

Poorly Controlled Asthma is Costly

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DENVER — Poorly controlled asthma more than doubles healthcare costs associated with the disease and threatens educational achievement through a dramatic increase in school absence, according to researchers at National Jewish Health. The research team reported in the August 2011 issue of *The Archives of Allergy, Asthma & Immunology* that children with “very poorly controlled” asthma missed an average of 18 days of school each year, compared to 2 or less for other asthma patients.

“This study looks for the first time at how effective and ineffective management of severe asthma impacts cost,” said Stanley Szeffler, MD, lead author and Professor of Pediatrics at National Jewish Health. “It highlights the toll that poorly controlled asthma takes on children. It also points to an opportunity – with proper attention and education, many, if not most, of those children could gain control over their asthma, thus reducing healthcare costs, improving their lives and their chances for success.”

The researchers studied 628 children ages 6 to 12 with severe or difficult-to-treat asthma. They evaluated direct medical costs – medications, unscheduled office and emergency visits, and hospital admissions – and indirect costs as measured by school/work days lost. Costs were evaluated at baseline, 12 months and 24 months. Patients were divided into three groups – very poorly controlled, not well controlled and well controlled asthma, according to NIH guidelines.

Very poorly controlled asthma patients incurred at baseline an average of \$7,846 in costs associated with asthma, compared to \$3,526 for not well controlled asthma patients and \$3,766 for well controlled asthma. Two years out, costs for very poorly controlled asthma patients increased to \$8,880 while costs for those with well controlled asthma dropped to \$1,861. *(All costs are in 2002 dollars. Costs in 2011 dollars would be approximately 25 percent greater.)*

Direct costs of care were roughly 50 percent higher for poorly controlled asthma at \$4,983, compared to \$3,236 for not well controlled asthma, and \$3,588 for well controlled asthma.

Indirect costs were much greater for poorly controlled asthma as measured by the impact on work and school. Children with poorly controlled asthma missed an average of 18 school days per year, compared to 2 missed days for poorly controlled asthma, and 0 for the well controlled asthma.

The researchers estimated that one parent would have to stay home for each missed school day, at an average cost of \$172 dollars per day. Indirect costs for very poorly controlled asthma, \$3,078, were more than eight times as great as the costs for not well controlled asthma, \$369. With no missed school days among well controlled asthma patients, their indirect costs were \$0.

The large variance for missed school days suggested another cost not included in the researchers’ calculations—low educational achievement. They cited a study of 3,812 students in Missouri indicating a much higher chance of failure for those absent an average of 12 school days. The very poorly controlled asthma patients in the current study missed an average of 18 days.

But the researchers also cited another study that suggested about 85 percent of asthma patients can bring asthma under control with careful education and supervision. Their data do indicate that improvement in asthma control does reduce asthma-related costs.

“There are effective strategies to improve asthma control among children,” said Dr. Szeffler. “By addressing medication adherence, inhaler technique, proper medications, and other asthma management strategies, we could improve asthma and reduce costs significantly.”

National Jewish Health is the leading respiratory hospital in the nation. Founded 124 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit the [media resources page](#).

Media Contacts

Our team is available to arrange interviews, discuss events and story ideas.

Jessica Berry
303.398.1082
berryj@njhealth.org