

# Kids with asthma or diabetes who don't take their meds more likely to end up in ER

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NEW YORK (Reuters Health) - Kids and teens with asthma and type 1 diabetes often don't take their medication as prescribed, and those that skip doses are more likely to end up in the emergency room, according to a new review.

More than half of children with a chronic illness are put on medication, but past studies have found anywhere from 50 percent to 88 percent don't take their drugs as prescribed.



"In our experience, most patients and families are surprised to learn how prevalent this problem is, and many clinicians are as well," lead author Meghan McGrady of the Division of Behavioral Medicine and Clinical Psychology at Cincinnati Children's Hospital Medical Center, said.

She and co-author Kevin Hommel set out to gauge the long-term healthcare utilization consequences of children with chronic illnesses not taking their medicine.

Their review included 10 past studies, nine of which found a link between skipping medication and more hospital visits.

Nine of the studies included children with asthma and the tenth focused on those with type 1 diabetes. Most studies looked at kids between two and 18 years old; one included young adults up to age 29.

Studies tracked children's medication use through pharmacy refill records, family questionnaires and electronic monitors.

On average, kids with asthma whose families did not fill any of their prescriptions were more likely to go to the ER than children with at least one filled prescription. Likewise, those who rarely refilled their drugs had more ER trips than children who got at least half of their prescribed refills.

For example, one 2007 study of close to 1,500 children found those with no filled prescriptions for an inhaled corticosteroid, compared to one or two, were over 10 times more likely to have an ER visit for asthma.

But the opposite seemed to be true for outpatient and primary care visits. Two studies included outpatient visits and found that the fewer prescriptions a child with asthma had filled, the less likely it was that the child would have an asthma-related primary care visit.

Taking medication as prescribed and regularly scheduling checkups are both part of proper management of chronic conditions, so a child who lags in one category might logically lag in the other, the authors write in the journal *Pediatrics*.

"It could be that these findings capture the profile of families who have difficulties not only taking their medications, but also attending regularly scheduled follow-up clinic visits," McGrady told Reuters Health.

According to the American Lung Association, about 7.1 million U.S. children and teens have asthma, and in 2009, there were approximately 774,000 asthma-related ER visits for kids under 15.

Children and teens who don't take their prescribed medications regularly are at an increased risk of health complications, and also cost the healthcare system more money in the long run, researchers said.

It's hard to say for sure how much money kids skipping their medication costs the U.S., but estimates suggest non-adherence in general accounts for \$100 to \$300 billion in healthcare costs each year, Kimberly Driscoll, a pediatric psychologist who studies type 1 diabetes treatment adherence at Florida State University College of Medicine in Tallahassee, said.

"More emergency department visits means more school absences, more hospitalizations and more unnecessary medical expenses," said Michael Rapoff, who studies pediatric adherence to medication at the University of Kansas Medical Center in Kansas City.

For conditions such as asthma, long-acting medications reduce inflammation but don't appear to have an immediate effect on symptoms, so some kids are more likely to skip them, Rapoff, who wasn't involved in the new research, told Reuters Health.

The review did not differentiate between necessary and unnecessary ER visits, but there are acute incidents when kids with asthma or diabetes really do need to go to the hospital, whether they take their medicine properly or not, he said.

"The results of this study have implications for children, their parents and their health care providers," McGrady said. "In all, multi-disciplinary approaches to adherence promotion are an important part of providing optimal medical care."

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