Eisenhower Medical Center (EMC), located in Rancho Mirage, Calif., serves a popular resort and retirement community with a significant Medicare population.

As part of its commitment to improving care, the medical center’s leadership recognized prescribing patterns that suggested overutilization of costly antibiotics typically reserved for drug-resistant bacterial infections. Using McKesson’s enterprise intelligence solutions, EMC tracked prescribing patterns and identified areas of inappropriate usage.

By engaging physicians in the development of medication protocols for the use of broad-spectrum antibiotics, EMC improved care by helping to ensure patients received the right medications upon admittance to the hospital. In addition to providing better care, the medical center reduced pharmacy costs by $1.2 million annually.

Challenges

Eisenhower Medical Center serves an area home to a large number of retirees and seasonal visitors. The recent economic downturn had a severe impact on many local residents, which was reflected in lower patient volumes.

EMC’s inpatient census declined along with elective procedures and outpatient numbers. To avoid layoffs, the medical center began seeking avenues to lower non-reimbursable costs without affecting patient care.

As EMC examined its costs, its leadership team discovered unusually high pharmaceutical expenses. “Our pharmacy costs were high, and one of our largest costs were for antimicrobial drugs,” says David H. Stoltzman, M.D., medical director. “But we didn’t have a good handle on how they were being used.”

Answers

Beginning in early 2009, EMC formed an Antimicrobial Stewardship Program Committee with members from administration, IT and pharmacy along with infectious disease specialists. The group’s purpose was not only to look at medication costs, but also to come to grips with unusual antibiotic resistance patterns that were appearing at hospitals around the country. These problems were fueled by overutilization of antibiotics in patient care.

To gain a better understanding of medication use, IT transferred pharmacy data from McKesson’s Horizon Meds Manager™ into the McKesson Performance Analytics™ enterprise intelligence solution.
would be called in and change the prescription to one he deemed more appropriate. A patient might receive several different antibiotics within the first 24 hours of medical care. “This practice wasn’t good patient care and it wasn’t cost-effective,” says Stoltzman.

Facilitating Change

To develop a strategy for enhanced medication use, committee members surveyed other hospitals. They also consulted with national organizations such as the Infectious Disease Society of America to establish the most appropriate guidelines for antibiotic use. The committee then developed a protocol restricting use of the two medications and requiring physicians to consult with the hospital’s infectious disease specialists prior to writing a prescription.

In addition to disseminating the protocols to staff, committee members met directly with physicians to explain the new rules and the reasoning.

“We started with our highest-admitting physicians,” explains David Perez, vice president and CIO. “They were the target audience and where we saw the greatest potential to make a difference.”

This solution provided EMC with the ability to analyze information using a variety of criteria. The process quickly revealed unusually high usage of two costly antibiotics, Daptomycin and Linezolid. Instead of using the gold standard, first-line medication, some physicians were prescribing drugs typically reserved to combat Gram positive bacterial infections that are resistant to other antibiotics such as the “superbug” methicillin-resistant staphylococcus aureus.

McKesson Performance Analytics enabled the committee to drill down into extensive data to see how the drugs were being used and the conditions for treatment, as well as the prescribing physicians’ names. In addition, by analyzing the target drugs with census data, committee members could calculate both total cost and cost per occupied bed.

Using McKesson’s enterprise intelligence solution, EMC quickly discovered patterns of inappropriate antibiotic usage. For example, a patient might enter the emergency department for a severe illness and receive an antibiotic. Upon admission to the hospital, the primary care doctor would take over the case and prescribe a different drug. And, finally an infectious disease consultant
**Results**

With the new program, EMC saw a significant improvement in patient care. With clear guidelines indicating which drug should be used for a particular type of infection, patients were no longer unnecessarily exposed to multiple antibiotics. This approach also helped prevent the development of resistant bacterial strains that could eventually become untreatable.

Additionally, the medical center achieved almost immediate and significant financial results from the program. Following publication of the protocol, the average cost for Daptomycin per occupied bed dropped from $5.51 to $1.52. The average cost of Linezolid per occupied bed declined from $7.06 to $1.68. Even more significantly, the average cost for all antibiotics per occupied bed fell from $35.59 to $24.16. Within a year, total savings from improved medication usage reached $1.2 million.

“It was the right thing to do clinically, and it was the right thing to do for cost-effectiveness,” says Stoltzman. “For physicians to be enthusiastic, it also had to be linked to improving patient care.”

EMC President and CEO Aubrey Serfling notes patient safety and error reduction were strong drivers for the medical staff. “The economic savings are great, but our primary driver is what we can do to improve the care we’re delivering to patients every day.”

Since launching the initiative, EMC has continued to monitor drug usage patterns. When a dramatic spike in use of the medications occurred a month into the program, the hospital drilled down to the case level to determine that usage was indeed appropriate for these particular patients. Ongoing monitoring for the next eight months demonstrated an increased compliance with the protocols, reflecting a reduction in total costs and cost per occupied bed for the target drugs.

This project demonstrated that people, process and technology can effectively lower costs while improving patient safety and care quality. The key to success was actively engaging clinicians throughout the process. Physicians led and executed the project in collaboration with pharmacists, and infectious disease specialists communicated directly with physicians to achieve high compliance levels.

Due to its location, EMC’s patient census rises and falls with the season. These changes have a dramatic effect on total overall costs at the hospital and could have made it difficult to identify true benefits from the new program. However, by adding census data drawn from McKesson’s STAR 2000™ hospital information system into the enterprise intelligence solution, EMC had access to reliable data on its costs per bed day.

**At a Glance**

**Critical Issues**
- Over utilization of costly antibiotics
- Seasonal fluctuations in patient population
- Unusual infection patterns

**Results**
- Reduced antibiotic costs by $1.2 million annually
- Established protocols for antibiotic usage
- Improved documentation of Medicare patients
“Without McKesson Performance Analytics, we wouldn’t have known whether our costs really were changing or going down,” says Stoltzman.

**Ongoing Improvements**

Using the same approach as the antibiotic protocols program, EMC decided to analyze costs and reimbursement levels for Medicare patients, which make up 70% of its community population. They discovered inadequate documentation of patients, resulting in lower reimbursement levels. These factors were, in effect, making the hospital’s Medicare population appear to be healthier and require less intensive interventions than actuality.

To address, EMC enlisted a group of primary care and emergency room hospitalists to improve the level of clinical documentation. This project resulted in improved patient records and the care they received while in the hospital.

The program’s success is attributable to EMC’s ability to upload clinical data into McKesson Performance Analytics where it’s easily accessed and analyzed using a wide variety of criteria.

EMC’s commitment to healthcare IT has created both a safer and more efficient healthcare experience for patients and staff. This commitment has also helped position the organization to demonstrate meaningful use of health IT, which is required to qualify for federal stimulus incentives.

“It’s an added benefit — the one no one foresaw when we started on the journey,” says Serfling. “We made huge organizational commitments that predated the stimulus, so it’s a pleasant surprise to already be well-positioned to qualify for funding.”

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David H. Stoltzman, M.D.

Medical Director

Eisenhower Medical Center