



WELCOME!

Please MUTE your phones!

EQulP for LTC webinar will begin at 10:00 AM PST

Today's topic is "Antibiotic Stewardship
Program Implementation"

10/25/17

Antibiotic Stewardship Program Implementation

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VA



U.S. Department of Veterans Affairs

Veterans Health Administration
Office of Specialty Care Services
Centers of Innovation



CASE WESTERN RESERVE
UNIVERSITY
SCHOOL OF MEDICINE



Speaker Disclosures

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

Dr. Jump has current research support from Steris, the VA, CDC and AHRQ. She has previously consulted for GOJO and Pfizer.

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



Learning Objectives

- Review the Center for Medicare & Medicaid Conditions of Participation for an antibiotic stewardship program in long-term care facilities (LTCFs).
- Discuss successful antibiotic stewardship interventions in LTCFs.
- Describe strategies for implementing antibiotic stewardship in LTCFs





cms reform of requirements for long-term care facilities



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Reform of Requirements for Long-Term Care Facilities

<https://www.federalregister.gov/.../medicare-and-medicaid-programs-reform-of-require...>

Oct 4, 2016 - This final rule will revise the **requirements** that **Long-Term Care facilities** must meet ...
Centers for Medicare & Medicaid Services (CMS), HHS.

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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



68688 Federal Register / Vol. 81, No. 192 / Tuesday, October 4, 2016 / Rules and Regulations

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.

SUMMARY: This final rule will revise the requirements that Long-Term Care Facilities must meet to participate in the

ASPE Assistant Secretary for Planning and Evaluation

BPSD Behavioral and Psychological Symptoms of Dementia

CASPER Certification and Survey Provider Enhanced Reports

CIL Centers for Independent Living

CLIA Clinical Laboratory Improvement Amendment

CMS Centers for Medicare & Medicaid Services

CNS Clinical Nurse Specialist

CPR Cardiopulmonary Resuscitation

DoN Director of Nursing

EHR Electronic Health Records

FDA Food and Drug Administration

GAO Government Accountability Office

HACCP Hazard Analysis and Critical Control Point

HAI Healthcare-Associated Infection

HHS U.S. Department of Health and Human Services

HIPAA Health Insurance Portability and Accountability Act of 1996

G. Freedom From Abuse, Neglect, and Exploitation (§ 483.12)

H. Transitions of Care (§ 483.15)

I. Resident Assessments (§ 483.20)

J. Comprehensive Resident-Centered Care Planning (§ 483.21)

K. Quality of Care and Quality of Life (§ 483.25)

L. Physician Services (§ 483.30)

M. Nursing Services (§ 483.35)

N. Behavioral Health Services (§ 483.40)

O. Pharmacy Services (§ 483.45)

P. Laboratory, Radiology, and Other Diagnostic Services (§ 483.50)

Q. Dental Services (§ 483.55)

R. Food and Nutrition Services (§ 483.60)

S. Specialized Rehabilitative Services (§ 483.65)

T. Outpatient Rehabilitative Services (§ 483.67)

U. Administration (§ 483.70)

V. Quality Assurance and Performance Improvement (§ 483.75)

W. Infection Control (§ 483.80)

185 pages;

Search for specific terms using Ctrl-F or ⌘-F

§ 483.80 Infection control.

Page 181

The facility must establish and maintain an infection prevention and control program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of communicable diseases and infections.

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



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Nursing Homes

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

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[Appendix PP 03-08-2017 \[Effective through November 27, 2017\] \[PDF, 3MB\]](#) 

[Advance Appendix PP including Phase 2 \[Effective November 28, 2017\] \[PDF, 3MB\]](#) 

[List of Revised FTags \[Effective November 28, 2017\] \[PDF, 152KB\]](#) 

[S&C Memo: Revision to State Operations Manual Appendix PP for Phase 2 \(Includes Training Information and Related Issues\) \[PDF, 121KB\]](#) 

[F-Tag Crosswalk \[XLSX, 495KB\]](#)

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CMS Manual System

Pub. 100-07 State Operations Provider Certification

Transmittal 169- Advanced
Copy

Department of Health & Human
Services (DHHS)
Centers for Medicare & Medicaid
Services (CMS)

Date:

SUBJECT: Revision to State Operations Manual (SOM) Appendix PP for Phase 2, F-Tag Revisions, and Related Issues

Effective November 28, 2017

State Operations Manual

State Operations Manual

Appendix PP - Guidance to Surveyors for Long Term Care Facilities

Table of Contents

(Rev. XXX, XX-XX-17)

Organization

- F-tag for specific sections (§)
- Definitions
- Intent
- Guidance
- Procedures and Probes
- Investigative Protocol
- Key Elements of Non-Compliance
- Deficiency Categories



“stewardship”

- **F881 on page 655 for § 483.80(a)(3)**
- **F690 on page 312-313**
F690—Incontinence;
starts on page 301;
§ 483.25(e).
- **F880 on page 633**
F880—Infection Control;
starts on page 628;
§ 483.80(a)(e)(f).



Intent

(page 655)

- Develops and **implements protocols** to optimize the treatment of infections by ensuring that residents who require an antibiotic, are prescribed the appropriate antibiotic;
- **Reduces the risk of adverse events**, including the development of antibiotic-resistant organisms, from unnecessary or inappropriate antibiotic use; and
- Develops, promotes, and implements a facility-wide system to **monitor the use of antibiotics**.





Guidance

(page 656)

Facilities must develop an antibiotic stewardship program that

promotes the appropriate use of antibiotics and

includes a **system of monitoring** to improve resident outcomes and reduce antibiotic resistance

This means that the antibiotic is prescribed for the **correct indication, dose, and duration** to appropriately treat the resident while also attempting to reduce the development of antibiotic-resistant organisms

CDC's Core Elements (page 657)

- Leadership commitment
- Accountability
- Drug expertise
- Action
- Tracking
- Reporting
- Education





Protocols Must Monitor Use...

(page 658)

Incorporate monitoring of antibiotic use, including the frequency of monitoring/review.

Review when the resident is

- new to the facility
- returns or is transferred from a hospital or other facility
- during each monthly medication review



Protocols Must Also... (page 658)

- Assess residents for any infection using standardized tools and criteria
- Contain a system of reports related to **monitoring antibiotic usage and resistance data.**
- **Educate** prescribing practitioners and nursing staff on antibiotic use (stewardship) and the facility's antibiotic use protocols.
 - Record how it's done (verbal, online etc.)
 - Record how often



Protocols Must Give Feedback...

(page 658)

Give feedback to prescribing practitioners regarding

- antibiotic resistance data
- their antibiotic use and
- their compliance with facility antibiotic use protocols

Record how and when feedback is given.

Investigative Summary (page 659)

Do protocols address antibiotic prescribing practices?

- Documentation of the indication, dose, and duration of the antibiotic
- **Review of laboratory reports** to determine if the antibiotic is indicated or needs to be adjusted;
- An infection assessment tool or management algorithm is used when prescribing

Is there a system to monitor antibiotic use (i.e., antibiotic use reports, antibiotic resistance reports)?





Key Elements of Non-Compliance page 659

Failure to develop and implement antibiotic use protocols that

- help ensure that residents who require antibiotics are prescribed the appropriate antibiotics;
- that address unnecessary or inappropriate antibiotic

Develop, promote and implement a facility-wide system to monitor the use of antibiotics.



Examples of Deficiencies

(page 659-60)

Immediate Jeopardy:

- Results of microbiological culture (indicating resistant bacteria) not communicated to practitioner; antibiotic not changed; resident hospitalized for complications

Actual Harm:


- No protocols or monitoring system. 2 residents on antibiotics without appropriate indication. Both developed *C. difficile* infection.

Potential Tags For Additional Investigation

page 660

- Additionally, refer to **§483.45(c), F756**, for concerns related to the failure of the **pharmacist** to review and report any **unnecessary antibiotic** irregularity and **§483.45(d), F757**, for concerns related to **unnecessary antibiotic** use.
- Refer to 483.10(c)(1), 483.10(c)(4)-(6):— the right to be fully informed in advance about care and treatment (F552) for concerns about education of residents and their representatives.





Learning Objectives

- Review the Center for Medicare & Medicaid Conditions of Participation for an antibiotic stewardship program in long-term care facilities (LTCFs).
- Discuss successful antibiotic stewardship interventions in LTCFs.
- Describe strategies for implementing antibiotic stewardship in LTCFs

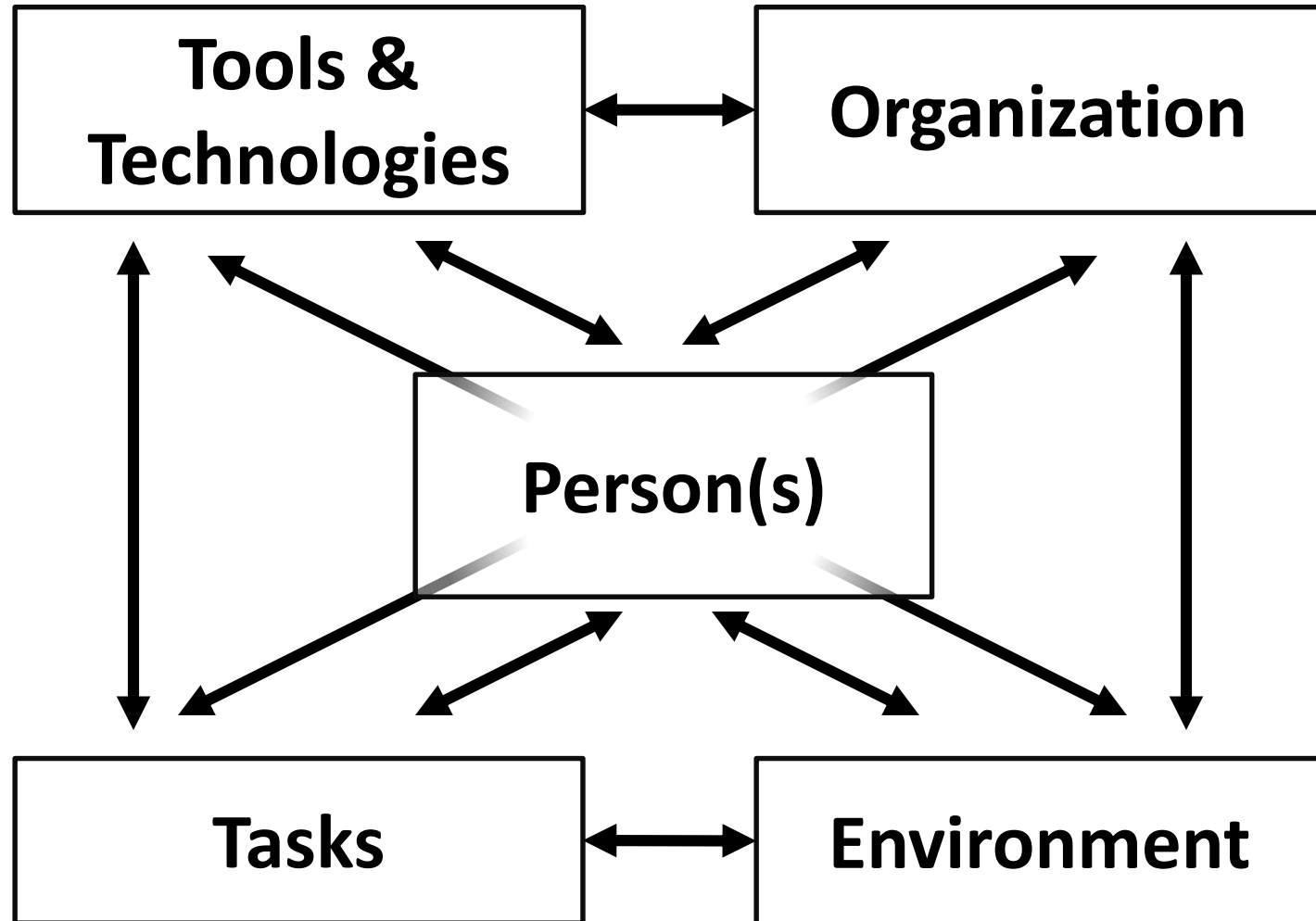
Review of Antimicrobial Stewardship in LTCFs

- **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
 - Reduce incidence of *C. difficile* infection and rates of drug-resistant bacteria





Work System



Component	Description	Example
Tools and Technology	<ul style="list-style-type: none"> • Objects that individuals use to carry out their work 	<ul style="list-style-type: none"> • Alert on an electronic health record • Pocket card with antibiotic prescribing guidelines
Tasks	<ul style="list-style-type: none"> • Specific actions within a larger work process 	<ul style="list-style-type: none"> • Act of administering a medication • Daily checklist of antibiotic monitoring criteria
Organization	<ul style="list-style-type: none"> • Culture • Communication between individuals. 	<ul style="list-style-type: none"> • Incentive program for following antibiotic prescribing guidelines • Support from stakeholders for promotion of antibiotic stewardship program
Person(s)	<ul style="list-style-type: none"> • Characteristics of people within the work system 	<ul style="list-style-type: none"> • Knowledge, expertise or training of nursing home staff • Outside consultants
Environment	<ul style="list-style-type: none"> • Physical internal or external environment 	<ul style="list-style-type: none"> • Placing commitment posters in a high traffic work area

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Person(s) 8	<ul style="list-style-type: none"> • Characteristics of people within the work system 	<ul style="list-style-type: none"> • Knowledge, expertise or training of nursing home staff • Outside consultants
Environment 4	<ul style="list-style-type: none"> • Physical internal or external environment 	<ul style="list-style-type: none"> • Placing commitment posters in a high traffic work area



2 Additional Components

Involvement of Nurses (14 studies)

Structured Education (16 studies)

- Primary intervention for 7 studies

Sustained changes

- Compared local policy to published guidelines
- Individualized feedback to providers
- Focus on UTIs (vs. asymptomatic bacteriuria)



So what works?

- Organization: Integrate change into the workflow
 - Nurses—pre-prescription
 - Prescribers—post-prescriptive;**communication via electronic medical record**
- Persons: Involve professionals with infectious disease expertise



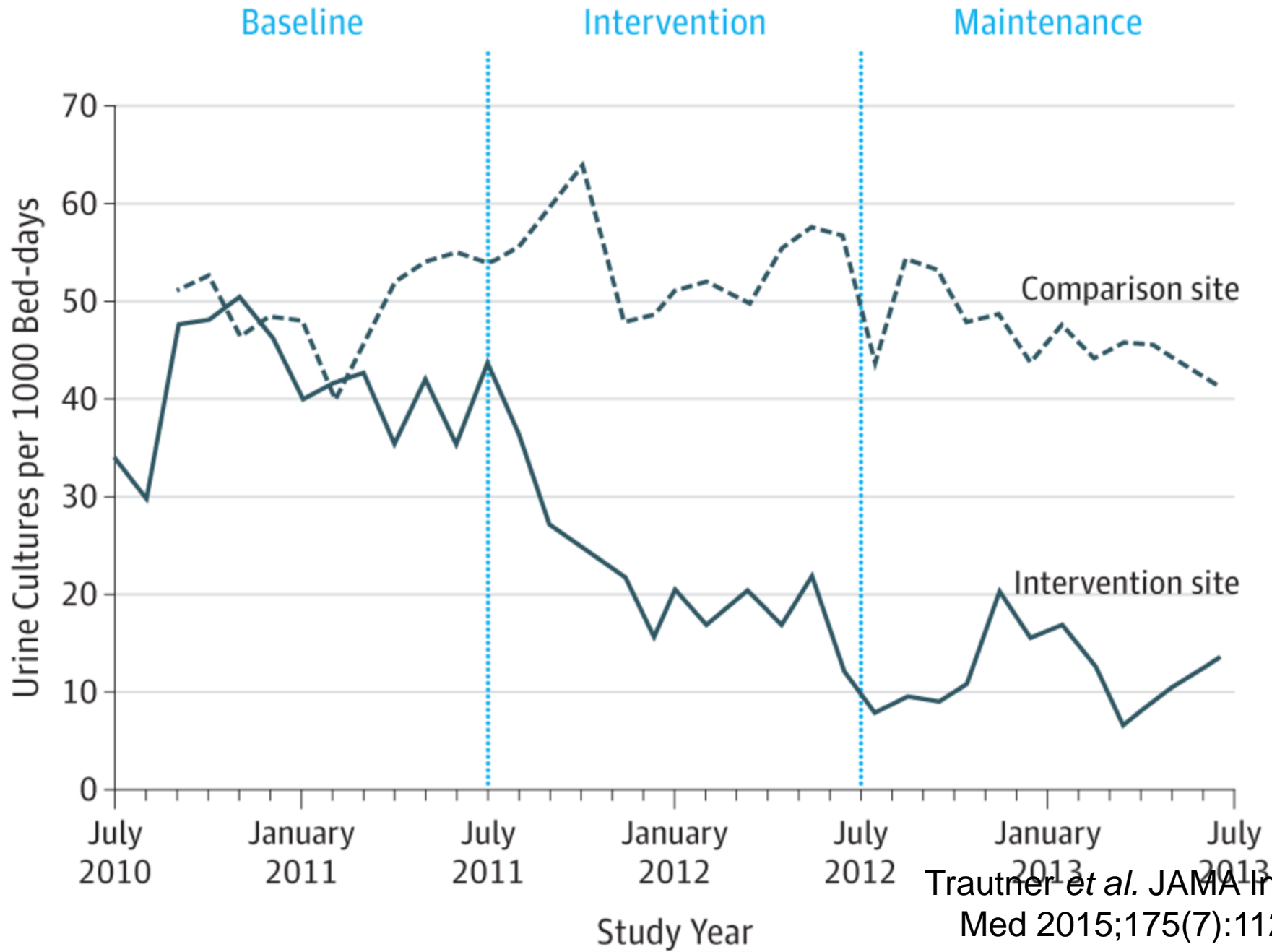
Intervention for catheter-associated ASB*

- Intervention site: 5 acute care and 5 CLC units at a VA medical center
- Control site: 3 acute and 2 CLC units
- On CLC wards, targeted nurses and prescribers
- Case-based audit and feedback and interactive slides. Control site given didactic slides and emailed guidelines

*Asymptomatic bacteriuria

Trautner *et al.* JAMA Intern Med 2015;175(7):1120-7

Monthly Rates of Urine Cultures



Intervention for catheter-associated ASB

Outcomes for CLC residents	Baseline (n = 208)	Intervention (n = 36)
Cases of ASB, n (%)	135 (65%)	25 (70%)
Cases of CAUTI, n (%)	73 (35%)	11 (31%)
Overtreatment of ASB	70/135 (52%)	5/25 (20%)
Undertreatment of CAUTI	9/73 (12%)	2/11 (18%)

Infectious Disease Expertise: Rounds by Consultant

- Weekly rounds by an Infectious Disease physician and NP at a VA Community Living Center (CLC)
- Communication in-person and formal recommendations, orders left in **electronic medical record**
- Total antibiotic use decreased by 30%



Infectious Disease Expertise: Chart Review

Beaulac *et al.* ICHE 2016 37(4): 433-9

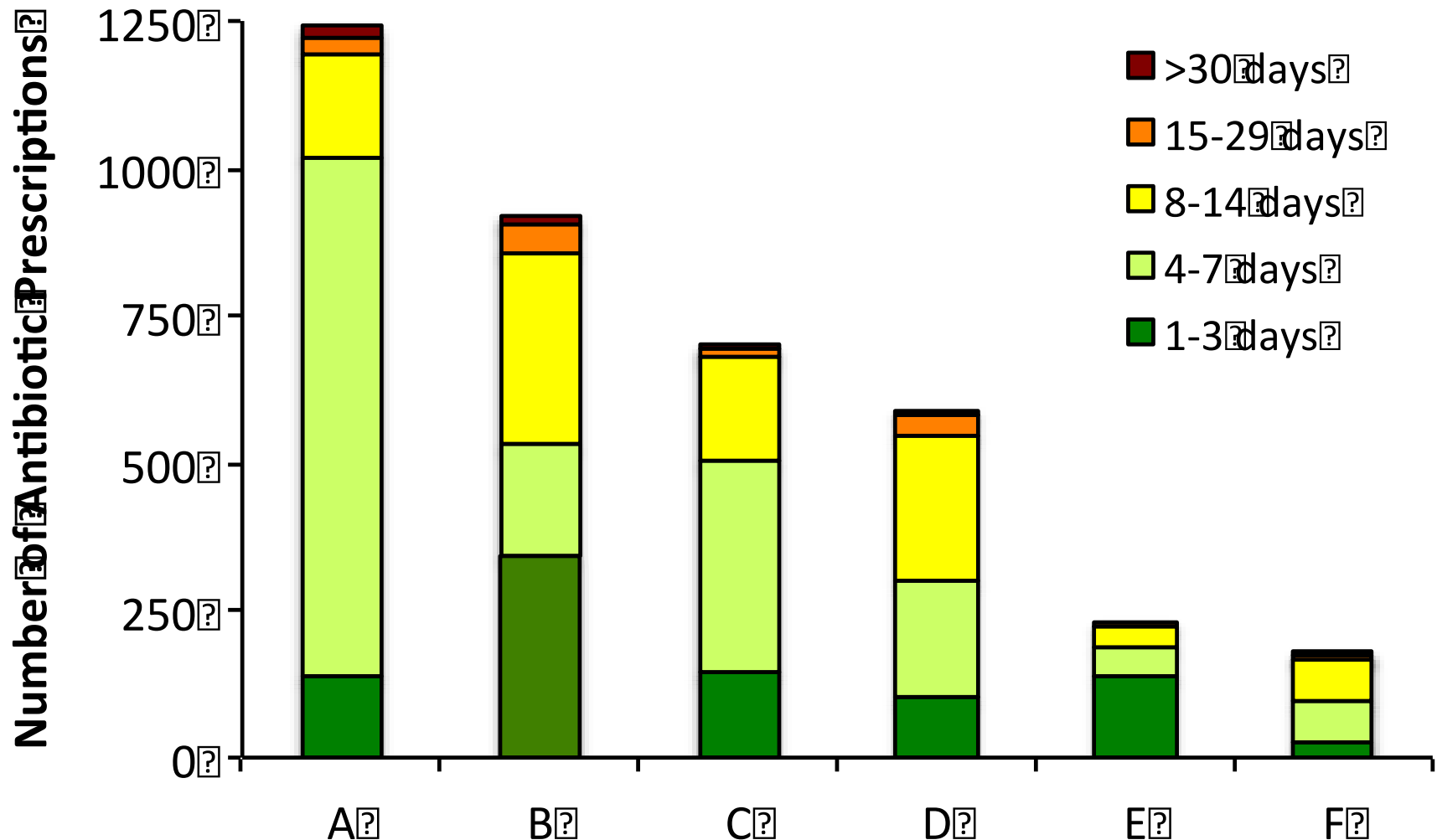
- ID physicians & pharmacists reviewed daily pharmacy reports
- Accessed electronic medical records
- Recommendations to providers via email
- Decrease in antibiotic use and CDI rates

Pate *et al.* ICHE 2012 33(4): 405-8

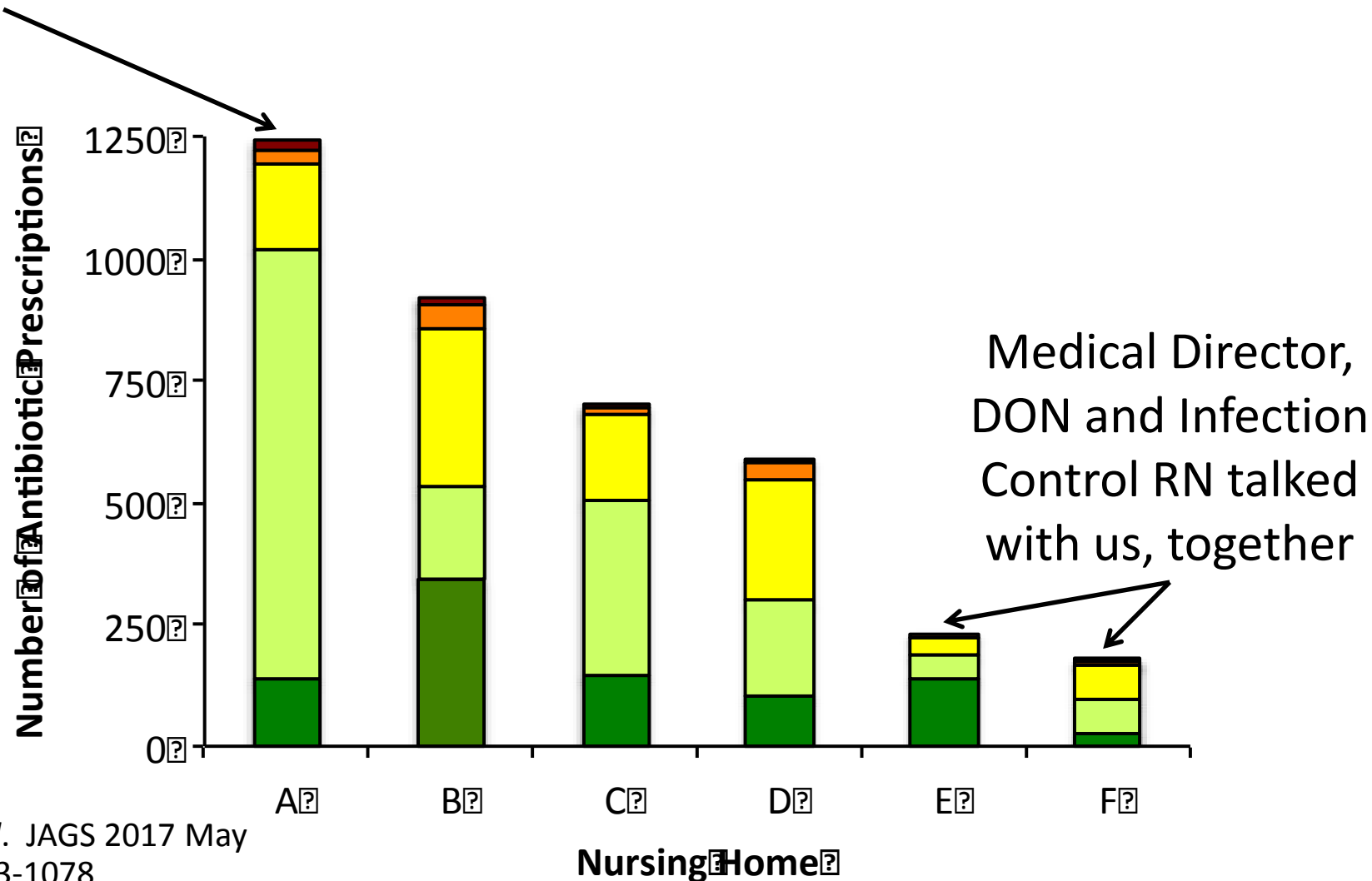
- Physician and pharmacist reviewed charts weekly. Non-binding recommendations **placed in chart**; not permanent part of record.
- 21% reduction in antibiotic use



Facility Culture and Antibiotic Stewardship

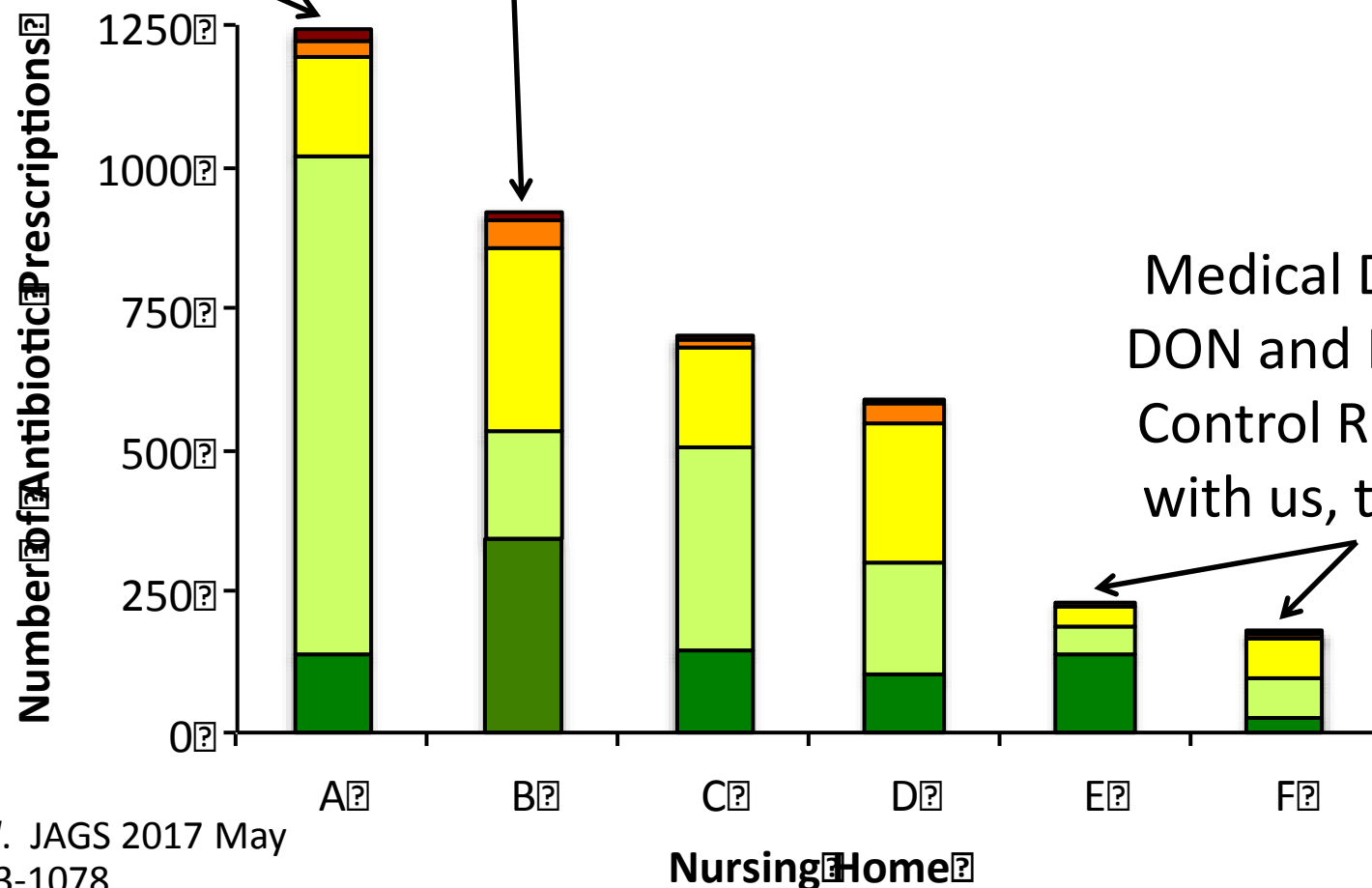


Did not
respond to
request for
interviews



Did not
respond to
request for
interviews

"I think the providers always listen,
but do they respond in the way that
maybe we were hoping for?"



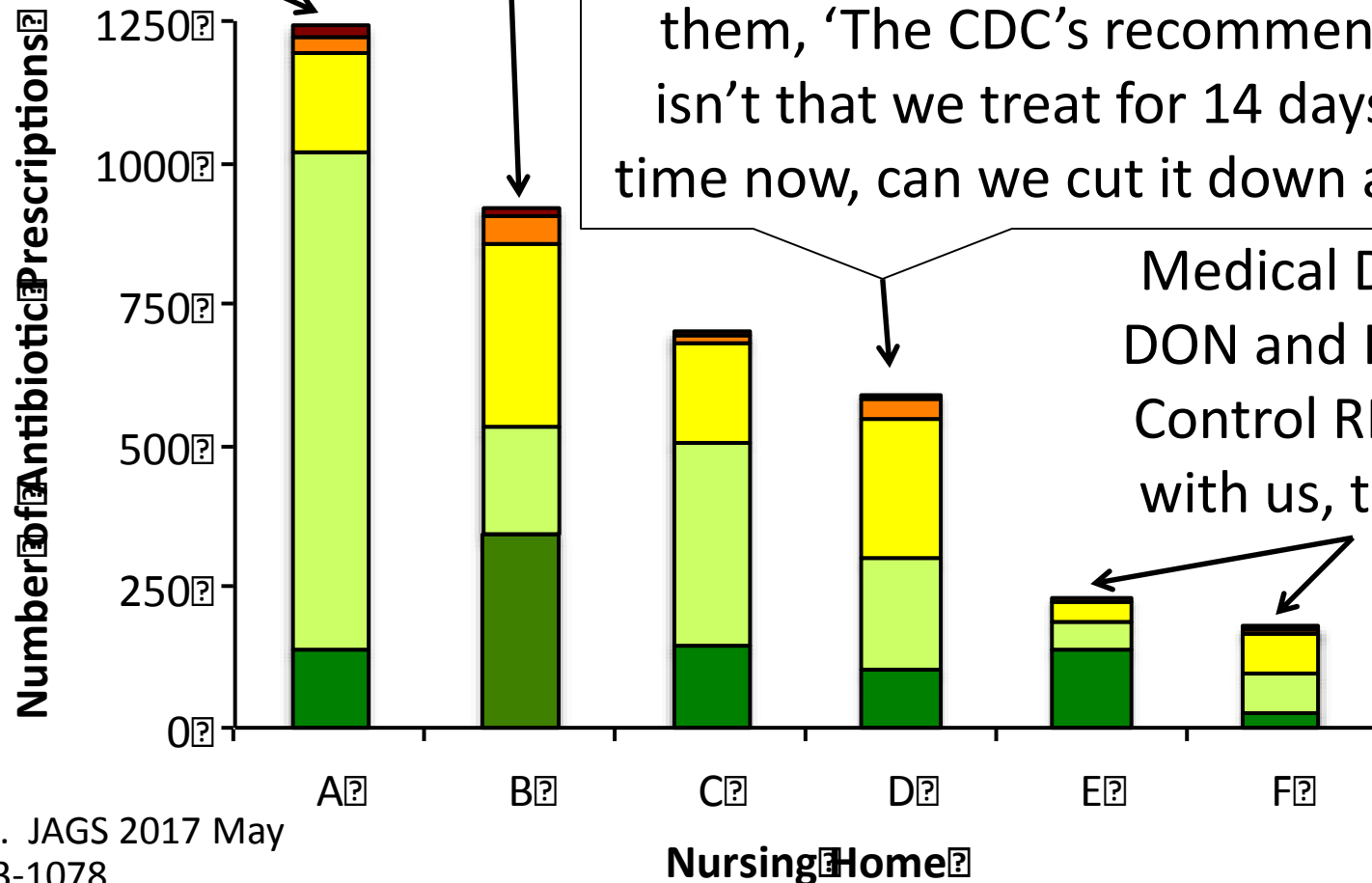
Medical Director,
DON and Infection
Control RN talked
with us, together


Did not
respond to
request for
interviews

"I think the providers always listen,
but do they respond in 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 Infection
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Antibiotic Use Protocols

Focus on common infections and

- Diagnostic criteria
- Appropriate antibiotic choices
- Length of therapy

Use standardized assessment criteria

*Consider adapting from the Loeb Minimum Criteria, revised McGeer Criteria or from **AHRQ website***

Jump *et al.* JAMDA. *in press*

Loeb *et al.* ICHE 2001;22:120-124; Stone *et al.* ICHE 2012,33:965-977

<https://www.ahrq.gov/nhguide/toolkits/determine-whether-to-treat/index.html>

Measure Antibiotic Use

Metric	Pros	Cons
Days of Therapy (DOT): Any dose of antibiotic given on a single day per 100 (or 1000) resident days	Estimates total burden of antibiotic use. Tracks changes in overall use.	Does not measure length of treatment. Labor intensive.
Defined Daily Dose (DDD): Standardized doses of antibiotics per 100 (or 1000) resident days	World Health Organization standardized measures of antibiotics	Does not account for dose adjustments made based on age, creatinine clearance.
Antibiotic Starts: Number of new antibiotic prescriptions per month or per 100 (or 1000) resident days	Measures frequency of prescribing. Tracks changes in starts.	Does not measure total antibiotic burden or length of treatment.
Number of antibiotic prescriptions for duration >7 days per month	Tracks efforts to reduce excessive length of prescriptions.	Does not measure the frequency of overall antibiotic prescriptions.

Monitor Antibiotic Use and Resistance

Review antibiotic prescriptions

- upon admission
- upon return from hospital or ED
- started by covering provider
- during monthly med review

Review surveillance data of resistant bacteria

Develop an antibiogram

- may have to include only urine



Leverage the data....

Collect & Analyze

*Compliance with
Antibiotic Use Protocols*

Measure Antibiotic Use

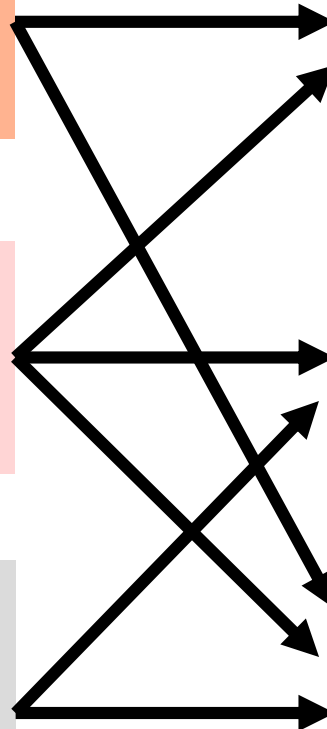
*Monitor Antibiotic Use
and Resistance*

Share

**Feedback to
Individuals**

**Feedback to
Whole Facility**

Education





Feedback

Written reports to all staff:

- Overall antibiotic use

- Compliance with protocols

- Surveillance data for drug-resistant bacteria and for *C. difficile*

Written reports to individual providers:

- Provider's antibiotic use

- Provider's compliance with antibiotic use protocols

- Written acknowledgement of feedback

Example of Individualized Feedback

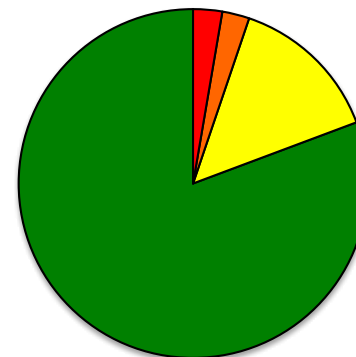
<u>Metric</u>	<u>Facility</u>	<u>Dr. A</u>
Antibiotic prescription with dose, duration & indication	27 of 42 (64%)	8 of 8 (100%)
Urine culture ordered for residents indication of UTI	16 of 20 (80%)	2 of 4 (50%)

Reviewed and discussed:

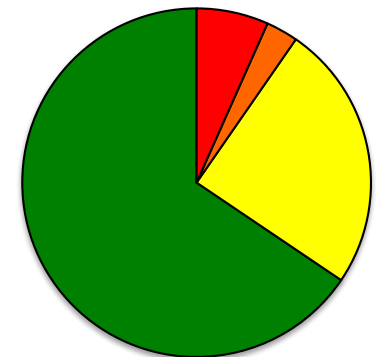
- Antibiotic Use Protocols
- Antibiotic Stewardship Policy
- Antibiotic Use

Dr. A,
 Sign and Date: _____
 Medical Director,
 Sign and Date: _____

Length of Therapy



Facility



Dr. A

■ 1 to 7 days

■ 15 to 28 days

■ 8 to 14 days

■ >28 days



Education

Antibiotic Stewardship

- To all staff, at least annually
- Document mode & frequency
- To residents (and family members)

Antibiotic Use Protocols

- To all prescribers, medical & nursing staff
- Document mode & frequency



There's help....

- Template of an Antibiotic Stewardship Policy
- Crosswalk between the policy and specific elements in the Interpretive Guidance Document
- List of Resources to help support your efforts

Antibiotic Stewardship Haiku

Do those bugs need drugs?

Antibiotic stewardship:

Only when needed



Thank you!

robinjump@gmail.com or Robin.Jump@va.gov