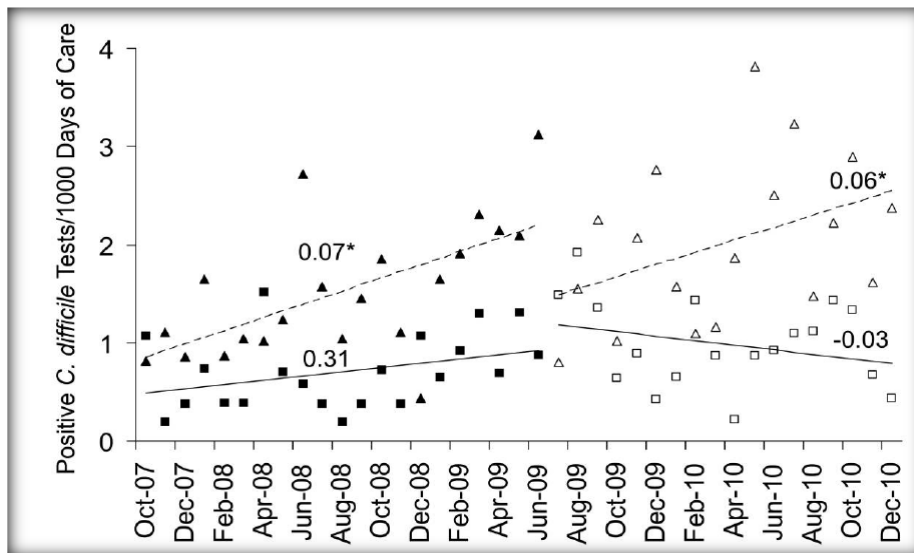
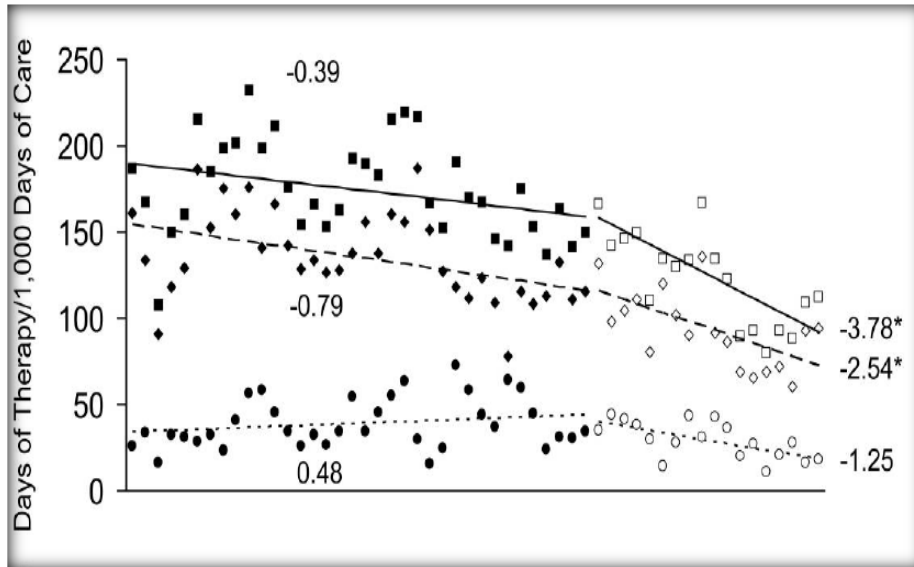


Prospective Audit and Feedback Targeting UTI

- Immediate 26% decrease in antibiotic prescription for UTI with 6% reduction continuing through the intervention period
- Immediate 25% decrease in all antibiotic prescription with 5% reduction continuing throughout the intervention period
- 25% recommendations were accepted



LTCF ID Consultation Service



- 30% decrease in total antibiotic use
- 64% decline in tetracyclines use
- 61% decline in clindamycin use
- 38% decline in fluoroquinolones & sulfamethoxazole/trimethoprim
- 28% decline in beta lactam/ beta lactamase inhibitor use
- Rate of positive *C. difficile* tests at LTCF also declined while rate were the same in the hospital



In Summary

- There are pros and cons for each of the interventions that have been studied.
- Facilities will have to decide which approach works best for them.
- Free resources and tools are available to help facilities implement various components of core elements.



Stewardship: Resources and Tools

Elizabeth Frentzel, MPH

Principal Research Scientist

Current Strategies and Tools

- AHRQ: [Nursing Home Antimicrobial Stewardship Guide](#)
- CDC: [Core Elements of Antibiotic Stewardship for Nursing Homes](#)
- Robin Jump: [Improving the Care of Long-term Care Facility Residents with Infections](#)
- Minnesota: [Antimicrobial Stewardship Program Toolkit for Long-term Care Facilities](#)
- UNC: [Promoting Wise Antibiotic Use in Nursing Homes](#)

Overview of the AHRQ Guide

- **Toolkits to Implement, Monitor, and Sustain**
 - Start an Antimicrobial Stewardship Program Toolkit
 - Monitor and Sustain Stewardship Toolkit
- **Toolkits to Determine Whether It Is Necessary to Treat a Potential Infection With Antibiotics**
 - Suspected UTI SBAR Toolkit
 - Common Suspected Infections: Communicating and Decision Making for Four Infections Toolkit
 - Minimum Criteria for Common Infections Toolkit
- **Toolkits to Help Prescribing Clinicians Choose the Right Antibiotic for Treating an Infection**
 - Working with a Laboratory to obtain an antibiogram
 - Concise Antibiogram Toolkit
 - Comprehensive Antibiogram Toolkit
- **Toolkit to Educate and Engage Residents/Family Members**

Overview of the CDC Core Elements

- Principals of nursing home antibiotic stewardship
- Checklist prior to initiating a stewardship program
- Policy and practice descriptions to improve antibiotic use
- Measures of antibiotic prescribing, use and outcomes

Process measures for tracking antibiotic stewardship activities

Completeness of clinical assessment documentation at the time of the antibiotic prescription. Incomplete assessment and documentation of a resident's clinical status, physical exam or laboratory findings at the time a resident is evaluated for infection can lead to uncertainty about the rationale and/or appropriateness of an antibiotic. If a facility has developed algorithms or protocols for evaluating a resident suspected of having an infection, then perform audits of the quality of the assessment to ensure that algorithm was followed.



Improving the Care of Long-Term Care Facility Residents with Infections (Jump)

- Signs and symptoms of infection in older adults
- Urinary tract infections vs. Asymptomatic bacteriuria
- Upper respiratory tract infections, bronchitis and pneumonia
- Isolation precautions
- Collecting samples for microbiological culture
- Communication with providers

MN ASP Toolkit for Long-term Care Facilities

- **The core tools include:**
 - Action steps and strategies for implementing an ASP and an accompanying audit tool
 - Nursing staff and provider antibiotic use attitudes and beliefs surveys
 - An antimicrobial use assessment tool
 - A nursing process evaluation tool
- **Supplemental tools include:**
 - Communication tools
 - Infection surveillance tips
 - C. difficile infection prevention and management algorithms
 - Antibiotic initiation criteria
- **Additional resources include:**
 - Educational modules
 - Fact sheets
 - Helpful references

Types of Strategies and Tools

- Developing a team and starting a program
- Identifying an infection
- Treating the infection appropriately
- Patient and family education & engagement
- Training/CEUs
- Monitoring

Starting a program (CDC)

LEADERSHIP SUPPORT	ESTABLISHED AT FACILITY
1. Can your facility demonstrate leadership support for antibiotic stewardship through one or more of the following actions?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, indicate which of the following are in place (select all that apply)	
<input type="checkbox"/> Written statement of leadership support to improve antibiotic use <input type="checkbox"/> Antibiotic stewardship duties included in medical director position description <input type="checkbox"/> Antibiotic stewardship duties included in director of nursing position description <input type="checkbox"/> Leadership monitors whether antibiotic stewardship policies are followed <input type="checkbox"/> Antibiotic use and resistance data is reviewed in quality assurance meetings	
ACCOUNTABILITY	
2. Has your facility identified a lead(s) for antibiotic stewardship activities?	<input type="checkbox"/> Yes
If yes, indicate who is accountable for stewardship activities (select all that apply)	
<input type="checkbox"/> Medical director <input type="checkbox"/> Director or assistant director of nursing services <input type="checkbox"/> Consultant pharmacist <input type="checkbox"/> Other: _____	



Checklist for Core Elements of Antibiotic Stewardship in Nursing Homes

CDC. (2015). Checklist for Core Elements of Antibiotic Stewardship in Nursing Homes.
<https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship.pdf>

Identifying an Infection (AHRQ)

A Assessment Input (check all boxes that apply)

Resident WITH indwelling catheter	Resident WITHOUT indwelling catheter												
The criteria are met to initiate antibiotics if one of the below are selected	Criteria are met if one of the three situations are met												
<p>No Yes</p> <p><input type="checkbox"/> <input type="checkbox"/> Fever of 100°F (38°C) or repeated temperatures of 99°F (37°C)*</p> <p><input type="checkbox"/> <input type="checkbox"/> New back or flank pain</p> <p><input type="checkbox"/> <input type="checkbox"/> Acute pain</p> <p><input type="checkbox"/> <input type="checkbox"/> Rigors /shaking chills</p> <p><input type="checkbox"/> <input type="checkbox"/> New dramatic change in mental status</p> <p><input type="checkbox"/> <input type="checkbox"/> Hypotension (significant change from baseline BP or a systolic BP <90)</p>	<p>No Yes</p> <p><input type="checkbox"/> <input type="checkbox"/> 1. Acute dysuria alone</p> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> <input type="checkbox"/> 2. Single temperature of 100°F (38°C) and at least one new or worsening of the following:</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> urgency</td> <td><input type="checkbox"/> suprapubic pain</td> </tr> <tr> <td><input type="checkbox"/> frequency</td> <td><input type="checkbox"/> gross hematuria</td> </tr> <tr> <td><input type="checkbox"/> back or flank pain</td> <td><input type="checkbox"/> urinary incontinence</td> </tr> </table> <p style="text-align: center;">OR</p> <p><input type="checkbox"/> <input type="checkbox"/> 3. No fever, but two or more of the following symptoms:</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> urgency</td> <td><input type="checkbox"/> suprapubic pain</td> </tr> <tr> <td><input type="checkbox"/> frequency</td> <td><input type="checkbox"/> gross hematuria</td> </tr> <tr> <td><input type="checkbox"/> incontinence</td> <td></td> </tr> </table>	<input type="checkbox"/> urgency	<input type="checkbox"/> suprapubic pain	<input type="checkbox"/> frequency	<input type="checkbox"/> gross hematuria	<input type="checkbox"/> back or flank pain	<input type="checkbox"/> urinary incontinence	<input type="checkbox"/> urgency	<input type="checkbox"/> suprapubic pain	<input type="checkbox"/> frequency	<input type="checkbox"/> gross hematuria	<input type="checkbox"/> incontinence	
<input type="checkbox"/> urgency	<input type="checkbox"/> suprapubic pain												
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<input type="checkbox"/> urgency	<input type="checkbox"/> suprapubic pain												
<input type="checkbox"/> frequency	<input type="checkbox"/> gross hematuria												
<input type="checkbox"/> incontinence													
<p>Nurses: Please check box to indicate whether or not criteria are met</p> <p><input type="checkbox"/> Nursing home protocol criteria are met. Resident may require UA with C&S or an antibiotic.†</p> <p><input type="checkbox"/> Nursing home protocol criteria are NOT met. The resident does NOT need an immediate prescription for an antibiotic, but may need additional observation.††</p>													

Suspected UTI SBAR

Complete this form before contacting the resident's physician. Date/Time _____

Nursing Home Name _____ Resident Name _____ Date of Birth _____

Physician/NP/PA _____ Phone _____ Fax _____

Nurse _____ Facility Phone _____

Submitted by Phone Fax In Person Other _____

S Situation

I am contacting you about a suspected UTI for the above resident.

Vital Signs BP _____/_____/_____ HR _____ Resp. rate _____ Temp. _____

B Background

Active diagnoses or other symptoms (especially, bladder, kidney/genitourinary conditions)

Specify _____

No Yes The resident has an indwelling catheter

No Yes Patient is on dialysis

No Yes The resident is incontinent **if yes, new/worsening?** No Yes



No Yes Advance directives for limiting treatment related to antibiotics and/or hospitalizations

Specify _____




No Yes Medication Allergies

Specify _____

No Yes The resident is on Warfarin (Coumadin®)

www.ahrq.gov/NHASPGuide - June 2014
AHRQ Pub. No. 14-0010-2-EF

AIR, Texas A & M University, TMF Health Quality Institute, & David Mehr, M.D., (201).
 Suspected UTI SBAR. Toolkit for AHRQ under Contract No. 290-2006-000-191-8.
https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/4_TK1_T1-SBAR_UTI_Final.pdf

Treating the Infection Appropriately (CDC)

- **Perform antibiotic “time outs.”** Review antibiotics 2 to 3 days after antibiotics are initiated to answer:
 - Does this resident have a bacterial infection that will respond to antibiotics?
 - Resident on the most appropriate antibiotic(s), dose, and route of admin?
 - Can the spectrum of the antibiotic be narrowed or the duration of therapy shortened (i.e., de-escalation)?
 - Resident benefit from additional infectious disease / antibiotic expertise to ensure optimal treatment of the suspected or confirmed infection?
- **Reduce prolonged antibiotic treatment courses for common infections**
 - Beyond a week has not been found helpful/ short courses are effective
 - Decrease antibiotic duration among nursing home residents may reduce the complications and adverse events associated with antibiotic exposure.



CDC. (2015). The Core Elements of Antibiotic Stewardship for Nursing Homes. Appendix A.
<https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship-appendix-a.pdf>

Treating the Infection Appropriately (AHRQ)

Concise Antibiogram Toolkit Comprehensive Antibiogram Template																		
Gram (-)	Number of Residents	Aminoglycosides			B-Lactams					Cephalosporins				Quinolones				
		Amikacin	Gentamicin	Tobramycin	Ampicillin	Amoxicillin-Clavulanate	Ampicillin-Sulbactam	Imipenem	Meropenem (tested by MIC)	Piperacillin-Tazobactam	Cefazolin	Cefepime	Cefoxitin	Ceftazidime	Ceftriaxone	Ciprofloxacin	Gatifloxacin	Levofloxacin
Acinetobacter baumannii																		
Citrobacter freundii																		
Citrobacter koseri																		
Citrobacter sp																		
Enterobacter aerogenes																		
Enterobacter cloacae																		
Enterobacter sp																		
Escherichia coli																		
Klebsiella oxytoca																		

Nursing Home Antimicrobial Stewardship Guide

Overview of the Guide
The Nursing Home Antimicrobial Stewardship Guide provides toolkits to help nursing homes optimize their use of antibiotics.

Browse Antimicrobial Stewardship Toolkits
Toolkits on four topic areas are available.

Implement, Monitor, and Sustain a Program
Two toolkits help nursing homes start and maintain antimicrobial stewardship programs.

Determine Whether To Treat >
Three toolkits provide guidance on the decision to treat a potential infection.

Choose the Right Antibiotic >
Three toolkits describe how to work with a lab and use an antibiogram.

Engage Residents and Family >
This toolkit helps residents and family members participate in residents' care.

Denver Health, University of Maryland School of Medicine (2012). Concise Antibiogram Toolkit. Toolkit for AHRQ under Contract No. 290-2006-00-20, Task Order No. 9. https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/5_TK2_T5-Concise_Antibiogram_Toolkit_Comprehensive_Antibiogram_Template.pdf

Patient and family Education & Engagement (UNC-Residents and families)

Don't Take Antibiotics for Granted



It's easy to see why antibiotics are helpful, and now you know why sometimes you or your family member may not need them. We can all help by taking antibiotics only when they're really needed.

Don't Take Antibiotics for Granted
It's easy to see why antibiotics are helpful, and now you know why sometimes you or your family member may not need them. We can all help by taking antibiotics only when they're really needed.

Infection Management and Antibiotic Stewardship
This brochure is part of a larger effort to improve "antibiotic stewardship" at nursing homes. Antibiotic stewardship means using antibiotics to treat suspected infections only when they're necessary and appropriate. Achieving best practice in infection management and antibiotic use is a team effort. It involves everyone who participates in making decisions about care, including doctors, nurses, nursing assistants, residents, and family members.

Resources For You
CDC: www.cdc.gov/antibiotic
FDA: www.fda.gov/Drugs/ResourcesForYou/ucm323944.htm

For More Information
Program on Aging, Disability, and Long-Term Care
University of North Carolina at Chapel Hill
nursinghomeinfections.unc.edu (919) 999-7173



Why Not Antibiotics?

Taking antibiotics when they are not needed is like leaving the lights on all the time...

The lights may burn out, leaving us in the dark when we need them most.






If we use antibiotics when we don't need them, they may not work when we get sick.

Read more inside...

Overusing Antibiotics Can Cause Problems

How can antibiotics hurt you or someone you care about?

Antibiotics can, in some cases:

-  Cause nausea and vomiting
-  Cause diarrhea, including the kind due to *C. difficile*, an infection that can lead to severe symptoms
-  Cause a rash or other allergic reactions
-  Harm your kidneys or other organs
-  Create bacteria that are resistant to antibiotics

University of North Carolina. 2016. Patient antibiotic use brochure.

<https://nursinghomeinfections.unc.edu/files/2016/03/Infection-Project-brochure.pdf>

Training/CEUs

- Almost all websites provide training
 - Powerpoint presentations
 - Audiofiles
 - Self-paced
- CEUs and self-paced
 - Robin Jump
 - UNC

Monitoring

- Minnesota: Antimicrobial Use Assessment for Long-term Care Facilities
- AHRQ: Antibiotic Use Tracking Sheet, Sample Monthly Summary Reports, Quarterly or Monthly Prescribing Profile

Nursing Home Antimicrobial Stewardship Guide

Toolkit 2. Monitor and Sustain Stewardship



Onset Date	Urinary Tract Infection	Respiratory	Skin/Soft Tissue	Gastrointestinal	Other Infection (Specify)	Signs & Symptoms	Indicate Diagnostic Tool Used and Whether Criteria Were Met	HAI/CAI/NHAI/Other Nosocomial*	Lab Results (organism identified)	X ray	Other Contributing Factors	Prescribing Clinician (PC)	Prescription Date	Prescription Duration	Antibiotic Name	Dose	Change of Antibiotic (if needed)	Followup With PC	Followup With Resident/Family	Comments/Notes	

AIR, Texas A & M U, U Wisconsin, TMF Health Quality Institute, Trivedi Consults, LLC, U Pittsburgh, and David Mehr, M.D., Monitor and Sustain Stewardship. Toolkit for AHRQ under contract number HHS A2902010000181 #2.

https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/3_TK2_T2-Antibiotic_Use_Tracking_Sheet_Final.pdf

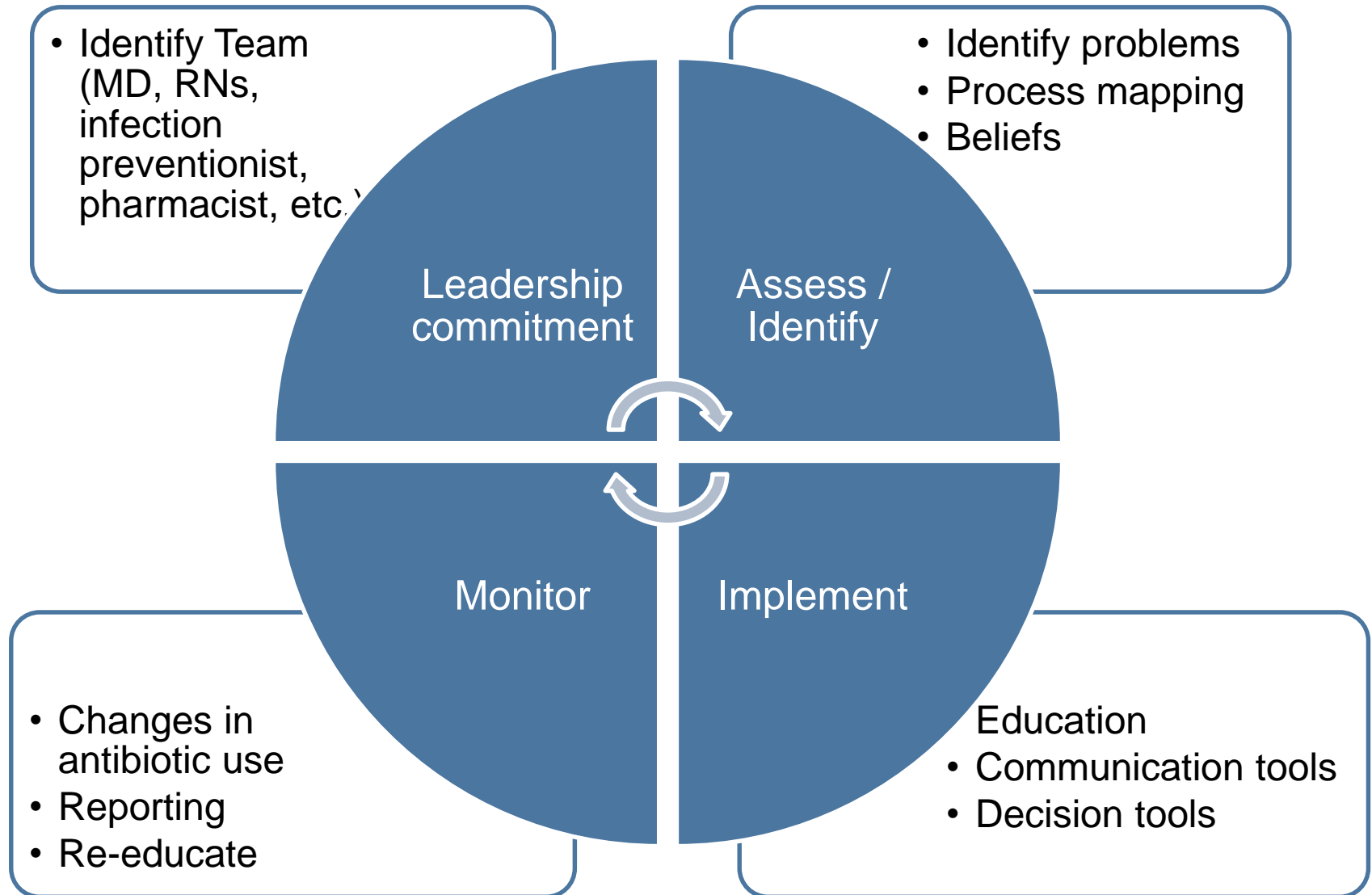
Strengths

- Multiple tools and guidance for facilities
- Based on latest information
- Much of it turn-key solutions
- Multiple training materials that support antibiotic stewardship

Weaknesses

- The wealth of tools can be daunting
- Nursing homes may find it difficult to figure out a place to start
- Nursing homes typically are resource-scarce and implementation can be difficult
- If UTIs are the focus, often significant resistance

Keys to Effective Antibiotic Stewardship



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