

MARR

Michigan Antibiotic Resistance Reduction Coalition

Elaine M. Bailey, PharmD
Executive Director



What is the MARR Coalition?

- ▶ A multi-stakeholder, non-profit organization founded in 1997 that seeks to improve the use of antimicrobial agents in communities throughout Michigan
- ▶ Educational programs and interventions are directed to the community as well as to healthcare professionals
- ▶ Currently funded by Centers for Disease Control
 - ▶ Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases (ELC) grant submitted in collaboration with MDHHS SHARP unit
 - ▶ Formerly Project J: *Educational Efforts to Promote Appropriate Antibiotic Use*
- ▶ Public health students, pharmacy students & residents contribute to many projects
- ▶ MARR Board of Directors and Advisory Council members volunteer to serve on workgroups (3)

MARR Coalition Board Members - 2019 to 2020

- ▶ Stephen Lerner, MD, President
- ▶ Elaine Bailey, PharmD, secretary-treasurer
- ▶ Brenda Brennan, MSPH
- ▶ Carol Bugdalski-Stutrud, RPh, FaPhA
- ▶ Marie Fluent, DDS
- ▶ Marla Gorosh-Rowe, MD
- ▶ Mary O'Connor Shaw

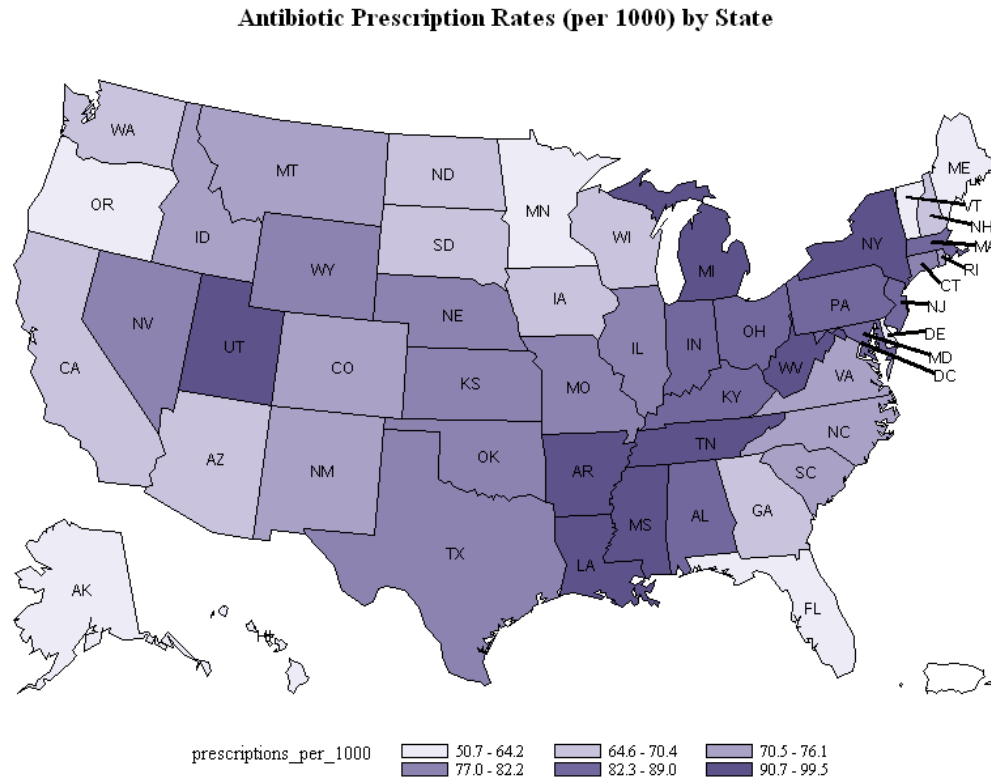
MARR Coalition Advisory Council Members

- ▶ Katelin Anderson, PharmD, Spectrum Health Ludington Hospital
- ▶ Carrie Anglewicz, Michigan Dept Health and Human Services
- ▶ James Averill, DVM, PhD, Michigan Department of Agriculture and Rural Development
- ▶ Dorine Berriel-Cass, RN, BSN, MA, CIC, Spectrum Health Grand Rapids
- ▶ Richard Blauvelt, BS, MPH, MAT
- ▶ Sharde Burton, BS, MPH, Michigan Dept Health and Human Services
- ▶ Teena Chopra, MD, MPH, Wayne State University
- ▶ Kimbal Ford, PharmD, Pfizer Inc
- ▶ Janice Gervais, MARR Coalition Media Director
- ▶ Synnomon Harrell, United Auto Workers
- ▶ Dianne McCagg, APRN, MSN, BC, MPRO
- ▶ Christopher Meny, RPh, Blue Cross Complete of Michigan
- ▶ Twisha Patel, PharmD, Michigan Medicine
- ▶ Katherine Reyes, MD, Henry Ford Health System
- ▶ Ruth Anne Rye, RN
- ▶ Jaclyn Skradski, PharmD, MPH, UP Health Systems
- ▶ Lorraine Washer, MD, Michigan Medicine

Why is Antibiotic Stewardship Important in Dentistry?

- Dentists write approximately 10% of all antibiotic prescriptions
 - ~25 million prescriptions annually
 - Highest prescribers of clindamycin
 - Compared to other states, Michigan dentists prescribe more antibiotics
- Pressure from patients and other clinicians
- Guidelines for antibiotic prescribing in dentistry are lacking/limited/conflicting
- Some evidence that unnecessary and inappropriate prescribing is common in dentistry
- Dental antibiotics have been linked to Ca-CDI

Antibiotic Prescribing Among Dentists in the United States 2013



- Overall, in the United States antibiotic prescribing is declining but dental prescribing has not decreased.
- In 2013, each dentist wrote an average of 205 antibiotic prescriptions.
- Michigan is in the highest tier for antibiotic prescribing.

Roberts, R., Bartoces, M., Thompson, S. and Hicks, L. (2017). Antibiotic prescribing by general dentists in the United States, 2013. *The Journal of the American Dental Association*, 148(3), pp.172-178.e1.

Study links dental antibiotics to C diff cases

Filed Under: **Clostridium difficile**; **Healthcare-Associated Infections**;
Antimicrobial Stewardship

Chris Dall | News Reporter | CIDRAP News | Oct 06, 2017

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Antibiotics prescribed by dentists could be contributing to rising cases of *Clostridium difficile*, according to new research released today at IDWeek 2017.

In a study conducted in Minnesota from 2009 through 2015, researchers from the Minnesota Department of Health (MDH) found that 15% of the patients diagnosed with community-associated *C difficile* infection (CA CDI) had been prescribed antibiotics for a dental procedure. And the authors of the study question how many of the prescriptions were necessary.

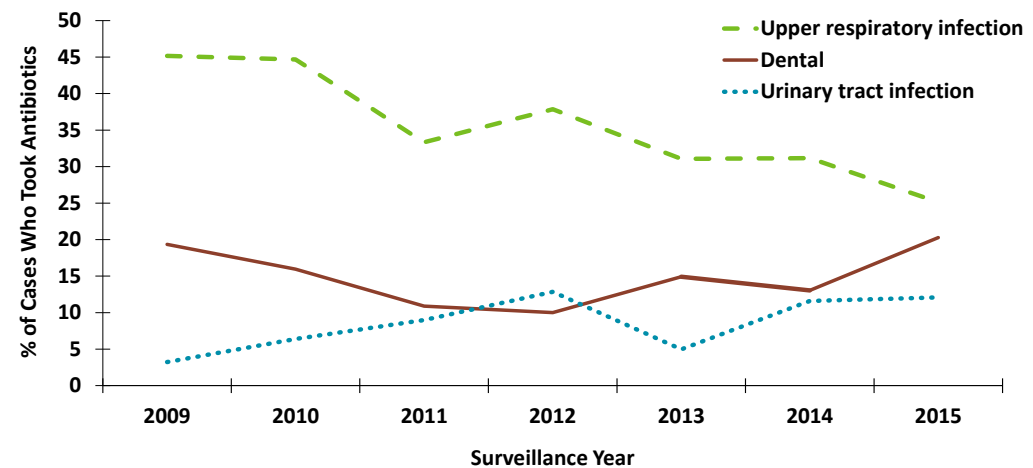


Marco Herndorff/ iStock

"Many of these prescriptions may not be meeting current prescribing guidelines," lead author and MDH epidemiologist Stacy Holzbauer, DVM, MPH, told reporters. "All prescribers, including dentists, should examine prescribing behavior for appropriateness."

CDI causes inflammation of the colon and severe, sometimes deadly diarrhea. The le

Indications for Antibiotic Prescriptions Reported by CA-CDI Cases During Interview, 2009-2015



Bye M et al. In press 2019

Dental Antibiotic Stewardship Program

- ▶ Provider Education
 - ▶ Web page
 - ▶ Local, regional and statewide Dental CE presentations
 - ▶ Publications
- ▶ Patient Education - Informational brochures and provider commitment posters
- ▶ Measuring impact of program
 - ▶ Survey(s)
 - ▶ Pilot project using CHARM registry

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Recommendations for using antibiotics in dentistry have changed

Many patients with heart conditions or prosthetic joints no longer require antibiotics before procedures

Dear Patient,

I want to give you some important information about antibiotics:

Antibiotics can save lives but they only work on bacteria, not viruses or any other type of germs.

If you take antibiotics when you don't really need them, they can cause more harm than good

- ✓ You can get diarrhea, rashes or yeast infections
- ✓ Antibiotics may NOT work when you need them
antibiotics make bacteria more resistant to them, this can make future infections harder to treat

As a patient:

- ▶ Do not pressure your dentist to give you an antibiotic when antibiotics are not necessary
- ▶ Ask how some oral infections can be treated without antibiotics
- ▶ Tell your dentist if you have had any serious side effects or allergic reactions to antibiotics in the past
- ▶ Ask your dentist if a shorter duration of antibiotics is appropriate

As your dental provider, I promise to give you the best care possible

I am dedicated to avoiding prescribing antibiotics when they are likely to do more harm than good

Please feel free to ask me if you have any questions



ANTIBIOTIC SAFETY AT THE DENTIST

Recommendations for use of antibiotics by dentists have changed. Learn the facts BEFORE you take an antibiotic.



MARR School-aged Programs

- ▶ Legacy program used in elementary schools: *Antibiotics & You*
- ▶ High School Biology Program
 - ▶ Developed in collaboration with Oregon AWARE
 - ▶ 2 modules that include teacher instructions/video, PPT, student worksheet with answer key, resource information for interactive activities
 - ▶ Currently being revised
- ▶ Middle School Program/Lesson Plan
 - ▶ Munson Medical ID Pharmacy Resident project
 - ▶ MARR Ambassador presents ~45 minute Program
 - ▶ Full lesson plan with interactive activities designed to be presented over 3-days

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***Super Protection from Superbugs:
the Fight Against Antibiotic
Resistance***

***A lesson plan designed to teach Middle
School Students how to be
Antibiotic Stewards***



Impact of Middle School Program/Lesson Plan

- Evaluations from both health and biology teachers as well as MARR Ambassadors has been positive
 - *“Great intro for my students, you captured their attention & I look forward to completing the other activities.”*
 - *“The presentations went very well. The activities kept the kids engaged.”*
- Comparison of Pre- and post-test scores suggest increase in knowledge:

SC0 - Score								
Pretest	#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
	1	Score	2.00	10.00	6.55	1.49	2.23	667

SC0 - Score								
Post-test	#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
	1	Score	2.00	10.00	8.31	1.46	2.13	701

- Teacher feedback at MSTA 2019 Annual Meeting *“Best information in exhibit hall!”*

Community Programs Workgroup

- ▶ Patient education tools and resources
 - ▶ Website
 - ▶ Social media
 - ▶ Brochures
 - ▶ Provider Commitment posters
- ▶ Collaborations with university student health centers
- ▶ MARR Ambassadors hold exhibits at health fairs
- ▶ *Antibiotic & You* presentations at senior centers, lunch & learn etc
- ▶ Exhibits at medical meetings (eg. MDHHS Immunization conferences, MIDS etc)
- ▶ Antibiotic Awareness Week observance
 - ▶ Collaboration with SHARP unit



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Visit our website@ mi-marr.org

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For More Information

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