New study suggests prominent role for pharmacies in reducing asthma-related illness

May 4 2015

A new study shows how pharmacies might collaborate with physicians and families to reduce asthma-related illness.

The Cincinnati Children's Hospital Medical Center study found that pharmacies in neighborhoods with high rates of asthma-related emergency-room use and hospitalization filled fewer asthma controller medications compared to asthma rescue medications.

Asthma-related illness is particularly common among people living in poverty or with limited access to medical care. Previous studies have shown that disparities in asthma rates are perpetuated by underuse of medications that can prevent asthma attacks and control asthma symptoms. Underuse of controller meds results from under-prescribing

by health-care providers, under-availability of these medications at pharmacies and poor adherence to medications among patients.

"As on-the-ground members of the health-care team, community-based pharmacies and pharmacists are well-positioned for an increased role in population health management," says Andrew Beck, MD, a pediatrician at Cincinnati Children's and lead author of the study. "Tracking medication fills could highlight ways in which pharmacies could deliver proactive, as opposed to reactive, asthma care."

The study was published May 4 in the eFirst pages of the journal *Pediatrics*.

The researchers studied two sets of data that provided information on the same geographic region - Hamilton County in southwest Ohio. One set included children between the ages of 2 and 17 who visited the emergency department or were hospitalized for asthma at Cincinnati Children's between Jan. 31, 2010, and Jan. 30, 2012. The second set was provided by 27 retail Kroger pharmacies in 27 distinct census tracts or neighborhoods. This dataset included all 35,467 asthma medications filled for children in the 2-17 age group during the same time period.

The researchers classified medications as either controller or rescue. They then calculated a dispensing ratio for each pharmacy by dividing all dispensed controller medications by the sum of all controller plus all rescue medications. Census tracts with pharmacies that had a lower ratio had significantly higher utilization rates, even after accounting for their higher rates of poverty and more limited car availability.

Pharmacies located in high utilization census tracts - those with more asthma attacks - were also found to dispense more rescue medications than controller medications throughout the year. The opposite was true for pharmacies in low-utilization, or healthy, census tracts.

"We developed this asthma medication ratio to better understand disparities across our county and to potentially inform allocation of resources to those pharmacies and areas in most need of improvement," says Dr. Beck. "Pharmacies might aggressively provide medication delivery or counseling services, they could flag patients who refill a disproportionate number of rescue medications compared to controllers, or they could more regularly communicate with physicians regarding those patients who do not seem to be responding to current therapy. Our findings also support more active data-sharing between such integral members of the health-care team."

Provided by Cincinnati Children's Hospital Medical Center