Committing to Having Nurses at the Table

Seun Ross DNP, MSN, CRNP-F, NP-C, NEA-BC
Director, Nursing Practice & Work Environment
American Nurses Association
Nurses and Antibiotic Stewardship

Key Support

The work of stewardship program leaders is greatly enhanced by the support of other key groups in hospitals where they are available.

- **Clinicians and department heads**: As the prescribers of antibiotics, it is vital that clinicians are fully engaged in rational antibiotic use in hospitals.
- **Infection preventionists and hospital epidemiologists**: coordinate facility readiness, bring their skills to auditing, analyzing, and educating staff on the impact.
- **Clinical pharmacist**: can make sense of the available data to inform decisions.
- **Nurses**: can assure that cultures are performed before starting antibiotics. In addition, nurses review medications as part of their routine duties and can prompt discussions of antibiotic treatment, indication, and duration.
- **Information technology staff**: are critical to integrating stewardship protocols into existing workflow.
- **Medical directors**: are responsible for clinical decision support for antibiotic use.

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Antibiotic Stewardship Workgroup
Redefining the Antibiotic Stewardship Team: Recommendations from the American Nurses Association/Centers for Disease Control and Prevention Workgroup on the Role of Registered Nurses in Hospital Antibiotic Stewardship Practices

Effective Date: 2017

Executive Summary
The purpose of this American Nurses Association/Centers for Disease Control and Prevention (ANA/CDC) White Paper is to inform registered nurses in the United States about the problem of antibiotic resistance and facilitate their embracing an expanded and clearly recognized role in hospital antibiotic stewardship programs (ASPs) and activities. The White Paper is the result of a series of online meetings, culminating in a one-day live conference with a selection of nurses identified by ANA and CDC as having expertise and/or interest in antibiotic stewardship. The purpose of the workgroup is to explore how nurses can become more engaged and take a leadership role to enhance our nation's

While often used interchangeably, the terms "antibiotic" and "antimicrobial" are not the same. Microbes include bacteria, viruses, fungi, and parasites; antimicrobials are agents against...
The NICE Network

Infection Prevention & Control

Nursing Infection Control Education Network

ANA and the Centers for Disease Control and Prevention (CDC) have partnered with 20 NICE Network members to develop the Nursing Infection Control Education Network (NICE Network). The NICE network seeks to empower nurses to protect themselves and their patients by providing real-time infection prevention and control training to U.S. nurses. The goal of the training programs developed through the NICE Network is to improve adherence to infection prevention and control practices and enhance the confidence of nurses to care for patients with Ebola and other highly contagious diseases.
Antimicrobial Resistance: Where We Are Now
Antimicrobial Stewardship What You Can Do

The views expressed in this presentation are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.
Antimicrobial Resistance: Where We Are Now

- Lots of patients get antibiotics*
  - 55.7% of hospitalized patients receive an antibiotic
  - 37.2% of those antibiotics are inappropriate

- Antibiotics have side effects
  - Adverse drug reactions
  - Clostridium difficile, a.k.a., C diff
  - Resistance happens

- Shrinking “pipeline” of new antibiotics

Antibiotic Resistance

“... the microbes are educated to resist penicillin and a host of penicillin-fast organisms is bred out .... In such cases the thoughtless person playing with penicillin is morally responsible for the death of the man who finally succumbs to infection with the penicillin-resistant organism. I hope this evil can be averted.”

How Antibiotic Resistance Happens

1. Lots of germs. A few are drug resistant.

2. Antibiotics kill bacteria causing the illness, as well as good bacteria protecting the body from infection.

3. The drug-resistant bacteria are now allowed to grow and take over.

4. Some bacteria give their drug-resistance to other bacteria, causing more problems.

Estimated minimum number of illnesses and deaths caused annually by antibiotic resistance*:

At least 2,049,442 illnesses, 23,000 deaths

*bacteria and fungus included in this report

http://www.cdc.gov/media/dpk/2013/images/untreatable/img43.jpg
CLOSTRIDIUM DIFFICILE

250,000 INFECTIONS PER YEAR
14,000 DEATHS

$1,000,000,000 IN EXCESS MEDICAL COSTS PER YEAR

THREAT LEVEL URGENT

This bacteria is an immediate public health threat that requires urgent and aggressive action.

http://www.cdc.gov/drugresistance/images/3-cdiff-wmark.png
CONCLUSIONS

C. difficile was responsible for almost half a million infections and was associated with approximately 29,000 deaths in 2011. (Funded by the Centers for Disease Control and Prevention.)
Total Number of New Antibacterial Agents

1983-1987
1988-1992
1993-1997
1998-2002
2003-2007
2008-2012

ANTIBIOTIC DEVELOPMENT IS DWINDLING

Source: The Epidemic of Antibiotic-Resistant Infections, CID 2008/46 (15 January)
Antimicrobial/Antibiotic Stewardship Defined

• “… coordinated interventions designed to improve and measure the appropriate use of [antibiotic] agents by promoting the selection of the optimal [antibiotic] drug regimen, including dosing, duration of therapy, and route of administration.”*

• In other words, ensuring patients are …
  • On the right antibiotic
  • The right dose, route, and duration
  • For the right reason (indication)

*Fishman, N. Policy statement on antimicrobial stewardship by the Society for Healthcare Epidemiology of America (SHEA), the Infectious Diseases Society of America (IDSA), and the Pediatric Diseases Society (PIDS). Infect Control Hosp Epidemiol 2012; 33:322-7.
CDC Core Elements of Hospital Antibiotic Stewardship Programs

1. **Leadership Commitment.** Dedicating necessary human, financial and information technology resources.

2. **Accountability.** Appointing a single leader responsible for program outcomes. Experience with successful programs show that a physician leader is effective.

3. **Drug Expertise.** Appointing a single pharmacist leader responsible for working to improve antibiotic use.

4. **Action.** Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment, i.e., “antibiotic time out” after 48 hours.

5. **Tracking.** Monitoring antibiotic prescribing and resistance patterns.

6. **Reporting.** Regular reporting information on antibiotic use and resistance to doctors, nurses, and other relevant staff.

7. **Education.** Educating clinicians about resistance and optimal prescribing.

http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf
The Joint Commission: Antimicrobial Stewardship Standard

- Effective January 1, 2017
- MM.09.01.01: The hospital has an antimicrobial stewardship program based on current scientific literature
- Elements of Performance are based on the CDC Core Elements of Hospital Antimicrobial Stewardship Programs
Elements of Performance:

1. Leaders establish antimicrobial stewardship as an organizational priority.

2. The hospital educates staff and licensed independent practitioners involved in antimicrobial ordering, dispensing, administration, and monitoring about antimicrobial resistance and antimicrobial stewardship practices. Education occurs upon hire or granting of initial privileges and periodically thereafter, based on organizational need.

3. The hospital educates patients, and their families as needed, regarding the appropriate use of antimicrobial medications, including antibiotics.

4. The hospital has an antimicrobial stewardship multidisciplinary team that includes the following members, when available in the setting: Infectious disease physician; Infection preventionist(s); Pharmacist(s); Practitioner.


6. The hospital's antimicrobial stewardship program uses organization-approved multidisciplinary protocols (for example, policies and procedures).

7. The hospital collects, analyzes, and reports data on its antimicrobial stewardship program.

8. The hospital takes action on improvement opportunities identified in its antimicrobial stewardship program.

What You Can Do

• Think beyond medication administration
• Obtain appropriate cultures using proper technique before starting antibiotics
• Review microbiology results and sensitivities and ordered antibiotics
• Be aware of indication and intended duration of antibiotics
• Notify physician/pharmacist of adverse effects and/or patient refusal of antibiotics
• Verify antibiotic schedule when patient transfers
• Take a detailed allergy history
  • Label of “penicillin allergy” associated with increased selection of antibiotic-resistant organisms, longer hospital stay and increased cost
What You Can Do

• “Get Ahead of Sepsis. Know the Risks. Spot the Signs. Act Fast.”
  • Ensure antibiotics are started promptly and reviewed once culture results available.
  • Initiate and participate in discussions about antimicrobial usage, to include de-escalation, readiness for change from IV to oral.
  • https://www.cdc.gov/sepsis/get-ahead-of-sepsis/index.html
• Advocate for removal of invasive devices such as urinary catheters and central lines when no longer needed
• Promote immunization for children and adults
• Be at the table
• Educate
**The ABC’s of Antibiotics**

**Ask**
- Are these antibiotics necessary?
- What can I do to feel better?

**Bacteria**
Antibiotics do not kill viruses. They only kill bacteria.

**Complete the Course**
Take all of your antibiotics exactly as prescribed (even if you are feeling better).

Do not pressure your healthcare provider for antibiotics.

You do not need antibiotics for:
- Colds or flu
- Most coughs and bronchitis
- Sore throats not caused by strep
- Runny noses or colds
- Most ear aches

Using antibiotics the wrong way can cause bacteria to grow into superbugs. This could make your next infection much harder to treat.

**Infection Prevention and You**
Learn more about antibiotic resistance at apic.org/infectionpreventionandyou and cdc.gov/getsmart.

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**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, your healthcare professional for tips on how to relieve symptoms and feel better.

<table>
<thead>
<tr>
<th>Common Condition</th>
<th>Common Cause</th>
<th>Are Antibiotics Needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bacteria or Virus</td>
<td></td>
</tr>
<tr>
<td>Strep throat</td>
<td>![Y]</td>
<td>Yes</td>
</tr>
<tr>
<td>Whooping cough</td>
<td>![Y]</td>
<td>Yes</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>![Y]</td>
<td>Yes</td>
</tr>
<tr>
<td>Sinus infection</td>
<td>![Y]</td>
<td>Maybe</td>
</tr>
<tr>
<td>Middle ear infection</td>
<td>![Y]</td>
<td>Maybe</td>
</tr>
<tr>
<td>Bronchitis/bronchitis (in otherwise healthy children and adults)</td>
<td>![Y]</td>
<td>No*</td>
</tr>
<tr>
<td>Common cold/upper respiratory infections (in otherwise healthy children and adults)</td>
<td>![Y]</td>
<td>No*</td>
</tr>
<tr>
<td>Sore throat (except strep)</td>
<td>![Y]</td>
<td>No</td>
</tr>
<tr>
<td>Flu</td>
<td>![Y]</td>
<td>No</td>
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</table>

*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.

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**Staying Healthy. Protect Yourself from Sepsis.**

Stay healthy. Protect yourself from sepsis.

**What is Sepsis?**
Sepsis is the body's extreme response to an infection. It is life-threatening, and without timely treatment, can spread quickly throughout the body, causing organ failure and death.

**What are the Symptoms?**
There is no single sign or symptom of sepsis. Symptoms of sepsis can include a combination of any of the following:

- Fever or chills.
- Headache.
- New, unusual bruising.
- Nausea or vomiting.
- Lightheadedness.
- Shortness of breath.
- Confusion.
- If you have any symptoms, call your doctor. If you ask your doctor or nurse, “How can I prevent infections?”

**How can I get ahead of sepsis?**
1. Talk to your doctor about steps you can take to prevent infections. Some steps include:
   - Taking good care of medical conditions and getting recommended vaccines.
   - Proper food hygiene, such as washing your hands and keeping pets clean.
   - Knowing the symptoms of sepsis.
   - Acting fast. Get medical care immediately if you suspect you have an infection that’s not getting better or is getting worse.

Stay healthy. Protect yourself from sepsis. for patients and families.

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**BET AHEAD of SEPSIS**

Know the signs. Spot the signs. Act fast.

**STAY HEALTHY.**

Protect yourself from sepsis.

Take charge of your health. Chronic conditions, such as diabetes, put you at risk for infections that can lead to a life-threatening condition called sepsis.

**What is sepsis?**
Sepsis is the body’s extreme response to an infection. It is life-threatening, and without timely treatment, can spread quickly throughout the body, causing organ failure and death.

**What are the symptoms?**
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- New, unusual bruising.
- Nausea or vomiting.
- Lightheadedness.
- Shortness of breath.
- Confusion.

Always remember, sepsis is a medical emergency. If you or your loved one suspects you have an infection that’s not getting better or is getting worse, call your doctor or nurse. "Could this infection be leading to sepsis?"
Reality Check!

Antibiotics are drugs used to treat bacterial infections.

True
False
Reality Check!

Antibiotics will work on viruses like the common cold, the flu, and bronchitis.

True
False
Reality Check!

I can stop taking my antibiotics as soon as I start feeling better.

True
False
Reality Check!

I can take antibiotics prescribed to someone else.

True
False
Reality Check!

Using antibiotics the wrong way can cause bacteria to grow into “superbugs” (bacteria that are resistant to antibiotics).

True
False
Reality Check!

How many people in the United States annually get an infection that cannot be treated by antibiotics?

At least 1 million
At least 2 million
I WANT YOU TO PREVENT THE SPREAD OF ANTIMICROBIAL RESISTANT INFECTIONS!
Nurse Leader Engagement

Chris Shakula MS, RN, CNS-BC, CIC
Franciscan Health Crown Point
Why engage in antimicrobial stewardship?

Leaders are responsible for making sure:

- regulations are met
- patients are safe
- nurses are part of institutional programs
Leaders are also in a prime roll to influence multiple modalities

- CNS Sphere of Influence
Antibiotics are a main risk factor for C diff and drug resistant organisms

Antibiotics affect more than just one patient

“Antimicrobial stewardship acknowledges the unique repercussions of antimicrobial agents as communal medications, affecting more than just the individual patient and having an impact on future infections beyond the currently treated illness” (Olans, 2016)
Nursing Effects

- Nursing workflow
  - IV to PO
    - Nurse time spent administering IV medications
  - Patient length of stay
Nursing involvement in antibiotic stewardship is required by regulatory bodies

- Joint Commission on Accreditation of Hospital Organizations (JCAHO)
- Healthcare Facilities Accreditation Program (HFAP)
Adding measures related to antibiotics
  * C diff
  * MRSA
Pay for Performance

- Centers for Medicare and Medicaid Services (CMS)
  - Proposal to make antimicrobial stewardship a Condition of Participation

- Insurance companies
  - Antimicrobial stewardship is a metric for Anthem
Nurses are already a part of antimicrobial stewardship. Leaders need to ensure they are engaged in antimicrobial stewardship programs and understand why their participation is vital.
Effectively Utilizing and Teaching Antibiotic Stewardship in Clinical Setting: Student and Faculty Takeaways

TRISHA MIMS MSN, MBA, HCM, RN
DIRECTOR OF PROGRAMS AND EDUCATION
NATIONAL STUDENT NURSES' ASSOCIATION
### Objectives

<table>
<thead>
<tr>
<th>Understand</th>
<th>Review</th>
<th>Identify</th>
<th>Conclusion</th>
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<tbody>
<tr>
<td>Understand the Goals of Antibiotic Stewardship and why this is a National Focus.</td>
<td>Review antimicrobial resistance, and antibiotic stewardship and how it can be applied to the clinical teaching environment</td>
<td>Identify Four Core Actions to Fight Resistance and the roles of the Student Nurse</td>
<td>Summarize the role of the faculty and student nurse in antibiotic stewardship</td>
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Goals of Antibiotic Stewardship

- Optimize antimicrobial therapy and patient outcomes
- Prevention of antimicrobial resistance and prescribing errors
- Providing education and increasing adherence to clinical practice guidelines to provide the best standard of care and minimize spread of resistance
Four Core Actions to Fight Resistance

1. Preventing infections and spread of resistance
2. Tracking antibiotic-resistant infections
3. Improving antibiotic prescribing and stewardship
4. Developing new drugs and diagnostic tests
Points of Action:

- Close the Gap in the Educational Setting
  - Triage and Isolation
  - Accurate Antibiotic History
  - Early and Appropriate Cultures
  - Timely Antibiotic Initiation
  - Progress Reporting
  - Lab Reporting
  - Antibiotic Dosing: Type and Route
  - Resistance and Super Infections
  - Length of Stay
  - Patient Education: Medication Reconciliation
What is the Conclusion?

- **Bridge**: Bridge the gap early in the educational setting
- **Engage**: Engage and be assertive in the discussion with the health care team
- **Commit**: Commit to advocacy
Summary

✓ The nurses role in antimicrobial stewardship:
  ▪ **Appropriate assessment and isolation** - performs initial assessment for potential source(s) of infection; implements standard precautions, and transmission-based precautions if appropriate
  ▪ **Accurate antibiotic allergy history** - ascertains allergy history, performs appropriate medication reconciliation, and records information in medical record
  ▪ **Early and appropriate cultures** - using meticulous technique, obtains cultures before starting antibiotics if at all possible; sends cultures to laboratory; monitors culture results; reviews culture sensitivities and prescribed antibiotics; reports results to provider
  ▪ **Timely antibiotic initiation and administration** - reviews orders for dose/time, checks for allergy, administers, and records antibiotic administration; promptly reports adverse reaction and/or patient refusal
  ▪ **Education of patients and family members** - regarding antibiotics to include drug, dose, route, frequency, and duration, and to finish antibiotics as prescribed

✓ Nurse leaders need to ensure staff nurses are engaged in antimicrobial stewardship.
References


• Fishman, N. (2012). Policy statement on antimicrobial stewardship by the Society for Healthcare Epidemiology of America (SHEA), the Infectious Diseases Society of America (IDSA), and the Pediatric Diseases Society (PIDS). *Infection Control and Hospital Epidemiology*, 33(4), 322-327. doi: 10.1086/665010


• Relevant Links
  • https://www.cdc.gov/drugresistance/about.html
  • http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf
  • https://www.cdc.gov/sepsis/get-ahead-of-sepsis/index.html
  • https://www.cdc.gov/antibiotic-use/community/pdfs/aaw/AU_viruses-or-bacteria-Chart_508.pdf
  • http://professionals.site.apic.org/files/2013/10/AntibioticInfographic14-FINAL.pdf