Medical Expenditure Panel Survey

Agency for Healthcare Research and Quality

STATISTICAL BRIEF #276

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Attention-Deficit Hyperactivity Disorder (ADHD) in Children, Ages 5-17: Use and Expenditures, 2007

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Highlights

- In 2007, approximately 2.7 million children, or 5.1 % of children ages 5-17, were treated for attention-deficit hyperactivity disorder (ADHD).
- Medical spending to treat ADHD totaled $3.6 billion in 2007.
- A total of $2.3 billion was spent on prescription medications to treat ADHD in children ages 5-17.
- Annual expenditures on ADHD for those with an expense related to ADHD averaged $1,319 per child.

Introduction

Attention-deficit hyperactivity disorder, also known as ADD or ADHD is a condition that makes it difficult for children to control their behavior. Attention-deficit hyperactivity disorder is usually first diagnosed in childhood and may last into adulthood. Children with attention-deficit hyperactivity disorder have trouble paying attention, controlling impulsive behaviors and in some cases are overly active.

This Statistical Brief presents estimates on the use of and expenditures for ambulatory care and prescribed medications to treat ADHD among children ages 5-17 in the U.S. civilian noninstitutionalized population. The estimates are based on the Household Component of the Medical Expenditure Panel Survey (MEPS-HC). Average annual estimates are shown by type of service and source of payment. All differences between estimates noted in the text are statistically significant at the 0.05 level or better.

Findings

Number of reported cases for ADHD, by sex

In 2007, 2.7 million U.S. children ages 5-17 received treatment for attention-deficit hyperactivity disorder (ADHD) (figure 1). Most of the children treated for attention-deficit hyperactivity disorder were male (1.9 million males versus 0.8 million females).

Total and mean health care expenditures on ADHD, by type of service

Expenditures on treatment of ADHD accounted for 8.7 percent of expenditures on treatment of all conditions for children ages 5-17 (figure not shown). A total of $3.6 billion was spent on treatment of ADHD (figure 2). A higher percentage of these expenditures was on prescription medications than on ambulatory visits ($2.3 billion versus $0.8 billion).

Average expenditures on ADHD for those with an attention-deficit hyperactivity disorder related expense were $1,319 in 2007. The mean expense per child was $427 for ambulatory visits and $902 for prescription medications (figure 3).

Distribution of average annual health care expenditures for ADHD, by source of payment and type of service

Almost half (47.0 percent) of the expenditures for the treatment of attention-deficit hyperactivity disorder in 2007 were paid by Medicaid/CHIP, with private insurance paying 29.5 percent and out-of-pocket payments accounting for 17.6 percent (figure 4). Private insurance paid for 40.9 percent of ambulatory visit expenditures and Medicaid/CHIP paid for more than one-third (36.5 percent). Both of these sources accounted for more than out-of-pocket payments which paid 14.8 percent of the total ambulatory care expenditures. For prescription medications, 38.1 percent of the total was paid by Medicaid/CHIP compared to less than one-fourth (22.9 percent) paid out-of-pocket. About one-third (32.6 percent) of expenses for prescribed medications were paid by private insurance.

Data Source

The estimates shown in this Statistical Brief are based on data from the MEPS HC-113: 2007 Full Year Consolidated File; HC-112: Medical Conditions File; HC-110G: Office-Based Medical Provider Visits File; HC-110F: Outpatient Department Visits File; File HC-110D: Hospital In-Patient Stays; HC-110H: Home Health File; HC-110E: Emergency Room Visits File; and HC-110A: Prescribed Medicines File.

Definitions

Attention-deficit hyperactivity disorder
This Brief analyzes children ages 5-17 with ADHD reported as a condition bothering the person, as well as ADHD reported in connection with reported health care utilization. The conditions reported by respondents were recorded by interviewers as verbatim text, which was then coded by professional coders to fully specified ICD-9-CM codes. Conditions with ICD-9 code of 314 were classified as attention-deficit hyperactivity disorder.

Expenditures
Expenditures in MEPS are defined as payments from all sources for hospital inpatient care, ambulatory care provided in offices and hospital outpatient departments, care provided in emergency departments, and purchase of prescribed medications. Sources include direct payments from individuals, private insurance, Medicare, Medicaid, Workers' Compensation, and miscellaneous other sources. These expenditures do not include 'over-the-counter' medications used for treatment of any conditions.

Sources of payment

- Private insurance: This category includes payments made by insurance plans covering hospital and other medical care (excluding payments from Medicare, Medicaid, and other public sources), Medigap plans, and TRICARE (Armed Forces-related coverage). Payments from plans that provide coverage for a single service only, such as dental or vision coverage, are not included.
- Medicaid/CHIP: This category includes payments made by the Medicaid and CHIP programs which are means-tested government programs financed jointly by Federal and state funds that provide health care to those who are eligible. Medicaid is designed to provide health coverage to families and individuals who are unable to afford necessary medical care while CHIP provides coverage to additional low income children not eligible for Medicaid. Eligibility criteria for both programs vary significantly by state.
- Out of pocket: This category includes expenses paid by the user or other family member.
- Other sources: This category includes payments from Medicare, other miscellaneous Federal sources (Indian Health Service, military treatment facilities, and other care provided by the Federal government); various state and local sources (community and neighborhood clinics, state and local health departments, and state programs other than Medicaid/CHIP); various unclassified sources (e.g., automobile, homeowner's, or other liability insurance, and other miscellaneous or unknown sources); Medicaid/CHIP payments reported for persons who were not reported as enrolled in the Medicaid or CHIP programs at any time during the year; and private insurance payments reported for persons without any reported private health insurance coverage during the year.

About MEPS-HC

MEPS-HC is a nationally representative longitudinal survey that collects detailed information on health care utilization and expenditures, health insurance, and health status, as well as a wide variety of social, demographic, and economic characteristics for the U.S. civilian noninstitutionalized population. It is cosponsored by the Agency for Healthcare Research and Quality and the National Center for Health Statistics.

For more information about MEPS, call the MEPS information coordinator at AHRQ (301) 427-1656 or visit the MEPS Web site at http://www.meps.ahrq.gov/.

References

For a detailed description of the MEPS-HC survey design, sample design, and methods used to minimize sources of nonsampling errors, see the following publications:

Cohen, J. *Design and Methods of the Medical Expenditure Panel Survey Household Component*. MEPS Methodology Report No. 1. AHCPR Pub. No. 97-0026. Rockville, MD. Agency for Health Care Policy and Research, 1997. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.pdf

Cohen, S. *Sample Design of the 1996 Medical Expenditure Panel Survey Household Component*. MEPS Methodology Report No. 2. AHCPR Pub. No. 97-0027. Rockville, MD. Agency for Health Care Policy and Research, 1997. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr2/mr2.pdf

Cohen, S. Design Strategies and Innovations in the Medical Expenditure Panel Survey. *Medical Care*, July 2003: 41(7) Supplement: III-5-III-12.

Ezzati-Rice, T.M., Rohde, F., Greenblatt, J. *Sample Design of the Medical Expenditure Panel Survey Household Component, 1998-2007*. Methodology Report No. 22. March 2008. Agency for Healthcare Research and Quality, Rockville, MD. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr22/mr22.pdf

For more information about attention-deficit hyperactivity disorder, see the following publications:

What is attention-deficit hyperactivity disorder? http://www.nimh.nih.gov/health/publications/attention-deficit-2 hyperactivity-disorder/complete-index.shtml

Attention-Deficit/Hyperactivity Disorder: http://www.cdc.gov/ncbddd/adhd/facts.html

Understanding AD/HD: chadd.org/

Children's Health Topics: ADHD aap.org/healthtopics/adhd.cfm

Suggested Citation

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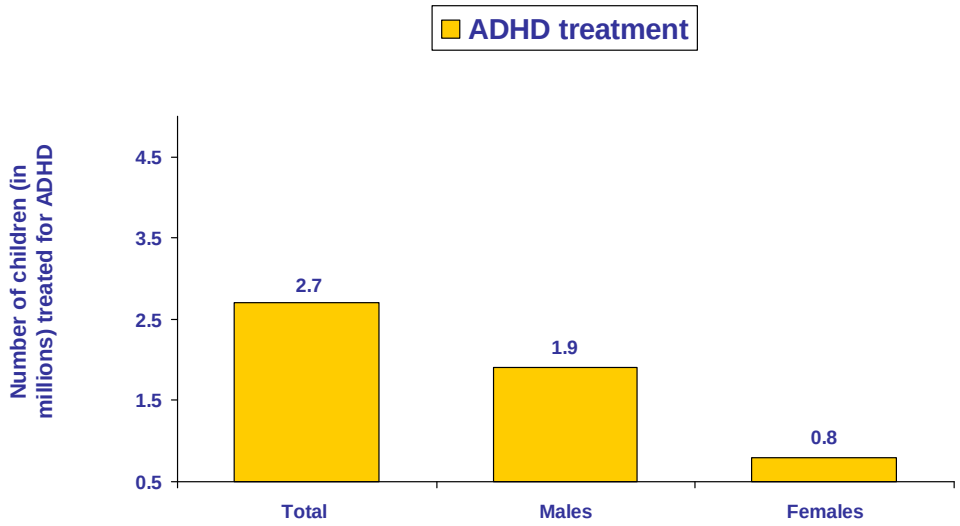
AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other MEPS data and tools and to share suggestions on how MEPS products might be enhanced to further meet your needs. Please e-mail us at mepspd@ahrq.gov or send a letter to the address below:

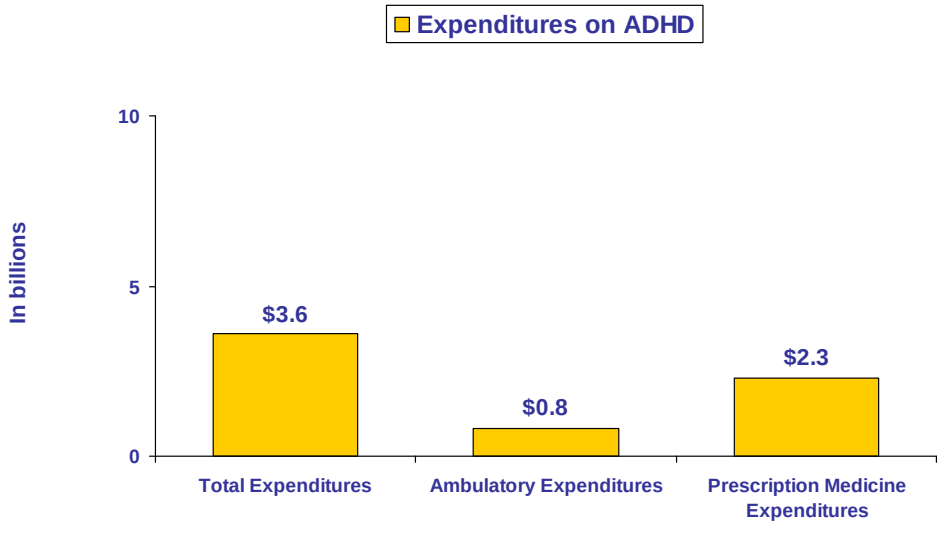
Steven B. Cohen, PhD, Director
Center for Financing, Access, and Cost Trends
Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850

Figure 1. Number of treated cases for ADHD among children (5–17), by sex, 2007



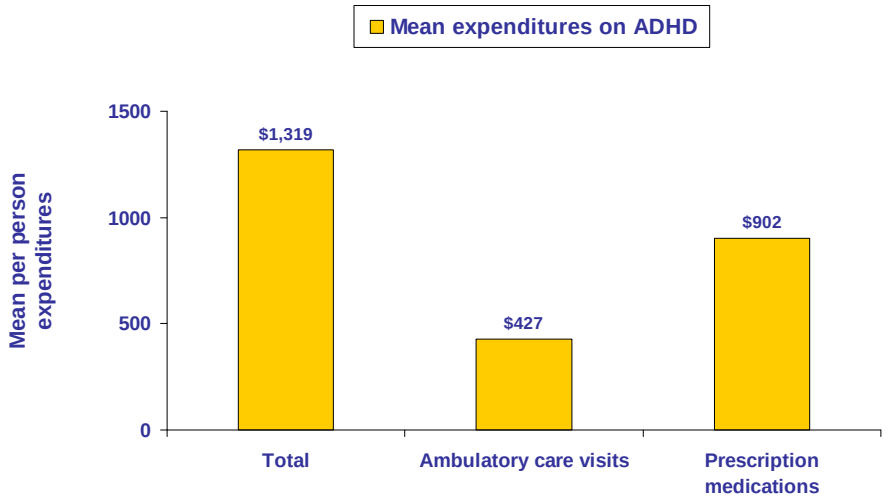
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007

Figure 2. Total, ambulatory and prescription medication expenditures on ADHD ages 5–17, 2007



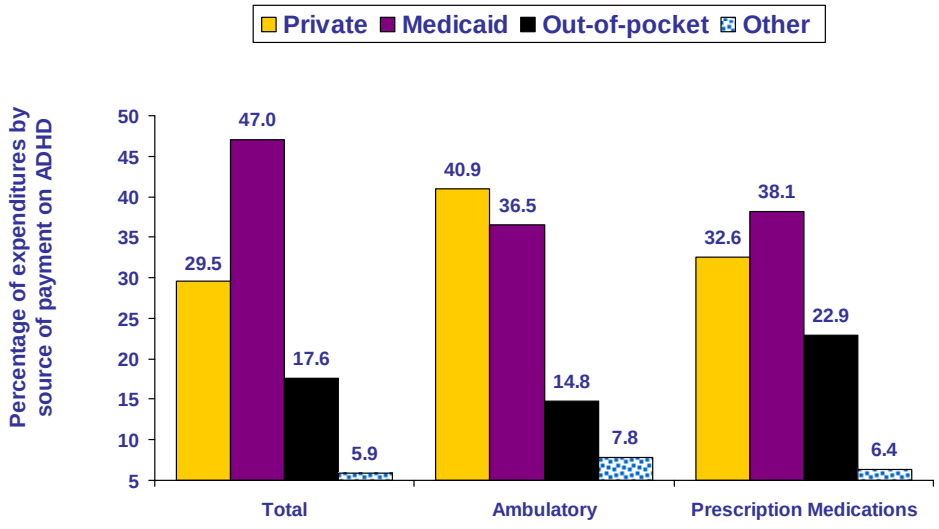
Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007

Figure 3. Mean expenditures on ADHD per child (ages 5–17) with expense, by type of service, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007

Figure 4. Distribution of expenditures on care and treatment of ADHD (ages 5–17), by source of payment and type of service, 2007



Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2007