Improving Antibiotic Timing in the Operating Room

The Problem

Pre-operative antibiotics should be administered no more than 60 minutes before incision in order to minimize the rate of surgical site infections (120 minutes for vancomycin and fluoroquinolones). CMS (Medicare) asks hospitals to track the rate at which this dose falls within the appropriate time window, and expects 95% adherence. Prior to the interventions outlined herein, our data demonstrated that we did not meet this benchmark, with potential impact on patient safety and reimbursement. A project was developed to improve the rate of appropriate timing of antibiotics.

Aim/Goal

The goal was to reach and maintain at least a 95% adherence rate, with a stretch goal to reach the highest tier (100%). Data are extracted monthly by member of the Department of Health Care Quality, and reported to departmental leaders.

The Team

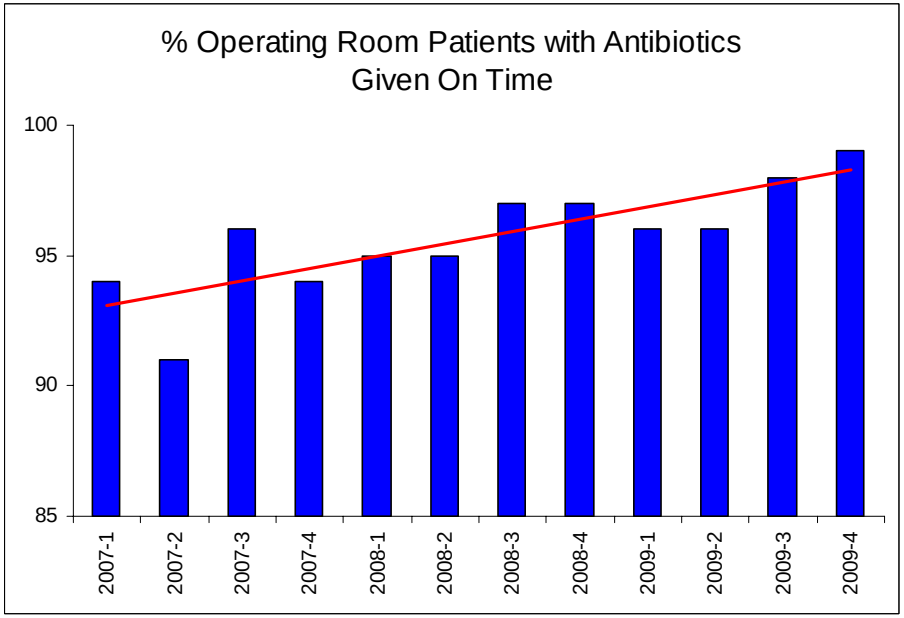
- Stephen Pratt, MD, Anesthesia
- Howard Gold, MD, Quality
- Pat Folcarelli, PhD, Quality
- Sheila Hunter, RN, Nursing
- Sharon Muret-Wagstaff PhD, Anesthesia
- Peter Panzica, MD, Anesthesia
- Elena Canacari, RN, Pt Care Services
- Maureen Houstle, RN, Nursing
- Ann Potwin, RN, Nursing

and the OR Safety Huddle Committee and OR Executive Committee

The Interventions

1. Time Out: Indication of whether or not antibiotics had been given was added to the Time Out performed immediately before incision
2. A laminated card listing appropriate antibiotics was placed near the anesthesia machine in each OR
3. Monthly feedback about our compliance rate was given to the Anesthesia staff by Dr. Panzica or Pratt and discussed with team members.

The Results/Progress to Date



The data demonstrate steady improvements in the compliance rate over the past three years. We have been above benchmark for each quarter since Quarter 1, FY 2008.

Lessons Learned

1. Education, feedback, and multidisciplinary collaboration have had a significant positive effect on our adherence rate
2. Recently, outliers have been due to poor documentation of the antibiotic administration, not to failure to administer the medications. Consistent documentation is required to monitor and sustain favorable rates.

Next Steps/What Should Happen Next

1. Continued monitoring, feedback, and collaboration
2. A forcing function has been added to the computerize anesthesia record that requires the Anesthesia staff to indicate that they have appropriately documented the antibiotic administration.

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