

MAD-ID
MAKING A DIFFERENCE
IN INFECTIOUS DISEASES®



SIDP
SOCIETY OF INFECTIOUS
DISEASES PHARMACISTS

2026 Annual Meeting

Highlights from MAD-ID/ SIDP Annual Meeting

July 14, 2026

Keriann Bennett PharmD, BCPS, BCIDP

Takeaways



Engaging your Institution in Sustainability Efforts via Antimicrobial Management

Andrea Pallotta, PharmD, BCIDP, AAHIVP
Clinical Coordinator
Department of Pharmacy
Cleveland Clinic
Cleveland, Ohio

Takeaways

Presented by Andrea Pallotta

Learning Objectives

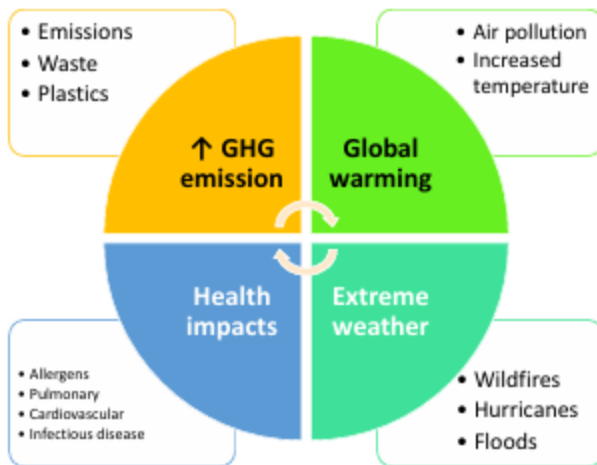
At the end of this session, the learner will be able to:

1. Describe the connections between healthcare-associated **greenhouse gas emissions** and **antimicrobial stewardship**
2. Apply principles of environmentally conscious antimicrobial stewardship to develop **strategies that reduce unnecessary antimicrobial consumption** and pharmaceutical **waste**
3. Identify key **stakeholders** and institutional structures necessary to support “green” initiatives linked to antimicrobial management

Takeaways

Presented by Andrea Pallotta

Greenhouse Gas, Global Warming, and Health



American Lung Association Climate and Health Basics Course. Accessed 8 Mar 2026 at <https://www.lung.org/clean-air/climate-change/climate-and-health-basics-course>.

Impact of Climate Change on Microbiology

Disease transmission

Altered growth
Fragmented habitats
Distribution shifts
Urbanization
Altered precipitation

Temperature rise and pathogen survival

Stagnant water
Salination of oceans
Rising ocean temperature
Incubation time
Plant-pathogen interactions

Vector-borne, zoonotic

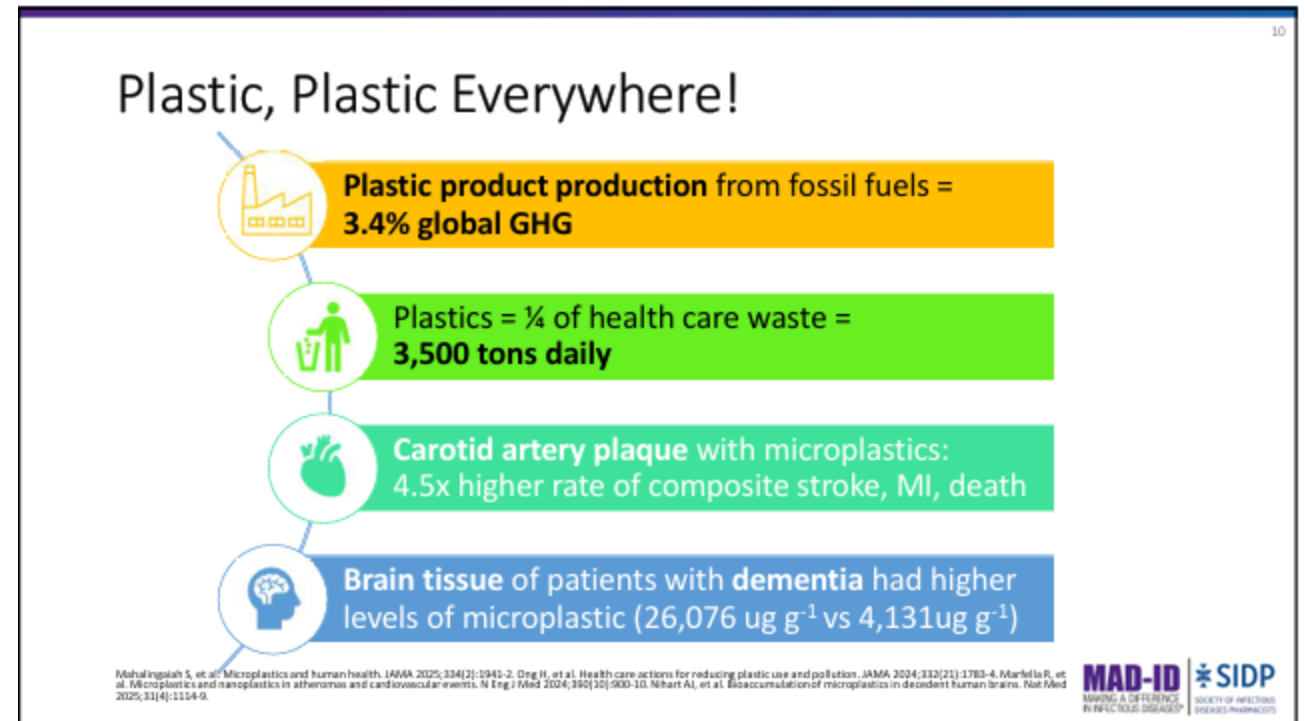
Mosquito borne:
- Malaria, dengue, West Nile virus
Vector borne:
- Lyme disease
Bacterial: *Vibrio* spp

Naga NG, et al. The silent microbial shift: climate change amplifies pathogen evolution, microbiome dysbiosis, and antimicrobial resistance. Tropical disease, travel medicine and vaccines 2025;11:43.

Takeaways

Presented by Andrea Pallotta

- Greenhouse Gas Emissions in Healthcare
 - Pharmaceutical industry creates about 55% more emissions than the automotive industry

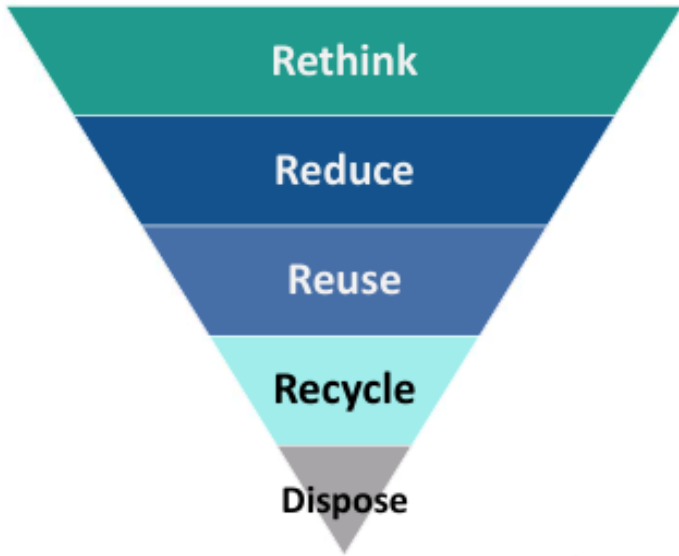


Takeaways

Presented by Andrea Pallotta

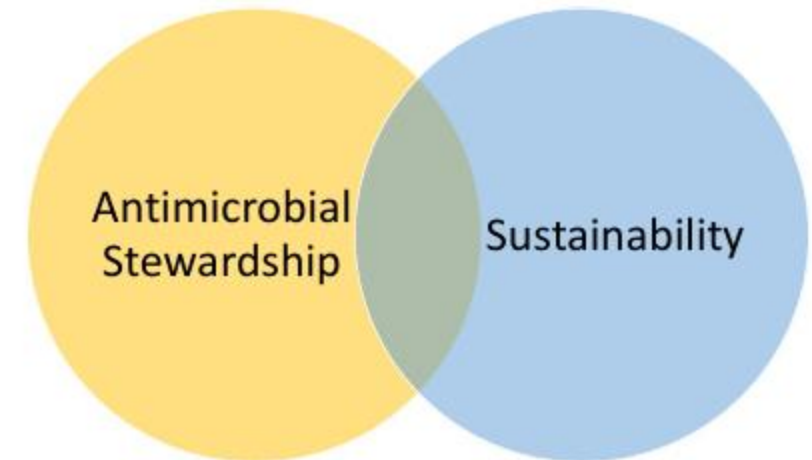
Reimagine the 3R's: Waste Hierarchy

- Hospital waste production
 - 42 lbs per bed per day
 - 5 million tons annually
- What happens to the waste
 - Incineration
 - Landfill
 - Recycling
 - Reusing
- What can we do?



Healthcare Without Harm. Accessed 21 Sept 2025 at us.noharm.org/waste-management.

MAD-ID **SIDP**
MAKING A DIFFERENCE SOCIETY OF INFECTIOUS
IN INFECTIOUS DISEASES DISEASES PHARMACISTS



Takeaways

Presented by Andrea Pallotta

15

CASCADES Playbook and Scorecard

Playbook

- Tools for change
- Hospital pharmacy medication management
- Education

Scorecard

CLINICAL ACTIVITIES	%
	• Formalized antimicrobial stewardship program in place with dedicated physician, pharmacist and administrative support (e.g. with dedicated resources, KPIs/ outcome goals).
	• Mandatory indication and duration of therapy are included with all antimicrobial orders.
	• Process to identify patients for spirometry testing and inhaler re-assessment to reduce unnecessary use of ICS inhalers, in units where appropriate.
	• Guidelines/policies/directives to minimize unnecessary antibiotic initiation (e.g. asymptomatic bacteriuria, see Choosing Wisely Canada, Recommendations by Speciality).

Lam, J, Cao, K, Devitt, KS, Dhami, R. Integrating Environmental Sustainability into Hospital Pharmacies. Version 1.0. (2025). [Internet]. CASCADES (Creating a Sustainable Canadian Health System in a Climate Crisis). [Accessed 16 Mar 2026]. Available from cascadescanada.ca/resources/hospital-pharmacy-playbook/ Used with permission.

MAD-ID
MAKING A DIFFERENCE
IN INFECTIOUS DISEASE

SIDP
SOCIETY OF INFECTIOUS
DISEASE PHARMACISTS

Cascades Score Card



Takeaways

Presented by Andrea Pallotta

Antibiotic Waste Calculator: Plastic Waste

Plastic Waste Calculator

A tool to help you calculate and compare waste from antibiotic regimens.

Antibiotic	Dose
Azithromycin	500 mg
Administration Method	Form
IV	Mini-bag (Powder)
Frequency	Duration (Days)
Every 24 hours (q24h)	1
<button>Calculate Waste</button>	
Results	
Plastic waste per dose:	203.5 g
Total doses (1 days, Every 24 hours (q24h)):	1 doses
Total plastic waste:	203.5 g
For reference: a standard plastic waste bottle weighs ~10g	

Antibiotic waste calculator. Accessed 20 Mar 2026 at <https://econchoice.com/?page=home>. Used with permission.

- Calculates plastic waste required for compounding and administration
- Quantify by dose, day, duration
- Compare to other agents
- Evaluate waste reduction of an intervention using days of therapy

Abx Waste Calculator



Takeaways

Presented by Andrea Pallotta

17

Carbon Emissions Estimation Tool

Dose Calculator

Calculates Emissions and Equivalents per Antimicrobial Dose by Antimicrobial Agent and Dose

Drug Product	Total Doses	CO2 Equivalent	Mass	Miles Driven	Gallons of Gas	Pounds of Coal	Phones Charged
Ampicillin 2 g	100	0.00073	8.85297	1.85622	0.09167	0.00020	48.06497
Ampicillin-sulbactam 3 g	300	0.00256	28.34616	6.54293	0.28787	2.82060	169.42278
Azithromycin 500 mg	500	0.00705	97.72750	18.79861	0.82708	8.10382	486.77201
Acetaminophen 2 g	50	0.00058	5.69823	1.27593	0.05610	0.04966	33.01578
Cefazolin 2 g	600	0.00532	45.53000	13.60942	0.59677	5.86690	352.40281
Cefepime 2 g	300	0.00226	17.88742	5.77577	0.25412	2.48989	149.55808

Calculated Data

Greenhouse Gas Equivalency Totals

CO2 Equivalent (metric tons)	0.0187124898
Total Waste Generated (kg)	203.7
Miles Driven	47.9
Gallons of Gas Consumed	2.1
Pounds of Coal Burned	20.6
Phones Charged	1239.2

- Each item and associated material weighed
- Calculated GHG emission for each item
- Total for product/dose
- Validated with two health systems

Hojat LS, et al. Development of a novel carbon emissions estimation tool for disposable waste associated with antimicrobial packaging, preparation, and administration in the hospital setting. Open Forum Infect Dis 2025;12(10):ofaf308. Used with permission

MAD-ID

MAKING A DIFFERENCE IN INFECTIOUS DISEASES

SIDP

SOCIETY OF INFECTIOUS DISEASES PHARMACISTS

Emissions Calculator

Check out supplementary materials for Excel File

CSiM

CENTER FOR STEWARDSHIP IN MEDICINE

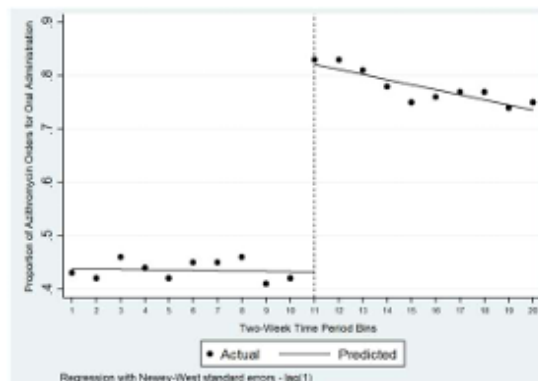
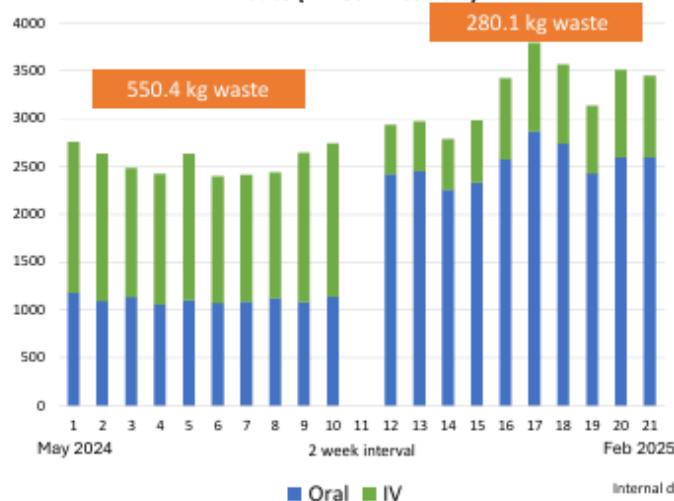
Takeaways

Waste Reduction Examples

Presented by Andrea Pallotta

IV to PO Provider Facing Alert Outcomes

Number of Azithromycin Administrations by Oral or IV Route (2 week intervals)



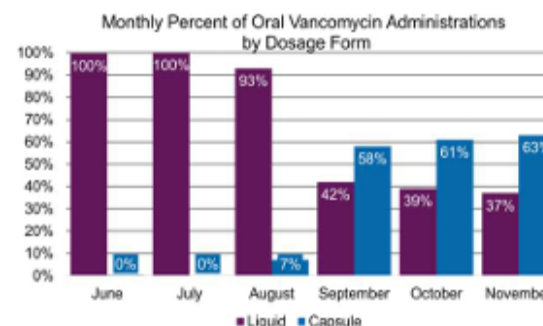
Analysis completed by Gretchen Sacha, PharmD

Internal data from Cleveland Clinic. Contributors: Jenny Clifton, Andrea Pallotta, Gretchen Sacha, Jill Wesolowski



Waste Diversion for Oral Vancomycin

Transition from compounded oral suspension to capsules



Data from Samantha Spencer, PharmD

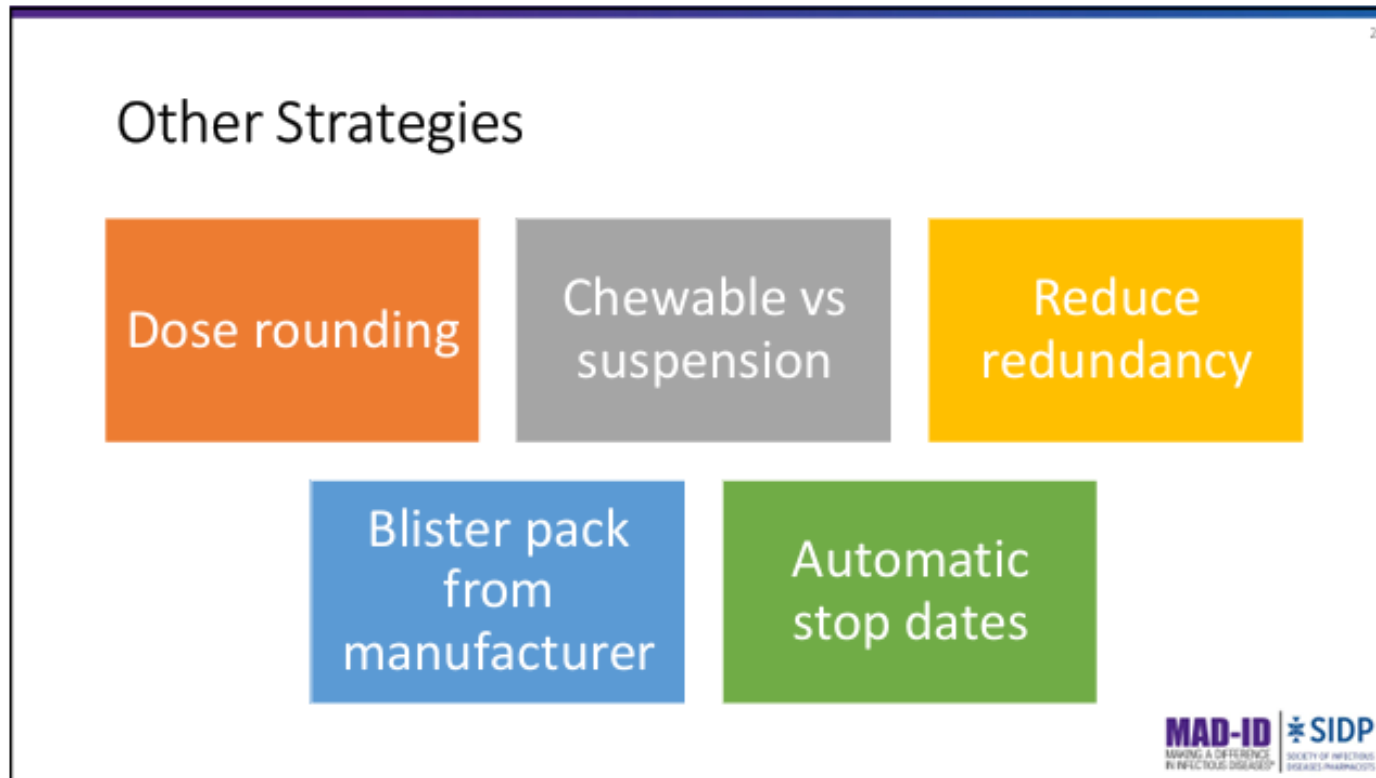
3 Month Waste Diversion



CENTER FOR STEWARDSHIP IN MEDICINE

Takeaways

Presented by Andrea Pallotta



Resources

- [Sustainabil-ID.com](https://sustainabil-id.com)
- [Practice Green Health](https://practicegreenhealth.org)
- [Healthcare Without Harm](https://healthcarewithoutharm.org)
- [Rx for Climate](https://rxforclimate.org)
- [Ecorxchoice.com](https://ecorxchoice.com)

Takeaways

