

Physicians and Pharmacists Collaborate at Workplace to Improve Value

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The burden of prescription drug costs to employers has risen precipitously over the past few decades, without evidence that it has produced better health outcomes. This has led employers, insurers, benefit plan consulting companies and the health care industry at large to use benefit changes to promote effective, lower cost options. This article focuses on one illustrative area, antibiotic prescribing, and describes an approach that improves the value of prescription drug spending through collaboration between physicians and pharmacists dedicated to serving patients at a workplace health center. This collaboration can effect real change in prescribing behaviors of physicians to optimize the quality and value of prescription drug dollars. Moving beyond pharmacy benefit management to pharmacy clinical leadership can change prescribing patterns to improve health care quality and clinical outcomes, manage costs and align health care delivery to best serve an employer's community.

The ever-rising cost of health care presents a major challenge to employers in the United States.

Over the last several years, the cost of prescription drugs has risen precipitously, leading employers, insurers, benefit plan consulting companies and the health care industry to strongly consider the use of effective, lower cost options. Most large U.S. companies have a vested interest in this topic. Large employers are usually self-insured, meaning that every unnecessary dollar spent on health care reduces company profits. While employers want to provide good health benefits for their employees and their dependents, they also need to constantly strive to control health care dollars in much the same way they continuously work to control waste in their production processes.

According to a report on the factors fueling rising health care costs, 16% of health care premium dollars are spent on prescription drugs, with spending on prescription drugs rising 8.6% between 2004 and 2006.¹ Because of increased cost pressures on health care spending, employers,

insurance plans and government health plans are increasingly utilizing benefit design methods to promote more cost-effective prescription drug choices. Across the country, committees for pharmacy benefit management and pharmacy and therapeutics have dedicated themselves to promote the use of effective and efficient medications through the implementation of formularies, limits on the number of prescriptions per month, multitiered drug plans, copayment differentials and other similar programs designed to rein in utilization and cost. Despite these efforts, there is much concern among employer purchasers that increased spending is not associated with health care improvement and thus not yielding greater value.

Collaborating to Address Value

In response to this concern, interest in other ways to enhance the value of prescription drug spending has increased. Value is more than just cost. Rather, it has more to do with quality, therapeutic effi-

cacy, drug adherence, improved health outcomes, access and the overall return on investment from health care spending. More employers are implementing, or considering the addition of, workplace health centers that combine primary care and pharmacy as one way to obtain more value for their health care dollar.² In 2006, it was estimated that between 200 and 300 employers offer on-site primary care centers, many of which also have on-site pharmacies.³ The benefits of workplace health care are becoming more apparent, particularly in encouraging collaboration between employers and health- and wellness-related professionals to improve health care quality while increasing employee health and productivity and managing costs.⁴ The integration of and collaboration by health professionals, safety groups, case managers, disease management professionals, wellness professionals and other groups that typically operate in separate "silos" is gaining increased support by employers, with the impact of these efforts beginning to be demonstrated in peer-reviewed research publi-

cations.⁵ Further, although outcomes data is lacking, it is likely that integrated service delivery may also result in improved patient adherence to recommended treatment.

As an example of how collaboration can significantly enhance the value of pharmacy expenditures, this article focuses on one area: antibiotic prescribing. Recent research efforts focusing on the value of collaboration between physicians and pharmacists as a way to improve the quality and value of prescription drug spending have had encouraging results.⁶ This research demonstrated that in a program where physicians and pharmacists collaborated at a workplace health center to meet evidence-based guidelines for value-based antibiotic prescribing goals, workplace-treated patients received a much higher prescription rate of first-line antibiotics than community-treated patients, resulting in more appropriate prescribing and considerable cost savings.

While this study focused on antibiotic prescribing, collaborative efforts between physicians and pharmacists have also had positive effects in other areas such as medication therapy management as evidenced by programs such as the Asheville Project.⁷ Workplace health centers that include both primary care and pharmacy services are ideal incubators to test the power of collaborative arrangements designed to reduce costs and improve patient outcomes well beyond what can be accomplished by pharmacy benefit management alone. This system offers employers a dedicated clinical unit that is focused on providing health care to their employees under their benefit structure and their formulary. Efforts such as these, in conjunction with pharmacy benefit management, enter the realm the authors call *pharmacy clinical leadership*.

Appropriate Antibiotic Prescribing

It has often been said that the best way to influence prescription patterns is to influence the prescribing physician's pen. The discussion here will focus on antibiotic prescribing in order to illustrate how collaborative efforts at a workplace health center can change behavior and improve value. However, while the example of antibiotic prescribing is used in this article,

the basic premise can be logically extended to all prescription patterns generally.

Ambulatory care physicians in the United States write approximately 126 million prescriptions for antibiotics each year,⁸ making antibiotics the second largest category of drugs prescribed by primary care physicians. The major reason so many antibiotic prescriptions are written is that, nationally, infectious diseases account for 18% of all outpatient visits, with respiratory tract infections, otitis media (ear infections) and urinary tract infections constituting the largest percentage of infectious disease visits.⁹

Antibiotics have dramatically changed the ability of health care providers to fight infection. The therapeutic value of penicillin was discovered in the 1930s and widespread use began during World War II.¹⁰ The development of other antibiotics quickly followed and antibiotic use increased dramatically over the next 60 years. Today, largely because of increased public health efforts to educate physicians about the dangers of overprescribing antibiotics, the total number of antibiotic prescriptions has decreased its peak in the mid-1990s. This trend, however, is not seen in the use of expensive, broad-spectrum antibiotics, which have been on the rise.¹¹ Studies show that physicians in some regions of the country prescribe broad-spectrum antibiotics up to 76% of the time.¹²

While there are cases where newer drugs are more effective than older drugs and therefore are clinically superior, multiple studies have shown that older, less expensive drugs are often as or more effective than newer drugs.¹³ In fact, in some cases, patients prescribed older drugs had fewer return physician visits than patients prescribed newer antibiotics.¹⁴ Antibiotics can have adverse side effects¹⁵ and in some cases may not even be clinically beneficial.¹⁶ Physicians are as vulnerable to marketing forces as consumers and, in the case of new pharmaceutical products, are often more susceptible.¹⁷ This can lead to prescribing the newest and often most expensive antibiotic for an infection treatable with first-line, usually generic, antibiotics such as penicillin.

First-line antibiotics are time-tested and are associated with fewer well-known side effects than their newer, more expen-

sive *second-line* and *third-line* counterparts. With the emergence of infections resistant to antibiotics, the Centers for Disease Control (CDC) recommends reserving the use of second- and third-line antibiotics for cases where there is compelling clinical evidence that they are necessary.¹⁸ When doctors and pharmacists work together to support the goal of evidence-based use of first-line antibiotics, this limited use can be achieved.

Workplace health centers that combine primary care and pharmacy allow both the physician and pharmacist to work together to focus on and optimize the value of one benefit plan and one formulary designed specifically for the employee population being served. Conversely, physicians and pharmacists in the community see patients employed by multiple companies and covered by numerous health plans, making it nearly impossible for them to be aligned with every employer's health care coverage goals.

Pharmacists are also in an ideal position to promote appropriate antibiotic use through patient education. The integral role of pharmacists in educating patients regarding medication compliance has been well documented.¹⁹ This is particularly important with antibiotics where patient nonadherence to prescribed regimens often results in treatment failure.²⁰ Creating collaborative teams of primary care physicians and pharmacists has also been shown to improve the quality and cost-effectiveness of patient care.²¹

Employers and other entities interested in improving health and productivity have a vested interest in promoting appropriate antibiotic prescribing. Increasingly, employers understand that the health of employees affects the success of their company. Healthy employees tend to be more productive, with less absenteeism and presenteeism than unhealthy employees. There is good evidence that productivity losses can be reduced by appropriate pharmacological treatment.²² A note of concern is that this study found that third-line antibiotics were being prescribed 22% of the time by community physicians at large. Not only are these antibiotics usually much more expensive, but these practices might actually be impeding an employee's return to health and productivity.

While the specific line of antibiotic prescribed has not been linked directly to

health and productivity in the literature, prescribing the most appropriate antibiotics when an employee has an infection is likely to be one way to improve health and productivity for several reasons. First, treating with the most appropriate antibiotic results in fewer return doctor visits for the same ailment, which equates to less lost time at work.²³ Second, first-line antibiotics often have less severe side effects and reduced incidence of adverse drug reactions. Adverse drug reactions account for 2-5% of hospital admissions.²⁴ *Antimicrobial agents*, the category that includes antibiotics, is listed as the second most frequent drug class cited as a factor in emergency department visits for adverse drug reactions (second only to central nervous system agents).²⁵ Therefore, it follows that reducing adverse drug reactions through more appropriate use of antibiotics is one way to reduce the number of days away from work. More importantly, inappropriate use and overuse of third-line antibiotics has also been linked to the development of drug-resistant community infections such as antibiotic-resistant *Staphylococcus aureus* strains, which can cause not only work absence but disability and even death.²⁶ Optimal prescribing of antibiotics limits the emergence of these *superbugs* and has been promoted by vigorous campaigns led by both CDC (Get Smart Campaign)²⁷ and World Health Organization (WHO) Global Strategy for Containment of Antimicrobial Resistance.²⁸

Antibiotic prescribing behavior is influenced by clinician, patient and system factors.²⁹ Clinician factors include physician sociodemographics, knowledge, perceived patient expectations, and physician experience and training.³⁰ Examples of patient factors are patient sociodemographics, reported symptoms, illness severity and expressed expectations,³¹ while examples of system factors include the practice setting, pharmaceutical detailing and health benefit structures such as copays, formularies and restrictions.³²

Workplace-based health facilities provide a unique opportunity to impact many of these factors. By educating both physicians and patients, and by leveraging the “peer-to-peer” clinical relationships that develop between primary care and pharmacy services working together, the goal of appropriate and evidence-based prescribing can be attained. By in-

tegrating primary care and pharmacy in one location under shared management, physicians and pharmacists have immediate access to each other and can share information in a way that promotes better clinical practices, enhancing the value of the trusted relationship between the on-site clinician and the patient. The results presented in this recent study demonstrate the power of such collaboration.

The topic of appropriate antibiotic use has many facets, including proper prescribing, patient perception of need for antibiotics and subsequent satisfaction with care delivered, therapeutic adherence by patients, drug-resistant pathogen development and the effect of marketing tactics used by pharmaceutical companies. It should be noted that there are situations in which using second- and third-line antibiotics is appropriate, as in the case of a patient infected with a strain of bacteria that is resistant to first-line antibiotics or when a patient is allergic to first-line antibiotics.

Another important consideration is that antibiotics are often clinically unnecessary. The first step toward appropriate prescribing is knowing when, and when not, to prescribe an antibiotic.³³ This is well documented in the literature and is supported by campaigns such as the CDC Get Smart Campaign and Tufts’ Alliance for Prudent Use of Antibiotics (APUA). The growing issue of antibiotic resistance around the world has created a flurry of recommendations and continues to be an area of active research.³⁴ Patients often lack knowledge about the dangers of antibiotic misuse,³⁵ so it is up to the health care community to be proactive in educating patients and decreasing patient risk through more responsible antibiotic-prescribing behavior.

This article focuses on prescribing patterns in workplace health centers compared to community-based physicians for relatively common conditions: primarily respiratory tract infections and urinary tract infections. However, we believe that future studies will provide more support for the importance of physicians working in collaboration with pharmacists at workplace health centers as a value driver for more effective management of the health and productivity of the American workforce.

The American Academy of Pediatrics

(AAP), the Centers for Disease Control (CDC) and the Infectious Diseases Society of America (IDSA) recommend the use of first-line antibiotics for the treatment of the most common, uncomplicated infections.³⁶ The recommendations of such highly respected organizations, combined with evidence that appropriate use of pharmaceuticals improves both health and productivity,³⁷ provides a strong argument for continuing to find ways to improve prescribing behavior.

Drug advertising and academic detailing by pharmaceutical companies influence physicians’ prescribing behavior, specifically favoring the use of more expensive third-line antibiotics.³⁸ As shown by prior research, drug samples provided by pharmaceutical companies influence prescribing patterns. This research found that physicians are more likely to dispense and subsequently prescribe drugs that differ from their preferred drug choice because of the availability of samples.³⁹ The closed-door nature of workplace health centers can “filter” pharmaceutical detailing through the physician-pharmacist unit as well as limit samples to only those within the formulary approved by the employer’s benefit plan.

Conclusion

This article describes an approach that has proven successful in improving the quality and value of prescription drug spending through the collaboration between physicians and pharmacists dedicated to serving patients at a workplace health center. Moreover, there is a third party collaborating in this approach: the employer. Workplace health centers are established to support patients using the benefit plan and formulary developed for a specific employer, work with the employer to ensure that patients receive exceptional clinical care, provide high levels of both patient and client satisfaction, and deliver strong value for the employer’s health care dollar.

Pharmacy benefit management serves an important role in controlling unnecessary health care spending, but it is not enough. It should be remembered that pharmacy benefit management is a process largely established by nonclinicians to control costs. The questions most often answered through pharmacy bene-

fit management are “How much will it cost?” and “Who is going to pay for it?”. Pharmacy clinical leadership can answer “Which drugs have value for individual patients?” and “How can we encourage the use of the most appropriate and cost-effective drugs for each clinical situation?” Formularies are a “one-size-fits-all” solution separated from the trusted relationship between clinicians and their patients. *Pharmacy clinical leadership* moves beyond pharmacy benefit management to take into account the individual decision-making process used by clinicians dozens of times a day to determine the most appropriate course of treatment for each patient.

Workplace health centers and programs that foster collaboration among employers, physicians and pharmacists promote the practice of evidence-based, cost-effective medicine and can keep the workforce healthy and productive. The authors plan future studies addressing the impact of such collaboration on generic use, drug adherence, formulary compliance, therapeutic substitution and better use of over-the-counter drugs.

The study described in this article provides strong evidence that coordinating the “trusted clinicians at the workplace” (primary care physicians and pharmacists) and aligning caregivers into a single, integrated delivery model will bring us closer to realizing the potential value of population health management. The benefits of this model include healthier employees, reduced health care costs, increased productivity and reduced absenteeism. Employers that move beyond pharmacy benefit management to clinical pharmacy leadership can modify prescribing patterns to improve health care quality and clinical outcomes, manage costs and align health care delivery to best serve an employer’s community.

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