Quality: What's in Your Quality and Safety Toolkit? APSA Gives You the Tools! (cont.)

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IMPLEMENTATION OF A PLAN-DO-STUDY-ACT FRAMEWORK TO REDUCE UNINDICATED SURGICAL ANTIBIOTIC PROPHYLAXIS

Mark Kashtan, MD, MPH, Michele Dawson, MPH, CPHQ, Seema Anandalwar, MD, MPH, Jonathan L. Hills-Dunlap, MD, MPH, Shawn J. Rangel, MD, MSCE

Boston Children's Hospital, Boston, MA, USA

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Purpose

Recently published data has shown that nearly 50% of children receive unindicated antibiotic prophylaxis for clean surgical cases without foreign body implantation. The goal of this project was to use a Plan-Do-Study-Act (PDSA) framework to improve antibiotic stewardship by reducing utilization of unindicated antibiotic prophylaxis. Here we report details of the intervention and lessons learned that might be leveraged to support similar efforts elsewhere.

Methods

We conducted a process improvement project designed to reduce unindicated antibiotic prophylaxis at a single children's hospital from 11/2017-9/2018. Initial interventions included dedicated faculty meetings to educate staff on current published guidelines, establishing departmental consensus around guideline adoption and exclusion criteria, and regular compliance audits. Standardized email templates were used for guideline reminders and facilitating root-cause analysis of non-compliant cases. A second PDSA cycle was initiated to address compliance failures identified during the first; primarily trainees ordering antibiotics for all cases without attending knowledge. Additional interventions included targeted education of antibiotic prophylaxis guidelines via standardized email templates with closed-loop communication at the beginning of trainee rotations. Pre-intervention rates of unindicated antibiotic prophylaxis were established through retrospective chart review and post-intervention rates by prospective audit.

Results

In the 6 months pre-intervention, 42% (114/273) of patients undergoing clean cases without foreign body implantation received unindicated antibiotic prophylaxis. Following implementation of the first PDSA cycle, rates of unindicated antibiotic prophylaxis decreased to 18% (6/34). Following the second PDSA cycle, unindicated antibiotic prophylaxis decreased further to 7% (12/165), which was sustained after an additional 5-month post-intervention audit period.

Conclusion

Unindicated antibiotic prophylaxis was significantly reduced by implementing a Plan-Do-Study-Act-based project targeting both faculty and trainees. Resources to carry out the project at other hospitals (relevant literature, Powerpoint presentations, email templates, and a "how to roll-out" guide) are available from the APSA Quality and Safety Toolkit Website (https://sites.google.com/view/apsaqsc/home/antibiotic-stewardship).