Antimicrobial Stewardship in 2022

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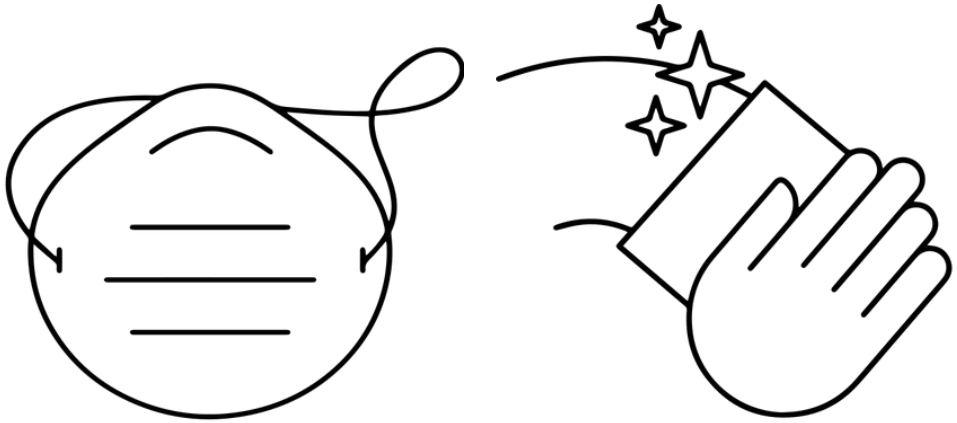
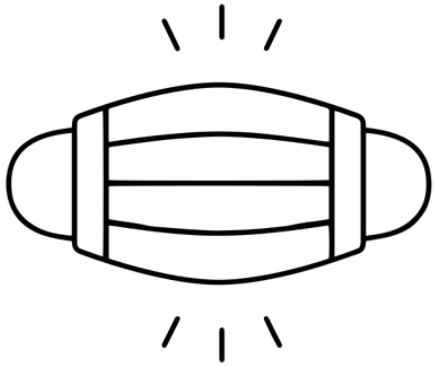
NH DIVISION OF
Public Health Services
Department of Health and Human Services

Agenda

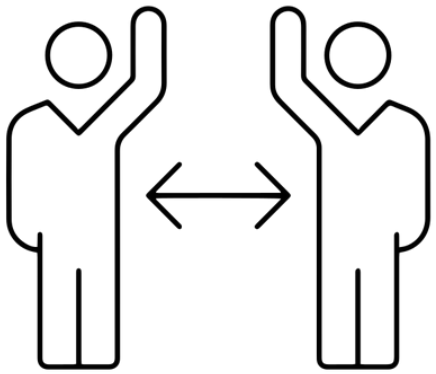
- Discuss Antimicrobial Stewardship in 2022
  - Current Activities
  - Silver Linings of the Pandemic
  - Provide Stewardship Resources
    - Project Firstline Education materials
    - Stewardship Metrics
- Challenge!

What stewardship activities have you and your stewardship team been working on in the past 2 years?





COVID-19



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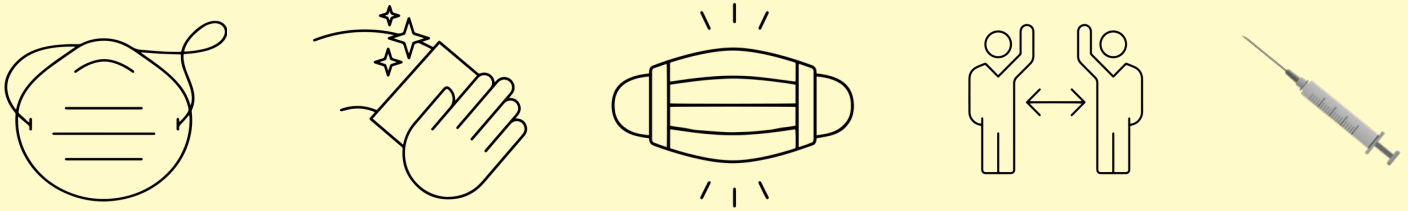
Layered Approach



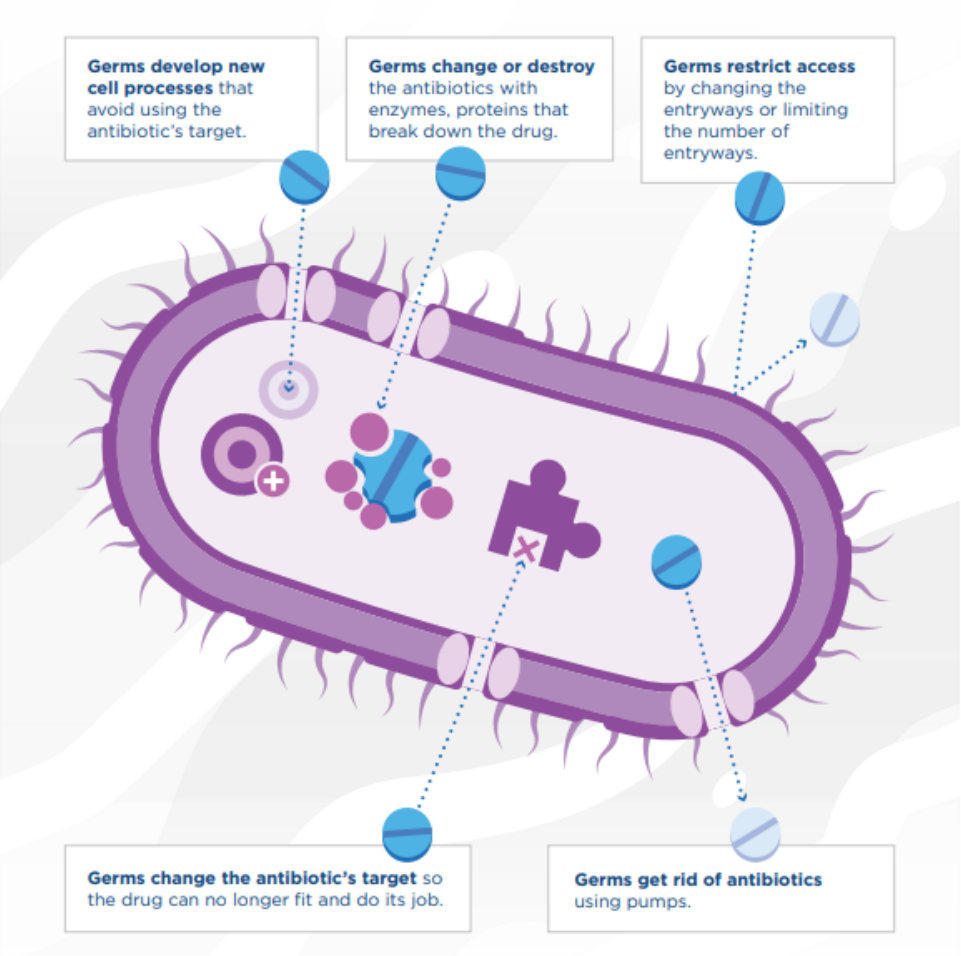
Fewer COVID-19 Infections

Fewer Hospitalizations and Antibiotics Prescribed

"Recent reports estimate more than 70% of COVID-19 inpatients receive antibiotic therapy despite low prevalence of secondary bacterial infections among inpatients with COVID-19"

How Bacteria and Fungi Fight Back Against Antibiotics

Antibiotics fight germs (bacteria and fungi). But germs fight back and find new ways to survive. Their defense strategies are called **resistance mechanisms**. Only germs, not people, become resistant to antibiotics.

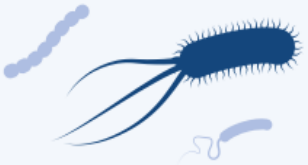


https://www.cdc.gov/drugresistance/pdf/threats-report/How-Germs-Fight-Back-Against-Antibiotics.pdf

PROTECT YOUR PATIENTS, COMBAT ANTIBIOTIC RESISTANCE

Actions For Healthcare Providers

You can protect your patients from antibiotic-resistant germs such as bacteria and fungi, which can cause difficult and sometimes impossible to treat infections.



Prevent Infections & the Spread of Germs

Follow infection prevention and control recommendations, including screening at-risk patients when indicated.

Ask patients if they recently received care in another facility or traveled to another country (germs can be spread easily across borders).

Ensure your patients receive recommended vaccines.

Alert receiving facilities when transferring patients who are colonized or infected with antibiotic-resistant germs.

Educate patients on ways to prevent spread.

Stay informed of current outbreaks.

Improve Antibiotic Prescribing

Follow clinical and treatment guidelines. Support CDC's Core Elements of Antibiotic Stewardship to ensure appropriate antibiotic use.

Consider fungal infections for patients with respiratory infections that do not respond to antibiotics.

Watch for signs and symptoms of sepsis. If you suspect sepsis, start antibiotics as soon as possible and reassess antibiotic therapy.

Perform appropriate diagnostic tests to guide antibiotic therapy, including correct drug, dose, and duration.

Be Alert & Take Action

Be aware of infections and resistance patterns in your facility and community.

Ensure you are notified by the lab immediately when antibiotic-resistant germs are identified in your patients.

Inform patients and families if they have an antibiotic-resistant infection, as well as sexual partners when appropriate (e.g., gonorrhea).

Know when to report cases and submit resistant isolates to the health department to help identify unusual resistance or treatment failures.

https://www.cdc.gov/drugresistance/pdf/threats-report/Actions-For-Healthcare-508.pdf

What professional silver linings have you found as a result of the pandemic?

How can you use those silver linings to strengthen your stewardship program?

The Stewardship Team

- Temperature/Symptom Screener
- Environmental Services
- Dietary Staff

- What other roles?

Project Firstline Training

- The content is designed so that—regardless of a healthcare worker's previous training or educational background— they can understand and confidently apply the infection control principles and protocols necessary to protect themselves, their facility, their family, and their community from infectious disease threats

Project Firstline Training

- 15 topics currently online
  - The Concept of Infection Control
  - The Basic Science of Viruses
  - How Respiratory Droplets Spread COVID-19
  - How Viruses Spread from Surfaces to People
  - How COVID-19 Spreads: A Review
  - Multi-Dose Vials
  - PPE Part 1 – Eye Protection
  - PPE Part 2 – Gloves & Gowns
  - Hand Hygiene
  - Virus Strains
  - PPE Part 3 – Respirators
  - Environmental Cleaning and Disinfection
  - Source Control
  - Asymptomatic Spread of COVID-19
  - Ventilation

Project Firstline Training

DEFINITION

Contact Time Sometimes called "dwell time," this is the amount of time a disinfectant needs to sit on a surface, without being wiped away or disturbed, to effectively kill germs.

https://www.cdc.gov/infectioncontrol/ppt/PFL-T12-10min-ContactTime-Slides.pptx

Project Firstline Training

DEFINITION

Contact Time Sometimes calle
of time a disinfe
without being w
effectively kill ge

THE DISINFECTANT LABEL

What information do you need from a disinfectant's label?

1. Is the product EPA-approved?
2. On which surfaces can the disinfectant be used?
3. What germs has the disinfectant been proven to kill?
4. Should the product be diluted?
5. What is the contact time?

PROJECT FIRSTLINE

PROJECT FIRSTLINE

https://www.cdc.gov/infectioncontrol/ppt/PFL-T12-10min-ContactTime-Slides.pptx

Project Firstline Trainings

- Quality Improvement Initiatives

Stewardship Metrics

- Number of Educational Trainings Held
- Number of Staff Reporting Confidence in being able to engage in Proper PPE Use
- Antibiotic De-escalations
- Adverse Drug Events
- Defined Daily Dose
- Drug Resistant Infection Rates
- Days of Therapy (DOT)

- Others?

Stewardship Metrics

- Developing Patient Safety Outcome Measures and Measurement Tools for Antibiotic Stewardship Programs Metrics Guide
  - Duke Antimicrobial Stewardship Outreach Network
  - CDC Foundation
  - Merck & Co., Inc

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How to use the Technical Manual

The aim of the Technical Manual is to share the standardized data structures, definitions, and analysis steps for assessment of each metric as well as our experience in feasibility of collecting, analyzing, and interpreting the data. The Technical Manual describes each metric that was explored for feasibility testing with the 5 pilot sites. Antimicrobial stewardship programs (ASPs) may not desire to collect or implement every metric presented. Thus, each metric is discussed separately. The metrics are presented in four categories as in the table below. Conclusions on each metric were based on experience with this two-year project, the STEWARDS panel outcome, and the five pilot sites. However, feasibility and usefulness will vary among facilities and depends heavily on local ASP goals. For practical application of this information, we recommend evaluating each proposed metric in light of local ASP goals and then prioritizing those most feasible and relevant locally to capture for ongoing use.

Metrics Assessed for Feasibility during the Two-Year Project

Group	Metric List
Metrics that were both useful and feasible	Days of therapy over patient days Days of therapy over days present Healthcare facility associated LabID *C. difficile* over patient days Hospital onset LabID *C. difficile* over patient days Redundant therapy events Total duration per antimicrobial admission De-escalation performed
Metrics that were feasible, may be useful in certain scenarios, but not for routine assessments	Readmission rate related to infectious diagnosis Adherence to local guidelines, formulary agents, protocols or bundles
Metrics that did not pass feasibility testing	Drug-resistant infection rates Adverse drug events or toxicities Appropriateness, inappropriateness per institutional guidelines or expert opinion Excess drug use avoided
Metrics that were feasible, but not useful	Days of therapy over admissions

Stewardship Metrics

- Days of Therapy (DOT)
  - Defined as the number of calendar days that at least one dose of each antibiotic was administered to a patient. If multiple doses of the same antibiotic were administered in a single day, only one day of therapy is counted.

Days of Therapy	
Pros	Cons
- Can be used for pediatric populations - Calculations do not change with DDD standards	- More difficult to calculate without computerized pharmacy records - Overestimate use for antibiotics given more an once a day
Polk RE. *Clin Infect Dis*2007; 44:664–70.	

Antibiotic Use Data

- Where can antibiotic use data be obtained?
  - CDC Antibiotic Resistance & Patient Safety Portal
  - An Electronic Medication Administration Record (eMAR)
  - The Electronic Medical Record (EMR)
  - The NHSN AU/AUR module
  - Others?
- What variables are easily accessible?

Stewardship Metrics

- Excel
  - Minnesota Department of Health – Infection and Antibiotic Use Tracking Tool
  - The Montana Antimicrobial Stewardship (ABS) Collaborative

Challenge!

- Incorporate education around contact time/reading cleaning product labels
  - Huddles/Meetings
  - Electronic newsletters
  - Social Media
  - Staff Voting
  - Lunch and Learn
- Review what antibiotic use data you have available at your facility
  - Identify your baseline of antibiotic use

For More Information:

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Thank you!