



NEWS RELEASE

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Nurse-led antibiotic stewardship intervention reduces unnecessary urine cultures

Study in November 2020 issue of The Joint Commission Journal on Quality and Patient Safety

(OAKBROOK TERRACE, Illinois, October 27, 2020) – Antibiotic stewardship programs (ASPs) improve patient outcomes and reduce antibiotic resistance. While recent guidance documents have outlined activities and approaches to integrate acute care nurses in antibiotic stewardship (AS) activities, few data have been published on effective ways nurses can contribute to AS efforts.

A new before-after study in the November issue of *The Joint Commission Journal on Quality and Patient Safety*, "[A Pilot Study to Evaluate the Impact of a Nurse-Driven Urine Culture Diagnostic Stewardship Intervention on Urine Cultures in the Acute Care Setting](#)," details the impact of a nurse-driven urine culture (UrCx) stewardship intervention for adults with and without urinary catheters.

Overtreatment of asymptomatic bacteriuria (ASB) is a major driver of inappropriate antibiotic use in hospitals. Working with nurses to reduce unnecessary UrCxs may improve the diagnosis of urinary tract infections (UTIs) and, indirectly, antibiotic use.

The stewardship intervention was carried out in a 24-bed adult medicine unit staffed by rotating providers from a group of 27 hospitalists and 37 nurses at the Johns Hopkins Hospital, Baltimore. The intervention included:

- Education on the principles of diagnostic stewardship.
- Identification of a nurse champion to serve as liaison between nursing staff and the antibiotic stewardship program.
- Implementation of an algorithm to guide discussions with hospitalists about situations when UrCx may not be needed.

With the intervention, the mean UrCx rate per 100 patient-days decreased from 2.30 to 1.52, while without intervention it increased from 2.17 to 3.10. In addition, with the intervention, the

rate of inappropriate UrCx decreased from 0.83 to 0.71. The findings support that nursing education and a clinical tool to enhance discussion on the necessity of UrCx among nurses and hospitalists are associated with a reduction in UrCx.

An [accompanying editorial](#) by Daniel J. Escobar, MD, and David A. Pegues, MD, notes: “Although this was a small, single-unit study, it demonstrated the impact of a multifaceted method to engage nursing staff in antibiotic and testing stewardship. In addition, the algorithm supported nursing decision making, and the SBAR tool helped nurses to overcome reservations about discussing provider orders and addressing provider resistance, both of which are potential barriers to nursing success in AS.”

“AS requires not just the development of a set of theoretical scientific principles but the application of those principles in the practice of antibiotic use in a wide variety of settings. Also, AS itself is not a ‘one size fits all’ paradigm. As antibiogram resistance patterns differ from site to site, patterns of human behavior can vary even more widely. That does not mean, however, that multidisciplinary stewardship efforts are inappropriate or ineffective,” adds another [accompanying editorial](#) by Rita Drummond Olans, DNP, CPNP, APRN-BC, and Richard N. Olans, MD, FIDSA.

Also featured in the November issue:

- [Use of Champions Identified by Social Network Analysis to Reduce Health Care Worker Patient-Assist Injuries](#) (Oregon Health & Science University, Portland)
- [Briefings: A Tool to Improve Safety Culture in a Pediatric Emergency Room](#) (Hospital General Universitario Gregorio Marañón, Madrid, Spain)
- [Using Electronic Health Record Data to Analyze Maternal and Neonatal Delivery Complications](#) (Northwestern University Feinberg School of Medicine, Chicago)
- [Pilot of Brief Health Coaching Intervention to Improve Adherence to Positive Airway Pressure Therapy](#) (University of California, San Francisco)
- [An Interprofessional Simulation-Based Orientation Program for Transitioning Novice Nurses to Critical Care Roles in the Emergency Department: Pilot Implementation and Evaluation](#) (Yale New Haven Health and Yale School of Medicine, New Haven, Connecticut)
- [Implementation of the Modified Minnesota Detoxification Scale \(mMINDS\) for Alcohol Withdrawal Syndrome in Critically Ill Patients](#) (North Florida/South Georgia Veterans Health System, Gainesville, Florida)

For more information, visit [The Joint Commission Journal on Quality and Patient Safety website](#).

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Note for editors

The article is “[A Pilot Study to Evaluate the Impact of a Nurse-Driven Urine Culture Diagnostic Stewardship Intervention on Urine Cultures in the Acute Care Setting](#)” by Valeria Fabre, MD; Ashley Pleiss, RN; Eili Klein, PhD; Zoe Demko, BA; Alejandra Salinas, BS; George Jones, BS; Avinash Gadala, BPharm, MS; Lauri A. Hicks, DO; Melinda M. Neuhauser, PharmD, MPH; Arjun Srinivasan, MD; and Sara E. Cosgrove, MD, MS. The article appears in *The Joint Commission Journal on Quality and Patient Safety*, volume 46, number 11 (November 2020), published by Elsevier.

The Joint Commission Journal on Quality and Patient Safety

[The Joint Commission Journal on Quality and Patient Safety](#) (JQPS) is a peer-reviewed journal providing health care professionals with innovative thinking, strategies and practices in improving quality and safety in health care. JQPS is

the official journal of [The Joint Commission](#) and [Joint Commission Resources, Inc.](#) Original case studies, program or project reports, reports of new methodologies or the new application of methodologies, research studies, and commentaries on issues and practices are all considered.