

Outpatient Antibiotic Stewardship Program

*One Emergency Department's Experience –
Successes and Challenges of Meeting the
Four CDC Outpatient Core Elements*

Thursday, August 23, 2018

Presented by **Dr. Doug Kuntzweiler**
Chief Medical Officer
Mountain-Pacific Quality Health



Welcome

- Thank you for spending your valuable time with us today
- This webinar will be recorded for your convenience
- A copy of today's presentation and the webinar recording will be available on our website. A link to these resources will be posted in the MT ABS Blog.
- All phones will be muted during the presentation and unmuted during the Q&A session.
- Computer users can use the chat box throughout the presentation.
- We would greatly appreciate your providing us feedback by completing the survey at the end of the webinar today.

About Mountain-Pacific

Engage health care providers

To improve patient care with evidence-based best practices

Encourage collaboration

Among providers and other community stakeholders

Empower patients

To take an active role in managing their health

The Problem

Resistance of microbes to antibiotics has steadily increased with resultant “superbugs” being resistant to all current treatment.

This is believed to be due to overuse and misuse by prescribers and patients.



Not Exactly New



In 1945 Alexander Fleming warned of the decreasing efficacy of penicillin due to overuse of the drug.

The Response

Antimicrobial stewardship programs are formal programs designed to help prescribers follow evidence-based practices in antibiotic usage with the goals of reducing microbial resistance to treatment, improving patient outcomes and saving money.



CDC Outpatient Core Elements



CDC Outpatient Core Elements

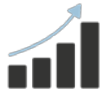
The program requires several core elements to be effective:



Commitment (Leadership and Accountability)



Action for Policy and Practice



Tracking and Reporting



Education and Expertise

CDC Outpatient Clinician Checklist and CDC Outpatient Facility Checklist

Commitment (Leadership and Accountability)



Leadership must be committed to the program and be willing to give financial support.

Leadership:

- Infectious disease and pharmacy are often leaders of the day-to-day operation
- Smaller entities might be run by any interested staff with online assistance from experts

Accountability:

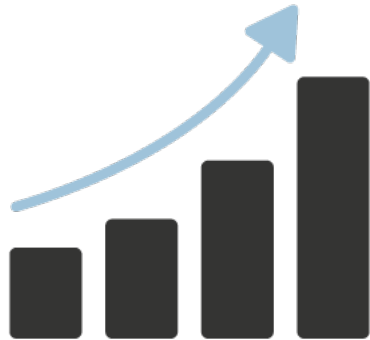
- Someone must take ultimate responsibility for success of the program

Action for Policy and Practice



Policies and procedures that guide prescribing practices must be developed and adhered to.

Tracking and Reporting



- Prescribing practices must be monitored and feedback given to clinicians.
- The results of the program must be available to all participating staff.

Education and Expertise



- Prescribers need to be able to see the results of the program, and they may need support in communications with patients.
- The public needs to be educated about rational antibiotic usage, e.g., the CDC's "Get Smart" program ("Get Smart" re-named: *Be Antibiotics Aware*
 - *Smart Use, Best Care*)

Education (continued)

Viruses or Bacteria What's got you sick?

Antibiotics are only needed for treating certain infections caused by bacteria. Viral illnesses cannot be treated with antibiotics. When an antibiotic is not prescribed, ask your healthcare professional for tips on how to relieve symptoms and feel better.

Common Condition	Common Cause			Are Antibiotics Needed?
	Bacteria	Bacteria or Virus	Virus	
Strep throat	✓			Yes
Whooping cough	✓			Yes
Urinary tract infection	✓			Yes
Sinus infection		✓		Maybe
Middle ear infection		✓		Maybe
Bronchitis/chest cold (in otherwise healthy children and adults)*		✓		No*
Common cold/runny nose			✓	No
Sore throat (except strep)			✓	No
Flu			✓	No

* Studies show that in otherwise healthy children and adults, antibiotics for bronchitis won't help you feel better.



To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use.



[Link - Antibiotic stewardship resource](#)

Levofloxacin (Levaquin)

In an outpatient setting



Levofloxacin (Levaquin)

- A fluoroquinolone with a long record of safety and efficacy
- Highly active against *Strep. pneumoniae*, *Pseudomonas* and many other Gram negatives
- Good choice for community-acquired pneumonia, bacterial sinusitis, complicated urinary tract infections, acute prostatitis and intra-abdominal infections



Problems with Prescribing Levaquin

- Most sinusitis/bronchitis infections are viral and antibiotics are not needed.
- Use Levaquin only if more than 3 days of fever of 102F or no improvement in 10 days or worsening with fever of 102F after initial improvement.



Problems with Prescribing Levaquin



In bronchitis, colored sputum does not equal bacterial infection; treat only if signs of pneumonia, heart rate > 100, respiratory rate > 24, fever of 102F, abnormal breath sounds (be wary of x-rays in CHF, scarring or chronic old lesions)

Levaquin in Urinary Tract Infections (UTIs)

- Use trimethoprim sulfa, nitrofurantoin or Fosfomycin in uncomplicated UTIs.
- Save Levaquin for complicated cases or pyelonephritis.



Proper Dosing



- Levofloxacin interferes with bacterial DNA synthesis; it needs a high concentration to kill bugs
- A higher dose (750mg) is more effective; leads to LESS resistance and no increase in side effects

Side Effects

- C. diff., especially resistant strains
- Neurologic symptoms, delirium, especially in the elderly
- Tendonitis and tendon rupture, especially Achilles
- QT prolongation and dysrhythmias; don't use with amiodarone



St. Peter's Health Emergency Department Experience

Successes and Challenges



Core Element 1

Commitment

The pharmacy department submitted a successful business plan to administration that included AMS and a part-time pharmacist in the ED to help guide treatment and minimize errors.



The flyer features five portraits of medical professionals: Williams Boney, MD; Todd Wampler, MD; Jessi Baily, MD; Donald Skilton, MD; and Andrew Gitter, MD. The title is "A Commitment to Our Patients about Antibiotics". The text explains that antibiotics only fight bacterial infections and can be harmful if used unnecessarily, such as for viral infections. It notes that overuse can lead to antibiotic resistance. Patients are advised to only take antibiotics when prescribed and to ask their doctor if they really need them. The flyer concludes with a promise to provide the best treatment and a dedication to prescribing antibiotics only when necessary. It ends with a signature from St. Peter's Medical Group.

A Commitment to Our Patients about Antibiotics

Antibiotics only fight infections caused by bacteria. Like all drugs, they can be harmful and should only be used when necessary. Taking antibiotics when you have a virus can do more harm than good: you will still feel sick and the antibiotic could give you a skin rash, diarrhea, a yeast infection, or worse.

Antibiotics also give bacteria a chance to become more resistant to them. This can make future infections harder to treat. It means that antibiotics might not work when you really do need them. Because of this, it is important that you only use an antibiotic when it is necessary to treat your illness.

How can you help? When you have a cough, sore throat, or other illness, tell your doctor you only want an antibiotic if it is really necessary. If you are not prescribed an antibiotic, ask what you can do to feel better and get relief from your symptoms.

*Your health is important to us. As your healthcare providers, we promise to provide the best possible treatment for your condition. If an antibiotic is not needed, we will explain this to you and will offer a treatment plan that will help. We are **dedicated** to prescribing antibiotics **only** when they are needed, and we will avoid giving you antibiotics when they might do more harm than good.*

If you have any questions, please feel free to ask us.

Sincerely,
St. Peter's Medical Group

  U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Core Element 2



Action for Policy and Practice

- A pharmacist is physically present in the ED during the busiest times of the day.
- The pharmacist reviews all parenteral orders for antibiotics (as well as some other selected drugs) before the drug is released to nursing staff.
- The pharmacist reviews all culture results from tests ordered in the ED and consults with the ED physician regarding treatment and follow up.

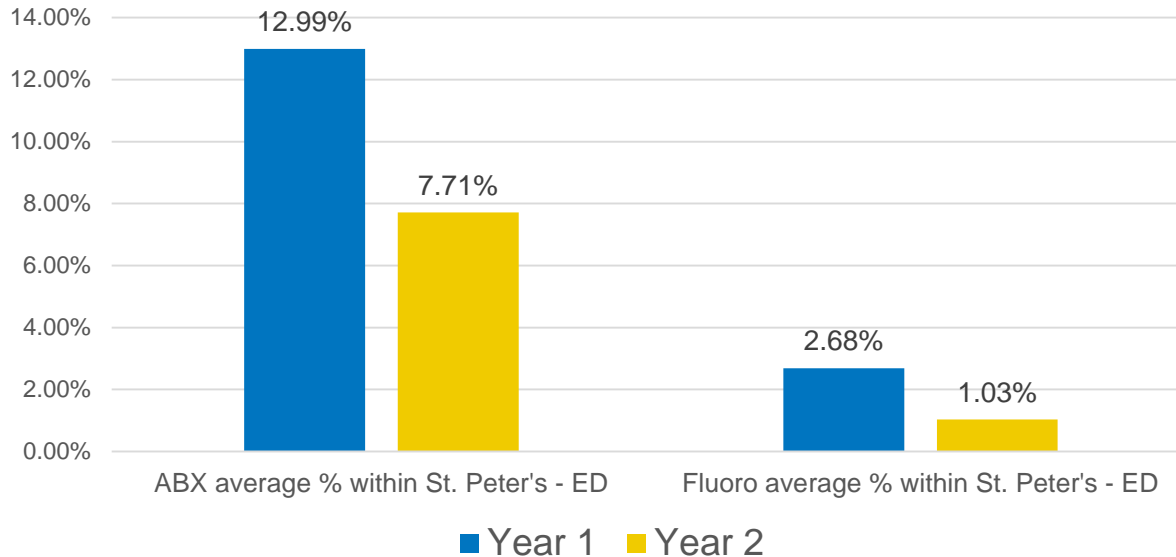
Core Element 3

Tracking and Reporting

- Results of cultures and treatment are provided for in-patient and primary care offices but not specifically for ED.
- Annual cumulative susceptibility information is given.
- Pharmacists frequently attend the monthly ED department meetings and give feedback.

Fluoroquinolone Graphs

Antibiotics and Fluoroquinolones After Respiratory Diagnosis



ABX average % in MT
Year 1: 25.40%
Year 2: 24.00%

Fluoro average % in MT
Year 1: 6.58%
Year 2: 5.54%

Core Element 4



Physician and Patient Education

- Education for providers was via the monthly department meetings.
- I was probably one of the less enthusiastic physicians about the program but did come to see its value and appreciated the pharmacists consults, especially regarding dosing.

Why does taking antibiotics lead to antibiotic resistance?

Any time antibiotics are used, they can cause side effects and lead to antibiotic resistance. Antibiotic resistance is one of the most urgent threats to the public's health. Always remember:

1. Antibiotic resistance does not mean the body is becoming resistant to antibiotics; it is that bacteria have become resistant to the antibiotics designed to kill them.
2. When bacteria become resistant, antibiotics cannot fight them, and the bacteria multiply.
3. Some resistant bacteria can be harder to treat and can spread to other people.

Each year in the United States, at least 2 million people get infected with antibiotic-resistant bacteria. At least 23,000 people die as a result.

What is the right way to take antibiotics?

If you need antibiotics, take them exactly as prescribed.

Improving the way healthcare professionals prescribe antibiotics, and the way we take antibiotics, helps keep us healthy now, helps fight antibiotic resistance, and ensures that these life-saving drugs will be available for future generations.

Talk with your doctor if you have any questions about your antibiotics, or if you develop any side effects, especially diarrhea, since that could be Clostridium difficile infection (also called C. difficile or C. diff), which needs to be treated. C. diff can lead to severe colon damage and death.

What are the side effects?

Common side effects range from minor to very severe health problems and can include:

- Rash
- Dizziness
- Nausea
- Diarrhea
- Yeast infections

More serious side effects can include:

- Clostridium difficile infection
- Severe and life-threatening allergic reactions

To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use.

Antibiotics Aren't Always the Answer.

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE

[Link to "Antibiotics Aren't Always the Answer" resource](#)

Core Element 4 (continued)



Physician and Patient Education

- Suggestions for pharmacists on how to approach physicians with treatment recommendations
- What to say to patients/parents who request antibiotics when they/their children do not need them

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Antibiotics Aren't Always the Answer.

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE

EDC

[Link to "Antibiotics Aren't Always the Answer" resource](#)

Summary



To improve care of patients, reduce development of resistant strains of bacteria, preserve the effectiveness of our antibiotic arsenal and save dollars, **we need programs that help prescribers choose the best drugs and use them most effectively.**

CDC Core Elements of Antibiotic Stewardship

For Hospitals, Small and Critical
Access Hospitals and Nursing Homes



For Hospitals

1. Leadership Commitment
2. Accountability
3. Drug Expertise
4. Actions to Support Optimal Antibiotic Use – Policies and Procedures
5. Tracking: Monitoring Antibiotic Prescribing, Use and Resistance
6. Reporting Information to Prescribers and Staff
7. Education to Clinicians and Staff

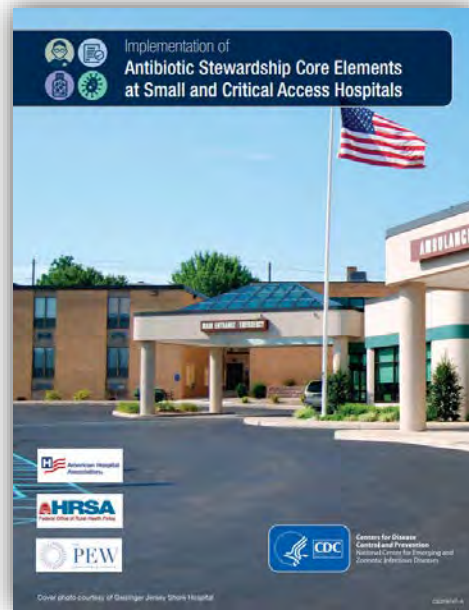
Checklist for Core Elements of Hospital Antibiotic Stewardship Programs

The following checklist is a companion to *Core Elements of Hospital Antibiotic Stewardship Programs*. This checklist should be used to systematically assess key elements and actions to ensure optimal antibiotic prescribing and limit overuse and misuse of antibiotics in hospitals. CDC recommends that all hospitals implement an Antibiotic Stewardship Program.

Facilities using this checklist should involve one or more knowledgeable staff to determine if the following principles and actions to improve antibiotic use are in place. The elements in this checklist have been shown in previous studies to be helpful in improving antibiotic use though not all of the elements might be feasible in all hospitals.

LEADERSHIP SUPPORT	ESTABLISHED AT FACILITY
A. Does your facility have a formal, written statement of support from leadership that supports efforts to improve antibiotic use (antibiotic stewardship)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
B. Does your facility receive any budgeted financial support for antibiotic stewardship activities (e.g., support for salary, training, or IT support)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
ACCOUNTABILITY	
A. Is there a physician leader responsible for program outcomes of stewardship activities at your facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No
DRUG EXPERTISE	
A. Is there a pharmacist leader responsible for working to improve antibiotic use at your facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No
KEY SUPPORT FOR THE ANTIBIOTIC STEWARDSHIP PROGRAM	
Does any of the staff below work with the stewardship leaders to improve antibiotic use?	
B. Clinicians	<input type="checkbox"/> Yes <input type="checkbox"/> No
C. Infection Prevention and Healthcare Epidemiology	<input type="checkbox"/> Yes <input type="checkbox"/> No
D. Quality Improvement	<input type="checkbox"/> Yes <input type="checkbox"/> No
E. Microbiology (Laboratory)	<input type="checkbox"/> Yes <input type="checkbox"/> No
F. Information Technology (IT)	<input type="checkbox"/> Yes <input type="checkbox"/> No
G. Nursing	<input type="checkbox"/> Yes <input type="checkbox"/> No


For Small and Critical Access for Hospitals



[Link to the CDC Guide for Small and Critical Access Hospitals](#)

For Nursing Homes

1. Leadership Commitment
2. Accountability
3. Drug Expertise
4. Take Action through Policy and Practice Change
5. Tracking Use
6. Reporting to Staff
7. Education to Staff, Residents and Families



Checklist for Core Elements of Antibiotic Stewardship in Nursing Homes

The following checklist is a companion to the Core Elements of Antibiotic Stewardship in Nursing Homes. The CDC recommends that all nursing homes take steps to implement antibiotic stewardship activities. Before getting started, use this checklist as a baseline assessment of policies and practices which are in place. Then use the checklist to review progress in expanding stewardship activities on a regular basis (e.g., annually). Over time, implement activities for each element in a step-wise fashion.

LEADERSHIP SUPPORT	ESTABLISHED AT FACILITY
1. Can your facility demonstrate leadership support for antibiotic stewardship through one or more of the following actions? <i>If yes, indicate which of the following are in place (select all that apply)</i> <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	<input type="checkbox"/> Yes <input type="checkbox"/> No
ACCOUNTABILITY	
2. Has your facility identified a lead(s) for antibiotic stewardship activities? <i>If yes, indicate who is accountable for stewardship activities (select all that apply)</i> <input type="checkbox"/> Medical director <input type="checkbox"/> Director or assistant director of nursing services <input type="checkbox"/> Consultant pharmacist <input type="checkbox"/> Other: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
DRUG EXPERTISE	
3. Does your facility have access to individual(s) with antibiotic stewardship expertise? <i>If yes, indicate who is accountable for stewardship activities (select all that apply)</i> <input type="checkbox"/> Consultant pharmacy has staff trained/is experienced in antibiotic stewardship <input type="checkbox"/> Partnering with stewardship team at referral hospital <input type="checkbox"/> External infectious disease/stewardship consultant <input type="checkbox"/> Other: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
ACTIONS TO IMPROVE USE	
4. Does your facility have policies to improve antibiotic prescribing/use? <i>If yes, indicate which policies are in place (select all that apply)</i> <input type="checkbox"/> Requires prescribers to document a dose, duration, and indication for all antibiotic prescriptions <input type="checkbox"/> Developed facility-specific algorithm for assessing residents <input type="checkbox"/> Developed facility-specific algorithms for appropriate diagnostic testing (e.g., obtaining cultures) for specific infections <input type="checkbox"/> Developed facility-specific treatment recommendations for infections <input type="checkbox"/> Reviews antibiotic agents listed on the medication formulary <input type="checkbox"/> Other: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No

CENTERS FOR DISEASE CONTROL AND PREVENTION | CORE ELEMENTS OF ANTIBIOTIC STEWARDSHIP FOR NURSING HOMES 2

Montana Antibiotic Stewardship Collaborative



Montana Antibiotic Stewardship Collaborative

In Montana, several agencies working on ABS have formed a collaborative:

Federal Funding:

- MT State Department of Public Health and Human Services
- Montana Hospital Association - Hospital Improvement Innovation Network (HIIN) and Flex Program
- Mountain-Pacific – QIO
- Montana Office of Rural Health - SHIP
- University of MT Pharmacy Program

MT ABS Collaborative

Additional Stakeholders:

- Montana Healthcare Association (Long Term Care)
- Montana Primary Care Association
- Montana Infectious Disease Physician's Network
- Montana Family Pharmacy Network
- Montana Pharmacists Association
- Montana Association of Professionals in Infection Control

Montana Antibiotic Stewardship Collaborative (continued)

The collaborative provides learning sessions and tools to promote CDC's antibiotic stewardship core elements for inpatient, outpatient and NH settings

- [MT ABS Webpage](#)
- [Sign up for the MT ABS blog](#)

The screenshot shows the Mountain-Pacific Quality Health website. The header includes the logo and navigation links: Home, Montanans with Medicaid, Health Transformation Services, Quality Improvement Organization, News, Blogs, Calendar, and Contact Us. The main content area features a large image of a healthcare professional using a tablet, with text boxes for 'Health Transformation Services' and 'MT Antibiotic Stewardship'. Below this, there is a section for 'MT Antimicrobial Stewardship Resources' which includes a description of the Montana Antimicrobial Stewardship (ABS) Collaborative and a list of member organizations. A sidebar on the left contains links for HTS Services, HTS Resources, HTS Staff, and Contact HTS. A sidebar on the right lists 'MT Antimicrobial Stewardship Links' such as MU Blog, MIPS Blog, eCQI Resources, HIPAA Resources, and MT Antibiotic Stewardship Resources.

Contact Us

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Questions?



Thank You

- [MT ABS Collaborative Resources webpage](#)
 - All education/webinar materials
 - Antibiotic Stewardship Program implementation guides, policy templates, protocols, etc.
 - Days of Therapy (DOT) antibiotic usage data tracking tool (inpatient/LTC)
 - Links to other ASP tools
- [Subscribe to the MT ABS Collaborative blog](#) for information and resources sent directly to your email