

Anti-infective streamlining from Cardinal Health reduces costs and length of stay

Pharmacy Management

Challenge

Improving patient outcomes while effectively controlling costs is a challenge every hospital faces. In the area of infectious diseases, this effort is particularly difficult, as anti-infective use is complicated by multiple factors. These include a broad selection of available drugs, concerns about antibiotic resistance, the risk of hospital-acquired infections (HAIs) and the need for accurate, up-to-the-minute diagnostic and drug utilization information to guide prescribing decisions.

Researchers have shown that up to 50 percent of antibiotic usage in hospitals is inappropriate.¹ Yet this is far from just a therapeutic and quality of care issue. Because anti-infectives typically account for up to 20 percent of a typical hospital's pharmaceutical purchases, this area has enormous financial impact. The Centers for Disease Control and Prevention (CDC) estimates that hospital spending on HAIs accounts for \$4.5 billion in excess costs per year. A number of states have already instituted reporting requirements for these infections and starting in October 1, 2008, hospitals will no longer be reimbursed under federal programs for the care associated with certain infections acquired in the hospital.² Concerns about antibiotic resistance can also present difficult decisions about the trade-off between individual patient treatments and public health concerns. All in all, this scenario presents a significant challenge to healthcare providers.

What is anti-infective streamlining?

- Process of converting patients from broad-spectrum to targeted or narrow-spectrum anti-infectives, with a goal of achieving the optimal "bug/drug" match
- Requires timely monitoring of patients' cultures and sensitivity data and a high level of collaboration with physicians and the medical team
- Employs a range of techniques, including clinical interventions, rapid IV-to-Oral (PO) conversion, pharmacy participation in rounds and more



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Background

Methodist Medical Center of Oak Ridge is a 301-bed, acute care hospital in Tennessee that provides diverse services in 35 specialties, as well as a state-of-the-art emergency care facility and a 24-hour chest pain center. Typically, at least 65 percent of inpatients are managed by a hospitalist group. The hospital's pharmacy has been managed by the Pharmacy Management business of Cardinal Health since 1986.

Solution

As a leading nationwide provider of pharmacy services, Cardinal Health offers a cutting-edge anti-infective streamlining program for its acute care hospital clients. This program provides tools, information and processes that enable the pharmacy to help provide appropriate and cost-effective usage of anti-infective medications.

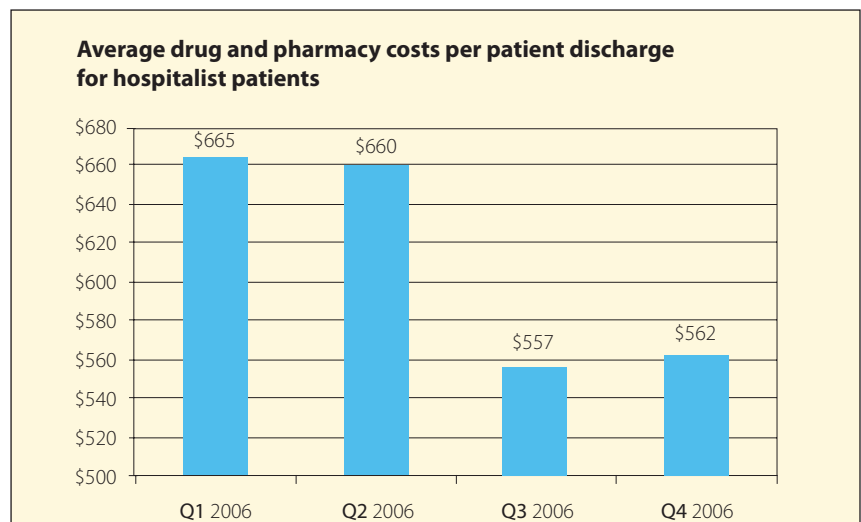
The anti-infective streamlining training program was completed at Methodist Medical Center in March 2006. The program uses a case-based approach to help pharmacists extract greater value from standard tests, like culture and sensitivity reports, blood tests or urinalyses. The program helps pharmacists:

- Increase the effectiveness of anti-infective drug therapy
- Improve outcomes and help reduce length of stay by reducing secondary infections or other problems resulting from broad-spectrum therapy
- Support the hospital's infection control processes
- Reduce the likelihood of developing antimicrobial resistance
- Improve patient safety and reduce medication errors
- Reduce overall healthcare expenditures

The anti-infective streamlining training program encouraged a high level of collaboration between pharmacists, physicians and the rest of the medical team. Daily multi-disciplinary rounds initiated by the hospitalist group provided the ideal setting for the pharmacy to communicate the latest lab results, consult on emerging issues and help streamline anti-infective drug utilization at the hospital.

Results

"Overall, the combination of anti-infective streamlining and multi-disciplinary rounds has had a phenomenal impact," says Dr. Chris Frost, Methodist's medical director of hospitalists. "With so much focused expertise and



Streamlining and rounding produced a marked decrease in average variable drug cost per patient discharge for hospitalist patients.

communication directed to patient care, we're seeing broad improvements in both costs and length of stay. Anti-infective streamlining is helping us to reduce the risk of hospital-acquired infections, and maintain our vigilance to make sure that each patient gets the right drug for the right duration."

Seven months after completion of the Cardinal Health anti-infective streamlining training program, Methodist Medical Center's rate of anti-infective-related interventions by the pharmacy had increased 46 percent. "Our streamlining efforts were facilitated enormously by routine multi-disciplinary rounds. These daily meetings provide a perfect opportunity for our pharmacists to make timely contributions to patient management and prescribing decisions," says Cardinal Health Clinical Manager, Katy Wright.

These efforts are paying off in important measures of success:

- The combination of streamlining and rounding has helped the hospitalist group to decrease the average length of stay by almost 25 percent, from 5.45 days in January 2006 to 4.12 days in April 2007.
- Similarly, average variable direct pharmacy costs for hospitalist patients declined by 16 percent, lab costs by 21 percent and imaging costs by 14 percent.

"Cardinal Health is providing us with talented and extremely knowledgeable people who are well-prepared to work effectively in the collegial environment we've created here," says Frost. "As evidenced by the training program, Cardinal Health is also providing our pharmacy team with broad educational support and up-to-date clinical information resources. I'm seeing those resources pay off for our patients and our hospitalists every day."

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Additional Cardinal Health resources that help hospitals improve antimicrobial management

Studies indicate that correcting antimicrobial utilization through intervention could result in 1.3 days reduced length of stay. The MedMined™ Antimicrobial Management Service from Cardinal Health helps improve patient outcomes and reduce costs associated with inpatient antimicrobial use. Alerts allow clinicians to target their improvement efforts and dedicate more time to patient care. Reports document utilization trends to monitor process improvement actions, including interventions and whether an issue is resolved. This service:

- Allows view of detailed patient histories
- Reduces time spent manually reviewing charts, cultures and sensitivity results
- Provides customizable alert classes
- Creates user-defined antibiogram reports in a matter of minutes
- Demonstrates value of efforts on an ongoing basis

For more information about The MedMined™ Antimicrobial Management Service call 877.849.6735 or visit www.cardinalhealth.com/medmined.

About Pharmacy Management

The Pharmacy Management business of Cardinal Health has more than 35 years of expertise in helping hospitals and health care systems improve both the financial predictability of pharmacies and the quality of patient care. Based on each hospital's needs, we drive efficiencies and measurable improvements in the pharmacy, resulting in safer patient care.

References

¹ P. Davey, E. Brown, L. Fenelon, et al. *Interventions to improve antibiotic prescribing practices for hospital inpatients*. Cochrane Database Syst Rev 2005 Oct 19;(4):CD003543.

² <http://www.cms.hhs.gov/apps/media/press/factsheet.asp>

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