The Challenge
With consistent, appropriate treatment, asthma can be a manageable condition, but about 40 percent of patients do not adhere to their prescribed medication regimens. That leads to exacerbations of their asthma and costly urgent care and emergency room interventions. With its members making 500 asthma-related visits to the ER annually, this state Medicaid program sought a way to improve asthma care in hospital settings to reduce return trips to the ER.

Background
The Medicaid program’s Drug Utilization Review Board wanted to evaluate prescribing trends and medication adherence rates among urgent care patients with a primary diagnosis of asthma exacerbation. The Board asked UMass Medical School’s Clinical Pharmacy Services to design a plan to reduce the incidence of exacerbated asthma among its Medicaid members by investigating the following:

- Impact of an asthma-related urgent care visit
- Trends before and after asthma patients’ urgent care visits
- Patient adherence to prescribed asthma medications
- Presence or absence of maintenance (or controller) asthma medications

Solution
Researchers at UMass Medical School know that getting the right answer begins with asking the right questions. Their extensive experience with direct patient care and cutting-edge research enables them to form queries that extract relevant claims data, which in this case included the following:

- Prescribing trends among Medicaid members being treated with asthma medications
- Patients being treated with asthma medications for non-asthma conditions
- Asthma patients using one or more short-acting relief inhalers each month for more than four consecutive months, without also using a controller medication

Our pharmacists, some of whom are asthma educators, have worked directly with patients with respiratory diseases. They look beyond the short-term

Results at a Glance
With the help of UMass Medical School’s Clinical Pharmacy Services, a state Medicaid program with 145,000 members identified asthma patients likely to use emergency room and urgent care services for exacerbated conditions. Seventy percent of them needed clinical intervention to ensure they received the appropriate controller medications to reduce the risk of future emergency room and urgent care services.

Case Study: Study of claims data reduces urgent care and ER visits for one state’s Medicaid members with asthma exacerbation.
fluctuations in a patient’s record instead, examining six months of records to obtain the most relevant data.

**Results**

After an in-depth analysis of pharmacy and medical claims data, UMass Medical School determined that 70 percent of asthma patients were receiving inadequate therapy and needed further clinical intervention — despite the fact that the majority of providers’ prescribing patterns were found to be in accordance with National Heart, Lung and Blood Institute’s National Asthma Education Prevention Program guidelines for initiating long-term maintenance medications.

- Patient adherence was identified as the primary area needing improvement.
- Poor inhaler technique and other issues contribute to discrepancies between prescribing patterns and the need for pharmacy intervention.
- Forty percent of patients did not adhere to the maintenance medications recommended by a physician.

UMass Medical School recommended the implementation of a Retrospective Drug Utilization Review (RetroDUR) program to begin to address non-adherence issues. The Retro DUR program provided essential data:

- Comprehensive review of therapeutic asthma management
- Targeted, patient-specific, provider-focused interventions
- Evidence-based, best-practice guidelines
- Identification of patients whose medication does not comply with recommended guidelines

Since 70 percent of the state’s Medicaid members with asthma could potentially benefit from clinical intervention, UMass Medical School researchers recommended notifying providers of the need to initiate doctor–patient conversations about appropriate treatment. Formal, patient-specific letters to providers requested detailed information:

- A close review of information provided
- Validation of clinical programs
- Assessment of need for clinical intervention

If a prescriber did not respond, our staff faxed a patient profile and a separate feedback form to the patient’s community pharmacist for follow-up as needed.

Follow-up analysis revealed that 24 percent of patients identified as receiving inadequate therapy for asthma management subsequently received a controller medication. Regular use of that medication has been shown to cut the rate of hospitalization in half.

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