

The Role of the Staff Nurse in Inpatient Antimicrobial Stewardship: A Critical Stewardship Champion at the Bedside

Historically, many antimicrobial stewardship programs (ASP) included key stakeholders from pharmacy, infectious diseases, infection prevention, and microbiology, with support from administration.^{1,2} Notably absent from this list is a representative from the nursing staff. Nurses are the single largest and most trusted group of healthcare providers in the nation. Their absence represents significant opportunity for growth and expansion of ASPs in community hospitals.³ DASON believes nurses are an essential component of any stewardship program. This newsletter describes the critical role of nurses in antimicrobial stewardship and opportunities to engage nurses in stewardship initiatives.

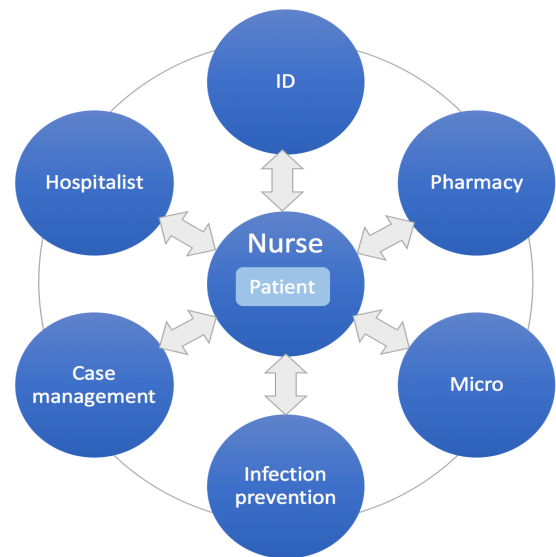
Nurse Engagement in Stewardship Activities

Antimicrobial stewardship is a multidisciplinary practice. Nurses are uniquely positioned in the care of hospitalized patients due to their closeness to the patient (Figure 1).⁴ Nurses already perform many stewardship-related functions on a daily basis, such as documenting medication allergy history, collecting cultures, administering antibiotics, and monitoring patients for response to therapy and adverse events. These existing activities make their contribution to stewardship initiatives a critical component for success.

Several studies have shown nurse engagement in quality control initiatives results in success. For example, a nurse-directed urinary catheter removal protocol reduced catheter use by 50% and catheter-associated urinary tract infections (CAUTIs) by 70% in a single center study.⁵ In another example study, implementation of central line-associated bloodstream infection (CLABSI) reduction bundles by nursing staff reduced CLABSI rates significantly.⁶

As the bedside patient advocate, nurses serve as the communications hub to relay critical information between other team members to improve patient care. For example, nurses may receive and respond to positive culture results, detect and respond to adverse reactions, and evaluate patients' ability to tolerate oral medications. Nurses provide information for patients and families which may include reinforcing and updating information from physicians and providing education about medications and appropriate use. Unfortunately, nurses are, in many cases, not integrated into ASPs. We believe that education and integration of bedside nurses into ASPs can empower nurses, highlight their special role as patient advocate and communicator, and increase the success of stewardship initiatives.

Figure 1. Antimicrobial Stewardship Team Communication



ASP Involvement in Nursing Stewardship Education

Stewardship education for staff nurses should recognize and utilize their unique role and perspective as they relate to ASP goals and outcomes. At the hospital level, ASPs can provide stewardship education for bedside nurses. This education could be provided by nurses already engaged in stewardship activities, physician

champions, pharmacists, infection preventionists, and/or microbiologists, among others. Many opportunities for nursing stewardship education exist, and we encourage local stewardship champions to reach out to their DASON Liaison for help in crafting nursing-specific educational tools. In addition, opportunities for bedside nurse engagement, such as including nurses in stewardship rounds, journal clubs, and encouraging nurse stewardship champions at the unit level create an environment that fosters learning more about appropriate antibiotic use and local stewardship initiatives.

Here we highlight a few example priority educational initiatives:

Allergy:

- How to differentiate between a true allergy and an adverse event that would not preclude the use of certain classes of antibiotics such as beta-lactams.
- How to conduct a review of past safe receipt of cross-related antibiotics in order to augment allergy documentation.

Microbiology:

- How specimens for microbiology testing should be obtained.
- Why specimens should be collected before antibiotics are administered whenever possible.
- How to interpret microbiology test results, especially susceptibility reports and notification of positive preliminary culture results.
- How to distinguish asymptomatic bacteriuria from urinary tract infection and colonization from active infection.

Pharmacy:

- Considerations for IV to PO conversion and which antibiotics have oral formulations.
- Which antibiotic should be administered first when combination therapy is initiated.
- Clinical presentation of common adverse drug reactions.
- How to appropriately draw drug levels for therapeutic drug monitoring and critical values potentially requiring intervention.
- Antibiotic incompatibilities.

- Patient education emphasizing appropriate antibiotic use and how antibiotic resistance happens.

Summary

In summary, nurses play a central role in patient care and communication among all clinicians that contribute to care of the hospitalized patient. Thus, bedside nurses represent a significant opportunity for engagement and growth of ASPs in community hospitals. We recommend ASPs work to integrate nurses and nursing leaders as formal ASP team members, provide nursing stewardship education, empower nurses to advocate for safe use of antibiotics, and encourage nurses to participate fully in antimicrobial stewardship.

Take Home Points:

- Historically, many ASPs did not include and focus on the role of staff nurses in antimicrobial stewardship activities.
- Nurses perform stewardship-related functions on a daily basis as the bedside patient advocate and central communications hub among other clinicians.
- ASPs should integrate nurses as formal members and provide nursing stewardship education to encourage their participation in antimicrobial stewardship.

References

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