

# Study shows poor children face higher rates of asthma and ADHD

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Poverty takes a toll on human health and especially on children.

The American Academy of Pediatrics and Britain's Child Poverty Action Group, among various groups and scientific studies, long have documented the higher risk of illness, chronic disease and disability among impoverished [children](#), along with lower birth weights and an average life expectancy nearly a decade shorter than children from affluent families.

Now add [asthma](#) and attention deficit/hyperactivity disorder to the long list of physical and mental maladies, along with attendant conditions known as "comorbidities."

These are the key findings of a Children's Hospital of Pittsburgh of UPMC study published Monday in *Pediatrics*.

As it turns out, asthma has risen by 18 percent, ADHD by 44 percent and [autism spectrum disorders](#) by 400 percent from 2003 through 2011-12 for all children, with debate about whether they reflect more actual cases or better health care and diagnoses.

But the rise in lifetime prevalence of asthma "was most prominent among poor children," the study found, with a 26 percent higher rate compared with affluent children, and a 58 percent higher rate among uninsured children.

For ADHD, the increase in lifetime prevalence for children living at or under the federal poverty line was 43 percent higher than those in the highest income bracket. The National Institute of Mental Health describes ADHD as "a brain disorder marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development."

On the other hand, cases of autism spectrum disorders, while rising among children of all income levels, showed a higher prevalence among the "nonpoor" - families with incomes three to four times the [federal poverty level](#).

In addition, poverty put a child with asthma or ADHD at two times the odds of having [comorbid conditions](#) when compared with their counterparts in wealthy households, the study found.

Impoverished children with asthma also had elevated rates of learning disabilities, ADHD, and speech and language impairments. Those with ADHD on average had at least two other conditions, with learning disabilities, behavioral or conduct problems and depression or anxiety being the most common.

Among other problems that impoverished children with asthma and ADHD face are epilepsy or seizure disorder; Tourette syndrome; bone, joint, or muscle problems; vision problems that can't be corrected; chronic mental health conditions (including ADHD); depression or anxiety; behavioral or conduct problems; learning disabilities; autism spectrum disorders; developmental delay; and speech and language problems.

"(B)eing poor was predictive of higher than average comorbid conditions for children with asthma and ADHD but not autism spectrum disorders," the study concludes. "These findings underscore the importance of

increased clinician awareness of higher risk for comorbid conditions when caring for children with asthma and ADHD who are living in impoverished households."

The federal poverty guideline for one person is \$12,060 or lower, with an additional \$4,180 for each person in the family. So, a family of five with total income of \$28,780 or lower would be living in poverty.

Christian D. Pulcini, the pediatrician and researcher at Children's Hospital who authored the study in collaboration with Amy J. Houtrow, said that health impacts can be traced to multiple factors, as studies have shown, including neglect and abuse, poor diet, environmental and air pollution exposures, and toxic stress or adverse childhood experiences that can occur in homes or neighborhoods.

"Certainly, poverty is playing a role in the health of these children," he said. "We need to be aware of this when we are adopting broad, sweeping programs, which need to be innovative in addressing this in the future. It isn't an issue one individual or the medical field can address. It takes a village to truly address the issues with poverty among children."

Rebekah Levine Coley, a Boston College professor with a Ph.D. in developmental psychology, said the study "shows important trends in increased diagnostic rates of some very prevalent physical and psychological disorders" based on income levels. The study, however, doesn't identify reasons for these trends, explaining whether they are due to real increases or improved access to health care or better diagnostic procedures, she said.

"What we have learned is that economic inequality has grown quite dramatically in the United States and concurrently inequality in children's healthy development has grown, as well," she said. "This report suggests there are growing gaps in children's health across income

strata. Gaps in academic skills have also grown."

The Boston College professor also said nearly 20 percent of children in the United States live in poverty, representing the highest rate among advanced nations, heightening the need for policies "that attack the root of the problem, as well as policies which interrupt the mechanisms by which poverty impedes healthy development for children."

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