Prologue

Bob Bartlett hung up the phone and sighed. Since his appointment nearly 3 years ago as vice president and provost of the Health Sciences Center at the University of Central State, he had become accustomed to the incessant ringing of his phone and the sound of knuckles rapping on his door. He looked around his office. How had it ever come to this? Family vacation photos were hidden by stacks upon stacks of articles, abstracts, and newsletters. The place looked like a cross between an executive office and a college fraternity house. It was covered from floor to ceiling in paper, mismatched bookshelves, and ominous filing cabinets. He made a mental note to call someone Monday morning to discuss redecorating.

Bartlett’s mind wandered back to the phone conversation. It was the third call he had received that morning about the antimicrobial utilization program (AUP). He leaned against the back of his tall, black, leather chair and scratched his head. Embarrassed that he could not recall specifics about the program, he spun his chair around, opened the second drawer, and pulled out a large expanding folder marked “Medical Management.” He thumbed through the files until he finally came across the one for the AUP. He placed it on his desk, closed the drawer, and began to read.

Background

Institutional costs at academic medical centers across the nation have been rising, especially over the past half-century. Likewise, the University of Central State Medical Center often finds itself operating over budget in several service areas. Most problematic have been the skyrocketing costs of medical supplies and pharmaceuticals. During the 1997 fiscal year, the medical center’s antimicrobial utilization was nearly $2.4 million, accounting for 15 percent of the total inpatient drug expenditure. Fifty-nine percent of the adult inpatients receive antimicrobial therapy. Less-than-ideal prescribing practices have elicited a need for increasing cost scrutiny. The excessive and/or inappropriate use of antibiotics has three important implications. For the patient, improper practices could result in prolonged hospitalization, adverse drug events, or compromised outcomes. Second, the hospital accrues unnecessary expenses. Third, increased bacterial resistance to antibiotic effectiveness, a potentially hazardous outcome, could greatly affect the community as a whole. Unsuitable prescription practices could, in effect, touch every dimension of health services delivery.
As a result of the 1997 fiscal expenditures on antimicrobials, in January 1998 the infectious disease (ID) subcommittee of the pharmacy and therapeutics committee was rechartered as the antimicrobial utilization committee (AUC). The AUC quickly formulated a proposal for the AUP with four main goals: (1) to decrease the medical center’s cost of antimicrobial utilization, (2) to decrease the potential for complications among acutely ill ID patients undergoing excessive, inappropriate, or overlapping drug therapy, (3) to decrease the trend toward resistant organisms to the drugs, and (4) to improve patient outcomes.

It soon became Central State’s first medical management program, predating the structured medical management umbrella under which it now falls. The AUP received rapid approval from Bartlett, Tom O’Malley (the medical center’s chief of staff), the medical management team, the finance department, the internal medicine’s ID department, and the clinical microbiology laboratory. One month after the AUC was organized, a memo was sent to the entire University of Central State Health System faculty and staff to announce the May implementation of the AUP (Exhibit 15.1). Although the stakes for both the patients and the hospital financial budget were evident, Bartlett and his colleagues did not anticipate the impact on residents, attending physicians, ID consultants, and medical management. On May 18, 1998, the antimicrobial surveillance team (AST) rounds for the adult inpatient service started, and the phone calls began.

The Plot

The antimicrobial formulary was reorganized into three tiers depending on the targeted bacteria, the potency of the drug, and the method of delivery. Restriction category A included agents requiring ID department approval before use. These antibiotics included restricted, extremely high-cost, and/or high-risk agents and all nonformulary antimicrobials. Category B included agents that may be ordered but not continued beyond 72 hours unless approved by the ID department. These second-tier agents are high-cost and moderate-risk antibiotics. C-level antibiotics may be ordered without restriction or stop orders.

The AST (also known to hospital staff as the “SWAT team”), consisting of one ID attending physician and one pharmacist, received a daily list of all inpatients (1) on a category A agent, (2) on a targeted category B medication, or (3) on any combination of three or more antibiotics. The medical information system (MIS), the hospital’s computerized information system, generated this list. The team performed rounds on each floor of the hospital, reviewing each of the listed patients’ charts in their entirety in order to assess the use of the antibiotic(s) for each individual. The team wrote a progress note on each patient, and this note became part of the patient’s permanent medical record. If the AST felt that a change in treatment was warranted, they made suggestions in the chart for the treating physician to review.

Therapeutic recommendations might include changing to an alternate agent, conversion of multiple- to single-agent therapy, conversion of parenteral to oral therapy, discontinuation of therapy, or an assessment of the appropriateness for home therapy when other indications for discharge have been met. The AST made recommendations an average of 51 percent of the time. Data suggested that the treating physician followed the AST’s advice 53 percent of the time.

Sometimes the AST also “swatted” a drug—implementing a 72-hour stop order on the antibiotic by placing a bright orange sticker on the chart. They then notified the