

# Electronic health records decision support reduces inappropriate use of GI test

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Programming a hospital's electronic health record system (EHR) to provide information on appropriate use of a costly gastrointestinal panel and to block unnecessary orders reduced inappropriate testing by 46 percent and saved up to \$168,000 over 15 months, according to a study published today in *Infection Control & Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America.

"We can improve the care we deliver by hardwiring criteria for appropriate [test](#) ordering and diagnostic stewardship into the electronic health record," said Jasmine R. Marcelin, MD, associate medical director of antimicrobial stewardship at University of Nebraska Medical Center and lead author of the study. "We found that when it comes to diarrheal illnesses in the hospital, asking physicians to reconsider if the testing is appropriate through hardwired alerts saves money without compromising quality of care."

Researchers hardwired criteria into the health system's electronic [health](#) record (EHR) to provide informational best practice alerts, as well as a "hard stop" that prevented inappropriate orders for the Gastrointestinal Pathogen Panel (GIPP), a quick and sensitive but costly test that detects 22 common disease-causing organisms. The test panel is useful for new patients who may have been exposed to a wider variety of pathogens, but it is considered unnecessary for most patients later in their hospital stay or when used more than once on the same patient.

In the 15 months before the hard stop was activated, 21.5 percent of the

GIIP tests ordered were found to be inappropriate. Following the changes to the EHR, only 4.9 percent were inappropriate. Researchers concluded that the diagnostic stewardship intervention, including both the best practice alert and hard stop, reduced testing by 46 percent for a potential savings of \$168,000, even after accounting for the cost of alternative testing.

This research is being published simultaneously with a SHEA [white paper](#), The Role of Electronic Health Record and "Add-On" Clinical Decision Support Systems to Enhance Antimicrobial Stewardship Programs. The white paper provides a review of how antimicrobial stewardship-related technology can be used to improve antimicrobial and diagnostic test use and offers suggestions for enhancements to existing systems in use today.

"As this study demonstrates, automated clinical decision support rules that are built into these systems can help facilitate action, leading to appropriate antimicrobial stewardship and use of laboratory tests when used intentionally," said Kristi Kuper, PharmD, BCPS, senior clinical manager for infectious diseases in the Center for Pharmacy Practice Excellence at Vizient and lead author of the SHEA white paper.

Marcelin said [future research](#) on diagnostic [stewardship](#) could include the evaluation of outcomes like length of [hospital stay](#) or reduction of inappropriate antibiotic use associated with a hard stop, and these tactics could be applied to similar laboratory tests.

**More information:** Sonali D. Advani et al, The Impact of 2015 NHSN Catheter-associated Urinary Tract Infection (CAUTI) Definition Change on Central Line-associated Bloodstream Infection (CLABSI) Rates and CLABSI Prevention Efforts at an Academic Medical Center, *Infection Control & Hospital Epidemiology* (2018). [DOI: 10.1017/ice.2018.78](https://doi.org/10.1017/ice.2018.78)

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