Nurses as Champions of Antimicrobial Stewardship

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DISCLOSURES

• Dr. Carter declares no conflicts of interest, real and apparent, and no financial interests in any company product or service mentioned in this program, including grants, employment, gifts, stock holdings, and honoraria.

• Her presentation will not include discussion of unapproved or investigational uses of products or devices.
LEARNING OBJECTIVES

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

• Delineate the range of roles for nurses as set forth in the ANA/CDC joint statement on Antimicrobial Stewardship.
• List 2 or more barriers to the engagement of nurses in antimicrobial stewardship.
• Propose one or more strategies through which nurses can become critical members of the stewardship team.
LIVE Polling

Bedside nurses are active participants in my facilities’ antibiotic stewardship program.

• Strongly agree
• Agree
• Disagree
• Strongly disagree
The role of nurses’ in antibiotic stewardship programs has been poorly defined.
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.46, 47
IDSA Guidelines & Nursing Involvement in ASPs

Evidence Summary
Education is a common tool for ASPs. Strategies include educational meetings with didactic lectures and distribution of educational pamphlets and materials. No comparative studies are available to determine which educational strategy is most effective.

Educational strategies should include medical, pharmacy, physician assistant, nurse practitioner, and nursing students and trainees. In a survey of fourth-year medical students at 3

Nurse-Driven Antibiotic Stewardship in its Infancy
National Recognition of Nurses’ Widespread Antibiotic-Related Responsibilities

National Recognition of Nurses’ Widespread Antibiotic-Related Responsibilities

Suggestions from the Workgroup

The workgroup identified four key questions and developed suggestions to address each of them.

What are the roles that bedside nurses can and should play in working to improve antibiotic use?

- Obtain appropriate cultures, using proper technique, before antibiotics are started. Understand how the microbiology laboratory processes those samples.
- Use microbiology results to help guide the optimal selection of antibiotics and guide decisions to stop therapy in cases where culture results represent colonization, rather than infection.
- Help inform decisions to start antibiotics promptly at the time early signs of likely bacterial infections, including sepsis, are identified.
- Help ensure that practices to ensure good antibiotic use are embedded in other quality improvement efforts. For example, for sepsis, help ensure that antibiotics are started promptly and then reviewed once additional data, especially cultures, are available.
- Prompt, and participate in, discussions about antimicrobial usage including antibiotic de-escalation by evaluating each patient’s clinical status and readiness for change from intravenous to oral therapy, when possible.
- Take a more detailed allergy history, especially around penicillin allergy. Help educate patients and families about what constitutes an accurate antibiotic allergy history.

Recommendation “A”:
Nurses should play a role in antibiotic stewardship by documenting drug allergy information accurately in the patient medical record.

- Strongly agree
- Agree
- Disagree
- Strongly disagree
Recommendation “B”: Nurses should play a role in antibiotic stewardship by encouraging the switch from intravenous to oral antibiotics, as appropriate.

• Strongly agree
• Agree
• Disagree
• Strongly disagree
Recommendation “C”: Nurses should play a role in antibiotic stewardship by initiating an antibiotic timeout with prescribers 48 hours after an antibiotic was ordered.

- Strongly agree
- Agree
- Disagree
- Strongly disagree
1) Explore nurses’ current antibiotic-related roles and responsibilities; and 2) gain input on recommendations that have been proposed that advance and formalize nurse-driven antibiotic stewardship.

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Nurses Can Play a Major Role in Antibiotic Stewardship by:

Recommendation “A”
- Documenting drug allergy information accurately

Recommendation “B”
- Encouraging the safe conversion of IV to PO antibiotics

Recommendation “C”
- Initiating an antibiotic timeout with prescribers
Methods

• Qualitative study
  • Two urban academic hospitals
    • Pediatric
    • Adult

• Data collection
  • Focus groups & interviews
  • March – June 2017
  • Clinical nurses, nurse managers, infection preventionists
    • Intensive care units & medical surgical units

• Data analysis
  • Conventional content analysis
# Study Participants

<table>
<thead>
<tr>
<th>Participant Role &amp; Unit</th>
<th>Hospital</th>
<th>Total</th>
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<td>Adult</td>
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<tr>
<td>Clinical Nurse</td>
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<td>ICU</td>
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<td>10</td>
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<td>Medical/Surgical</td>
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<td>Nurse Manager</td>
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<td>1</td>
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<td>Medical/Surgical</td>
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<tr>
<td>Infection Preventionist</td>
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<td>2</td>
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<tr>
<td>Total</td>
<td>37</td>
<td>24</td>
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</table>
Findings: Nursing Antibiotic-Related Responsibilities

**Current Responsibilities**
- Administering antibiotics timely
- Knowing the indication for antibiotic
- Educating patients

**Out-of-scope**
- Matching the bug to the drug
- Ensuring the proper duration of therapy
Recommendation “A” Findings: Nurses Document Drug Allergy Information Accurately

Challenges

• Perception that the information reported by patients is intended for nurses to document in the medical record

• Focus on documentation rather than interpretation
“They should definitely initiate a conversation and ascertain more information. I think it’s then up to the physician, and you know, or—and, or the pharmacist to—to see if it’s a really true allergy, or do they want to desensitize the patient.”
Recommendation “B” Findings: Nurses Encourage the IV to PO Switch

Challenges

• Knowledge needs
• Prescriber pushback
• Patient-level considerations
Recommendation “B” Findings: Nurses Encourage the IV to PO Switch

“Education would be needed for providers and for nursing, on what...those antibiotics would be...this is the same PO, so we could use that.”
Recommendation “C” Findings: Nurses Initiate an Antibiotic Timeout

Challenges

- Duplicative work
- Prescriber pushback
- Workflow considerations
- Knowledge gaps
Recommendation “C” Findings: Nurses Initiate an Antibiotic Timeout

“Specify and provide guidance on the specific elements of antibiotic management that nurses should review...we need... an algorithm, and we need to educate ourselves, [because] otherwise we’re not going to feel ...empowered.”
Discussion

• Identified knowledge needs
  Antibiotic management, in general
  • Nurses’ responsibilities related to antibiotics

• Previous work identified additional opportunities for improvement
  • 171 (37%) familiar with phrase antimicrobial stewardship
  • 255 (55%) able to identify a drug intolerance

Greendyke et al. Infection Control and Hospital Epidemiology (accepted 2017)
Nursing Education Fails to Prepare Nurses to Become Stewards of Antibiotic Use

Pre-Licensure

“...Infection control issues, such as drug resistant organisms and management.”


Post-Licensure

<table>
<thead>
<tr>
<th>State</th>
<th>Requires CE to renew RN license</th>
<th>Number of CE hours to renew RN license</th>
<th>Number of CE hours required for re-entry</th>
<th>CE hours required for HIV/AIDS</th>
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<tbody>
<tr>
<td>Alabama</td>
<td>Yes</td>
<td>24 contact hours for active license</td>
<td>24 hours/2 years¹</td>
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<tr>
<td>Alaska</td>
<td>Yes</td>
<td>30 hours</td>
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<tr>
<td>Arizona</td>
<td>No</td>
<td>None</td>
<td>60 hrs / 5 yrs re-entry course</td>
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<td>Arkansas</td>
<td>Yes</td>
<td>15 hrs every 2 yr renewal</td>
<td>20 hours within the past two yrs plus refresher course</td>
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<tr>
<td>California</td>
<td>Yes</td>
<td>30 hours within 2 years</td>
<td>30 hrs within past 2 years; after 8 yrs of lapsed status, NCLEX is required</td>
<td>Yes²</td>
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<td>Colorado</td>
<td>No</td>
<td>None</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Connecticut</td>
<td>No</td>
<td>None</td>
<td>Bound discretion for lapsed license</td>
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<tr>
<td>Delaware</td>
<td>Yes</td>
<td>30 contact hours biennially</td>
<td>30 hrs for RNs / 15 hrs for APRNs if less than 2yrs, greater than 1 yr</td>
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<tr>
<td>District of Columbia</td>
<td>Yes</td>
<td>24 contact hrs in an area relevant to the area of practice within the past 2 yrs</td>
<td>12 hours / year</td>
<td>No</td>
</tr>
<tr>
<td>Florida</td>
<td>Yes</td>
<td>24 contact hours within 2 years¹</td>
<td>1 hour per month if inactive</td>
<td>2 hours HIV/AIDS once, 1 hr of which must be completed prior to first renewal</td>
</tr>
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<td>Georgia</td>
<td>No</td>
<td>None</td>
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Conclusions

• Nurses are eager to participate in antibiotic improvement activities

• Several challenges to nurse-driven antibiotic stewardship exist
  • Lack of clearly defined roles
  • Knowledge deficits
  • Prescriber pushback
  • Workflow considerations
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Thank you!

Questions?