WRITING SAMPLE

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Implementing Antibiotic Stewardship Programs

Defeat “superbugs” and improve patient safety

By Gretchen Heber

Antibiotic overuse reached a tipping point in the 1990s when it became apparent to the Centers for Disease Control that action was needed to reduce the number of antibiotic prescriptions being written, according to Lauri Hicks, Director of the CDC’s Office of Antibiotic Stewardship.

The CDC reports that 47 million antibiotic prescriptions are written annually in the United States. However, Hicks says, “An estimated 30 percent to 50 percent of all antibiotics used in humans in the United States may be inappropriate or not necessary.” Hospitals are considered the primary source for a majority of these unnecessary administrations, leading to antibiotic-resistant “superbugs” for which there may be no treatment.

To combat the risk these superbugs pose, hospitals are taking steps to halt antibiotic misuse and overuse through antibiotic stewardship programs, which detail protocols that steward the use of antibiotics in specific situations.

Long recognized as an effective way to curb overuse of powerful antibiotics, and now mandated by the Centers for Medicare and Medicaid Services, stewardship programs must be carefully and thoughtfully implemented at hospitals in order to ensure success.

Identify Key Staff

According to many experts, getting leadership buy-in is a key to the success of these programs. Ownership of the initiative at the top level is crucial before a single policy is committed to paper, said Karen Kendrick, director of clinical initiatives at the Texas Hospital Association. As leaders commit, selecting influential managers to lead development and implementation helps to establish a smooth rollout. Most hospitals designate a program leader, often a physician, as well as a pharmacy leader.

Midland Memorial Hospital's pharmacy clinical manager, Michaela Daggett, agrees with this strategy. "There has to be an infectious disease-trained physician, as well as a pharmacist, over the program," she said.

Getting buy-in, support and assistance from other medical personnel at each hospital is imperative, as well, said Daggett, who manages Midland Memorial Hospital's stewardship program.

"Relationships with physicians and other key stakeholders in the hospital are crucial," she said. "We've taken a collaborative approach with other departments, and they all give their thoughts on how things should work. We try really hard to maintain our relationships throughout the hospital, as this makes things run more smoothly."

Other key groups include clinicians, nurses, infection preventionists, hospital epidemiologists, quality improvement staff, laboratory staff and information technology staff.

Larger hospitals may be able to hire full-time staff to implement and manage an antibiotic stewardship program, whereas smaller facilities might rely on part-time, off-site expertise, according to the CDC, which has developed significant resources to help hospitals build these programs.

Implement policies and protocols

A hospital's stakeholders should play an active role in the development of an antibiotic stewardship program.

At the heart of the policy, leaders should establish recommended courses of treatment for particular infections where antibiotics might be a priority. Turning to a hospital's careful drug-utilization records is one of the most reliable sources for developing protocols, Seton Network infectious diseases clinical pharmacy specialist Dusten Rose said. This data reveals what drugs at what dosage and duration have worked effectively against specific organisms.

Without these records, a hospital might start with national guidelines followed by extensive conversations with local physicians and pharmacists.

Hospitals should consider cost and side effects as well. Examining whether potential side effects justifies a drug's use in a particular situation is important, as is determining whether a lower cost antibiotic is equal in other ways.

Geography plays an important role, said Rose. For example, the Infectious Disease Society of America releases national guidelines that prescribe using a particular antibiotic urinary tract infections.

"We've found that if you look at that organism in our hospital, based on our experience, we can use a more-narrow drug."

A hospital in a very large city such as New York might encounter organisms that are more resistant to common protocols, said Rose. Those hospitals would have to adjust their protocols based on internal data, he explained.

Ongoing Maintenance

Change happens. Processes improve. And innovation gets adopted at rapid rates. When a stewardship program is already in place, regular reviews and updates will occur. New drugs are continually coming on the market that may supersede existing protocols. Ensuring leaders are performing regular audits of the program is crucial.

One catalyst for reevaluating antibiotic protocols might be the acquisition of piece of technology. When Midland Memorial added sophisticated equipment that significantly sped up the bacterial identification process, they updated prescribed timelines for reevaluating

antibiotic type and dose. Rose at Seton describes a similar situation in his hospitals, “When our microbiology lab gets fun new ‘toys,’ sophisticated instruments that can reduce wait times from two to five days to 90 minutes, we revise our protocols.”

Midland’s antibiotic stewardship task force team — pharmacists, doctors, nurses and other stakeholders — meets bi-monthly to assess the program’s effectiveness. The group examines rates of clostridium difficile infections, a potential indicator of antibiotic misuse.

The task force also assesses drugs new to the market, deciding whether to implement them into their protocols in addition to or in place of existing medications. Often, an update may not be necessary at all.

“We’re always looking for new drugs that might help,” says Daggett. “We evaluate new drugs as a team, and decide whether they have a role at our hospital.”

Saagar Akundi, clinical pharmacy manager at Bayshore and East Houston Regional medical centers, agreed. He and his team continually evaluate new drugs based on effectiveness data he researches.

On an annual basis, many hospitals carefully review and compile data detailing the percentage susceptibility of a particular organism to a particular drug. They present this information — called an antibiogram — to physicians in an easy-to-reference form, so physicians have information at their fingertips.

Day-to-Day Evaluations

In addition to the monthly, bi-monthly or quarterly examinations of antibiotic protocols, successful programs get even more granular and ensure that individual cases are being handled properly, according to the defined protocols.

At Midland, smaller groups meet regularly to evaluate particular patients, and make necessary adjustments on a case-by-case level. “Pharmacists and infectious-disease physicians sit down twice a week,” Daggett says. They look at cases that meet certain criteria “and make recommendations on switching to a different antibiotic, a different dose or stopping antibiotics altogether.”

When lab results come back, taking a time out is important, Kendrick said. “You’ll have a more complete picture of the patient’s illness, and you can reassess whether the patient is on the correct type and dose of drug.”

Akundi agrees. “We review all the antibiotics that are ordered 48-72 hours after a patient is put on an antibiotic,” he says. “We look at the cultures and narrow or broaden the antibiotic. If possible, we de-escalate the antibiotic, following specialized recommendations.”

“We’re always looking for a bug-and-drug match,” he says.

It’s a Matter of How

There is no longer any question as to whether hospitals should implement an antibiotic stewardship program, hospital leaders agreed.

And though a CDC study found that antibiotic use in U.S. hospitals did not change from 2006 to 2012, “many hospitals did not have antibiotic stewardship programs until more recently,” says Hicks. As more programs come online, says Hicks, the CDC will continue to “monitor trends in antibiotic use across the spectrum of health care.”

The patient safety risk from superbugs is simply too great to ignore the need for these programs.

The challenge is simply how to get it done.

Hospitals that cast a wide net when bringing in team members to develop protocols, keep patient and family concerns top of mind, and review policies and procedures often will be well on their way to helping combat the worldwide problem posed by superbugs.