

# National estimates of health services expenditures for children with behavioral disorders: an analysis of the Medical Expenditure Panel Survey

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**BACKGROUND:** Children with attention-deficit/hyperactivity disorder and asthma incur similar health care costs that are greater than those of most children without these conditions. Preliminary findings suggest that children with emotional behavioral disorders, anxiety and depression, incur even greater costs.

**OBJECTIVE:** To determine if children with behavioral disorders have similar health services expenditures as children with physical conditions and to assess whether children with emotional behavioral disorders incur greater expenditures than children with disruptive behavioral disorders.

**METHODS:** Children 2 to 18 years old who were members of households participating in the 1996 Medical Expenditure Panel Survey were eligible for this retrospective cohort study. Children with common behavioral disorders selected a priori were identified by using truncated International Classification of Diseases (Ninth Revision) codes obtained from household interviews. Children with common physical conditions (asthma, epilepsy, and diabetes) and children without these conditions served as controls. Estimates were weighted to reflect the complex sampling scheme. Expenditures for health services were compared.

**RESULTS:** Of 3955 eligible children weighted to represent >44 million, 7.1% were identified with a behavioral disorder: 4.5% with disruptive disorders; 2.1% with emotional disorders; and 0.5% with miscellaneous disorders. Children with behavioral disorders incurred overall expenditures similar to children with physical conditions (adjusted 1492 dollars vs 1245 dollars;  $P = .18$ ) but greater than children without these conditions (adjusted 1492 dollars vs 834 dollars;  $P = .001$ ). Children with behavioral disorders had greater expenditures for office-based visits (adjusted 410 dollars; 95% confidence interval: 146-672 dollars) and prescription medications (adjusted 361 dollars; 95% confidence interval: 72-648 dollars) than those of children in either control group. Among children with behavioral disorders, children with emotional disorders incurred substantially greater overall expenditures (adjusted 2152 dollars vs 1026 dollars;  $P = .003$ ) than children with disruptive disorders. Children with emotional disorders incurred greater hospitalization expenditures (664 dollars vs 43 dollars;  $P = .01$ ) but lower pharmacy expenditures (154 dollars vs 307 dollars;  $P = .001$ ) than children with disruptive disorders.

**CONCLUSIONS:** In this nationally representative sample, children with behavioral disorders incurred overall health care costs similar to children with physical conditions but greater than children without any of these conditions because of increased costs for office-based visits and prescription medications. However, costs were not uniform among children with behavioral disorders. Children with emotional disorders incurred twofold higher costs than children with disruptive disorders. Greater recognition of children with emotional disorders and efforts to address the high rate of hospitalizations in this population are warranted.

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Authors:

Guevara JP, Mandell DS, Rostain AL, Zhao H, Hadley TR