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EXPERIENCE

Pediatric asthma medication therapy management through community pharmacy and primary care collaboration

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ABSTRACT

Objectives: To design and implement a collaborative medication therapy management (MTM) program targeting pediatric patients with high-risk asthma in a community pharmacy.

Setting: Underserved inner city of Cincinnati, OH.

Practice description: A large national grocery store chain pharmacy and an academic hospital developed a partnership aimed at improving asthma care for shared patients. An interdisciplinary project team was formed, including 2 clinical pharmacists, 1 pharmacy district clinical coordinator, 1 pharmacy division clinical coordinator, 1 associate professor at a college of pharmacy, 1 pharmacy resident, and 3 pediatric physicians. This pilot project involved 2 Kroger Pharmacy sites and Cincinnati Children's Hospital Medical Center's (CCHMC) 3 pediatric primary care centers.

Practice innovation: Kroger and CCHMC staff identified shared high-risk asthma patients (those cared for at the included primary care centers who used Kroger for their medication fills) with the use of information from validated symptom assessments (Asthma Control Test), refill history, and recent health care utilization. Community pharmacists recruited jointly identified patients and provided a targeted MTM intervention. Education focused on asthma diagnosis, types of asthma medications, appropriate medication administration, and environmental triggers. Pharmacists suggested medication changes to prescribers via facsimile. Pharmacists followed up with patients in 30 days to assess asthma control, provide additional education, and propose further recommendations.

Evaluation: Outcomes evaluated included the average number of recommendations made to patients and prescribers and acceptance rates for each of those measures.

Results: Six patients completed the project. Pharmacists provided an average of 3.7 recommendations to each patient and 1.5 to prescribers for each patient; 77.3% and 100% recommendations were accepted, respectively.

Conclusion: This pilot project describes the design and implementation of a pharmacist-physician collaborative program for high-risk pediatric asthma patients. The greatest outcome of this project was the formation of a collaborative team between pharmacists and physicians that continues to work together on additional family-centered initiatives.

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Asthma is the most common chronic disease of childhood, affecting more than 6 million children nationally.¹ Asthma exacerbation rates have increased since 2003 with approximately 500,000 annual asthma-related pediatric hospitalizations, disproportionately affecting children living in poverty and of minority races.²

Community pharmacists are a vital component of the health care team. Pharmacists assist patients on a routine basis, providing an enhanced opportunity for pharmacist-led education, an opportunity encouraged by the National Asthma Education and Prevention Program Expert Panel 2007

Key Points**Background:**

- Studies have demonstrated benefits from pharmacist-led MTM programs for adults with asthma. Limited and conflicting evidence exists for such programs in pediatrics.
- Prospective studies demonstrated improvements in outcomes for various disease states from pharmacist-physician collaboration. Evidence is more limited regarding pharmacist-physician collaboration for children with asthma.
- Implementing a collaborative program in which community pharmacists target high-risk children with asthma for MTM may lead to improved comprehensive, continuous, and patient-centered care.

Findings:

- This project describes the design and implementation of a pharmacist-physician collaborative MTM program for children with high-risk asthma.
- Although a small population was enrolled, many recommendations were provided to and acted on by both patients and prescribers.
- The early successes of this pilot program support further refinement and evaluation of such collaborative initiatives.

guidelines.¹ Numerous community-based, pharmacist-led adult asthma prevention programs have resulted in improved asthma control, adherence, inhaler technique, quality of life, and knowledge.^{3–7} To our knowledge, however, there have been limited and conflicting results reported in pediatrics.^{8,9}

Collaborative programs between pharmacists and prescribers could promote continuity across disciplines and improve clinical outcomes. Prospective studies have demonstrated associations between pharmacist-physician collaboration and improved outcomes in various disease states.^{10–13} Qualitative studies have highlighted pharmacist and physician agreement in the potential for positive outcomes such as identifying and managing drug-related problems, adherence support, counseling, and assisting with insurance approvals.^{14,15} Defining processes through which pharmacists and physicians can more effectively collaborate and determining how that collaboration might translate to improvements in pediatric asthma care would be major steps forward.

Objective

The purpose of the present project was to design and implement a pilot collaborative asthma management program consisting of a medication therapy management (MTM) service in a community pharmacy that targets pediatric patients with high-risk asthma who are shared with partnering pediatric primary care centers.

Setting

This pilot program was between Kroger Pharmacy and the 3 pediatric primary care centers managed by Cincinnati Children's Hospital Medical Center (CCHMC) in Cincinnati, OH. Kroger Pharmacy is a large grocery store chain-based pharmacy with more than 2000 pharmacies in 31 states. CCHMC is an academic not-for-profit 577-bed hospital located in Cincinnati, OH. CCHMC's 3 affiliated primary care centers care for predominantly underserved, publicly insured patients.

Practice description

The program was piloted at 2 Kroger pharmacies in the underserved inner city of Cincinnati. These pharmacies serve patients predominantly covered through Medicaid and those who live in neighborhoods characterized by high rates of poverty. These 2 pharmacies offer a range of clinical services including MTM, immunization, health care screenings, and employee wellness programs. One of the 2 pharmacies is a primary site for a community pharmacy resident. The described collaborative project was one of a number of new projects implemented in an effort to better engage patients and improve patient care.

Practice innovation*Pharmacist-physician collaboration*

A partnership was formed between Kroger Pharmacy and CCHMC as pharmacists and pediatricians sought to track patient compliance with the use of prescription records. As discussions around shared data evolved, the assembled group of 3 pharmacists and 3 physicians wanted to move beyond sharing of prescription data to determine how to improve transitions of care from physician offices to the pharmacy. As such, they formed a collaborative MTM program to actively target shared patients with high-risk asthma. This led to the development of a larger multidisciplinary project team consisting of 2 clinical pharmacists, 1 pharmacy district clinical coordinator, 1 pharmacy division clinical coordinator, 1 associate professor at a college of pharmacy, 1 pharmacy resident, and 3 pediatric physicians.

The team collaborated to define the community need, identify eligible patients, and develop a shared protocol for a targeted MTM program. The team identified high-risk patients (as described below in Patient selection) by means of pooling data and expertise. Table 1 summarizes these steps and provides an estimation of the time that was involved with each step of the collaboration process. Regarding the collaboration time, all team members attended 2 in-person meetings at the start of the project. Additional meetings with involved pharmacists occurred at least monthly to develop the protocol. Although e-mail was used to ensure involvement and approval from all project team members (pharmacy and hospital), 1 physician champion was heavily involved with the development of the protocol and educational materials through weekly to monthly e-mail and telephone communication.

Patient selection

Collaboration allowed us to, first, identify shared high-risk asthma patients by means of patient-specific data from both

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