Antibiotic Stewardship Program (ASP)

An Introduction to the ASP at Sanford
Educational Objectives

After reviewing the information in this course, the learner will be able to:

• Explain what the term Antibiotic Stewardship means and why it is important.
• Describe the risks related to the use of antibiotics.
• Identify ways that healthcare professionals support the Antibiotic Stewardship Program (ASP) at Sanford.
Introduction:
Important Information About Antibiotic Use

- **Antibiotic resistance**—when bacteria no longer respond to drugs designed to kill them—this is happening right now across the world, including in the US.
- In this country, about **1/3 of antibiotic use is inappropriate**.
- **Overuse of antibiotics** contributes to resistant organisms and “super-infections”. Overuse of antibiotics is reduced with **ANTIMICROBIAL STEWARDSHIP**.

Each year in the US:

- 2 million infections
- 23,000 deaths

CDC. Core Elements of Hospital Antibiotic Stewardship Programs.
What does this mean for me?

- **It is a team effort, and we need YOU!**

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<thead>
<tr>
<th>Role</th>
<th>Responsibility</th>
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<tr>
<td><strong>Providers</strong></td>
<td>Use carbapenems and quinolones judiciously. Shorten length of antibiotic treatment whenever possible.</td>
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<td><strong>Nurses</strong></td>
<td>Educate patients on appropriate antibiotic use and document in Epic.</td>
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<td><strong>Pharmacists</strong></td>
<td>Optimize antibiotic dose, IV to oral changes, and the regimen’s spectrum of coverage.</td>
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<tr>
<td><strong>Infection Prevention and Quality Staff</strong></td>
<td>Monitor and report HAI and quality data relevant to antibiotic use</td>
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<td><strong>Lab</strong></td>
<td>Guide proper use of tests and flow of results. Create and interpret antibiogram.</td>
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<tr>
<td><strong>IT</strong></td>
<td>Integrate decision support for antibiotic use and stewardship protocols into Epic. Assist in reporting efforts.</td>
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What is Antimicrobial Stewardship?

- A system designed to improve and measure the right use of antibiotics
- Uses informatics, data analysis, hospital staff, and policy/procedures

- Biggest things we are targeting right now are:
  - Reducing length of antibiotic treatment to shortest effective length. *(It may be shorter than you think.)*
  - Reducing unnecessary use of carbapenem antibiotics (eg. ertapenem). There are very few drugs we can use if resistance develops to these antibiotics.
  - Reducing unnecessary use of quinolone antibiotics (eg. levofloxacin). These more often cause serious side affects, like *Clostridium difficile* (“C-diff”) infections.

![Table of Infections for Which Short-Course Therapy Has Been Shown to Be Equivalent in Efficacy to Longer Therapy](image)

*JAMA Intern Med. 2016;176(9):1254-1255*
Why is Antimicrobial Stewardship Important?

- Your body is full of good bacteria that help protect you and maintain your health. **Antibiotics kill good bacteria** along with bad bacteria.
- After using antibiotics, your normal gut bacteria may take 1-2 years, or even longer, to fully recover.
  - See how many of your normal gut bacteria disappear after 7 days of clindamycin

When we use antibiotics **when we don’t need to**, we expose patients to a greater risk of:
- **Clostridium difficile (‘C-diff’)** infections. When good bacteria in the gut are killed, C-diff can move in and make someone sick. This infection can keep coming back.
- **Antibiotic-resistant infections.** The more bacteria are exposed to antibiotics, the more they adjust to survive antibiotics until they don’t work.
- **Side-effects.** Some can be serious. If an antibiotic isn’t needed, we can do more harm than good.

Adapted from *Microbiology*. 2010;156:3216–3223
What is Being Done at Sanford Health?

- **Antimicrobial Stewardship is a PRIORITY.**
- There is an enterprise antimicrobial stewardship program (ASP) committee. These experts are working together to align with national standards from:
  - The Joint Commission
  - CDC – Centers for Disease Control and Prevention

- Pharmacists and Physicians review antibiotic treatment plans
- Monitor ASP plans and demonstrate outcomes
- Track antibiotic use, resistant infections, ASP efforts
- Teach staff and patients
Antibiotic Stewardship is a system designed to improve and measure the right use of antibiotics using informatics, data analysis, hospital staff, and establishment of policies/procedures.

The risks related to the use of antibiotics include development of C. Diff, antibiotic resistant organisms, and side effects in patients.

Several roles at Sanford support the Antibiotic Stewardship program including healthcare professionals in the fields of medicine, nursing, pharmacy, laboratory, quality, infection control, and information technology.