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Treatment Patterns and Costs Among Children Aged 2 to 17 Years With ADHD in New York State Medicaid in 2013

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Abstract

Objective: To identify children with ADHD enrolled in New York State (NYS) Medicaid and characterize ADHD-associated costs by treatment category.

Method: In 2013, 1.4 million children aged 2 to 17 years were enrolled in NYS Medicaid. Medicaid claims and encounters were used to identify children with ADHD, classify them by type of treatment received, and estimate associated costs.

Results: The ADHD cohort comprised 5.4% of all Medicaid-enrolled children, with 35.0% receiving medication only, 16.2% receiving psychological services only, 42.2% receiving both, and 6.6% receiving neither. The total costs for the ADHD cohort (US\$729.3 million) accounted for 18.1% of the total costs for children enrolled in NYS Medicaid.

Conclusion: This study underscores the importance of achieving a better understanding of children with ADHD enrolled in NYS Medicaid. A framework to categorize children with ADHD based on their treatment categories may help to target interventions to improve the quality of care and reduce costs. *(J. of Att. Dis. XXXX; XX(X) XX-XX)*

Keywords

ADHD; children; Medicaid; costs; treatments

ADHD is a neurodevelopmental disorder defined by symptoms of inattention, hyperactivity, and/or impulsivity that interferes with functioning in home, academic, and social settings (American Psychiatric Association, 2013). Children with ADHD have difficulty focusing and controlling their behaviors, and can be negatively affected in multiple ways, including increased risk of school failure, difficulties with social functioning, and increased rates of physical injury (Barbaresi, Katusic, Colligan, Weaver, & Jacobsen, 2007; Merrill, Lyon,

Authors' Note

Declaration of Conflicting Interests

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The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the New York State Department of Health, the Centers for Disease Control and Prevention, the Department of Health and Human Services, or AUCD. Examples of analysis performed within this publication are only examples. They should not be utilized in real-world analytic product.

Baker, & Gren, 2009; Pastor & Reuben, 2006; Ros & Graziano, 2018). In 2016, approximately 6.1 million children aged 2 to 17 years (9.4% of all US children and adolescents) were reported by parents as ever having been diagnosed with ADHD, with 5.4 million children (8.4%) currently having ADHD (Danielson et al., 2018). These estimates were similar to those from 2011, which capped a period of a significant increase in the prevalence of ADHD diagnosis, when estimates of ADHD prevalence rose on average by approximately 5% each year from 2003 to 2011 (Visser et al., 2014). Children enrolled in Medicaid and those receiving Supplemental Security Income (SSI) have been found to be more likely to have ADHD than children not enrolled in these programs (Gupte-Singh, Singh, & Lawson, 2017).

In 2011, the American Academy of Pediatrics (AAP; 2011) released updated guidelines regarding the diagnosis and treatment of ADHD among children aged 4 to 18 years. These recommendations included an expansion of the age range covered by previous guidelines, with treatment guidelines varying by age. For preschool-aged children (aged 4–5 years), AAP recommended that the primary care physician prescribe behavioral therapy as the first line of treatment. If significant improvement does not occur with behavioral therapy alone, the guidelines state that specific stimulant medications may be prescribed in addition to behavioral therapy. For elementary school children (aged 6–11 years) and adolescents (aged 12–18 years), AAP recommended a combination of behavioral therapy and a Food and Drug Administration (FDA)-approved stimulant or nonstimulant medication.

With an estimated one third of children retaining the diagnosis into adulthood, ADHD is recognized as a chronic health condition (Barbaresi et al., 2013; Visser et al., 2014). ADHD is the costliest chronic health condition for children and adolescents, resulting in approximately US\$20.6 billion in health care spending in the United States in 2013 (Bui et al., 2017). Previous findings indicate that children with ADHD incur greater health care costs and utilize a greater number of health care services than children without ADHD (Guevara, Lozano, Wickizer, Mell, & Gephart, 2001; Guevara, Mandell, Rostain, Zhao, & Hadley, 2003; Leibson, Katusic, Barbaresi, Ransom, & Brien, 2001).

Although the impact on health and behavior and the evidence base for treatment of ADHD are both well understood, there is limited research available on the cost of treatment, especially for psychological services, in the United States. A review of the existing published literature found only 13 original research studies focusing on the health care costs of ADHD in the United States from January 1, 1990 through June 30, 2011 (Doshi et al., 2012). Beyond the limited number of studies on the cost of ADHD-related treatment, even fewer studies have explored both the management of ADHD among children enrolled in Medicaid and cost of their health care. As state Medicaid agencies face potential funding cuts, and in light of the ongoing transformation of health care to value-based payment (VBP) (Roby et al., 2018), fully understanding these high-cost and high-service usage populations is integral to the success of the transformation.

To address gaps in the literature, we identified and characterized children aged 2 to 17 years with ADHD in the New York State (NYS) Medicaid program in 2013 by demographic factors and types of treatment received (medication and/or psychological services). We also

compared Medicaid costs for all children aged 2 to 17 years in NYS Medicaid to costs for those children identified with ADHD, including comparisons of the mean and the median

Method

Data Source

costs by treatment types received.

This study's data source was the NYS Office of Health Insurance Programs Medicaid Data Mart. This administrative database contains enrollee information on Medicaid and Medicare eligibility, receipt of SSI or Temporary Assistance for Needy Families (TANF), and demographic information such as age, gender, race/ethnicity, zip code, and county of residence. In addition to eligibility and demographic information, the Data Mart also contains feefor-service (FFS) claims, health plan submitted encounter records, and pharmacy claims for services performed between January 1, 2004, and the present.

Study Population

FFS claims and encounter records were used to identify children with ADHD, their treatment patterns, and the associated Medicaid costs among children aged 2 to 17 years who were continuously enrolled for at least 11 months during calendar year 2013. Children in NYS Medicaid were identified as having ADHD if they had two or more outpatient visits with an International Classification of Diseases Ninth Revision Clinical Modification (ICD-9) code for ADHD (314.XX) with dates of service 7 days apart during 2013, or one out-patient claim with an ADHD diagnosis code and two or more FDA-approved ADHD medications dispensed 14 days apart during 2013.

Using the treatment combinations recommended by the AAP guidelines, children in the ADHD cohort were divided into four mutually exclusive groups by treatment received in 2013: (1) receipt of both psychological services and medication treatment, (2) receipt of medication treatment only, (3) receipt of psychological services only, and (4) receipt of neither psychological services nor medication treatment. Children were identified as receiving medication treatment if they had one or more prescription drug claims for an FDA-approved medication to treat ADHD (amphetamine and mixed amphetamine salts, atomoxetine, clonidine, dextro-amphetamine, dexmethylphenidate, guanfacine, lisdexamfetamine, and methylphenidate). Children were categorized as having received psychological services if they had one or more outpatient visits with a relevant Current Procedural Technology (CPT) or Healthcare Common Procedure Coding System (HCPCS) code (CPT: 90832–90834, 90836–90840, 90845–90847, 90849, 90853, 96152–96155, 97532–97533; HCPCS: G0409-G0411, H0004, H0017-H0019, H0035-H0037, H2012-H2022, H2027, S9480, T1027).

Cost Data and Descriptive Analyses

Total Medicaid costs were calculated for all children enrolled in Medicaid, for the ADHD cohort and for the four mutually exclusive treatment groups by summing the paid amount for all FFS paid claims and health plan reported paid amount on encounter records for all services provided in 2013. Total cost of care is an estimate of direct medical costs, including

but not limited to physician services, routine and sick visits, diagnostic tests, pharmacy, and hospitalization expenses. Total cost of care does not include capitation amounts paid to managed care organizations. To estimate the proportion of the total cost of care for services related to ADHD, paid amounts on both claims and encounters for any psychological services, ADHD medication, and any service with an ADHD diagnosis code were summed across the cohort and treatment groups.

Sociodemographic characteristics were compared for all NYS children aged 2 to 17 years in Medicaid, for the ADHD cohort, and across the four mutually exclusive treatment groups. Sociodemographic characteristics included age, gender, race/ethnicity (non-Hispanic White, Black, Hispanic, Other, and Unknown), urban/rural status using rural–urban commuting area (RUCA) codes, and socioeconomic status (SES) indicators. The SES indicators in this analysis reflect the two possible Medicaid aid categories the children qualified under (1) SSI, a program that provides financial support to people with severe physical or mental impairments (which may include but are not limited to ADHD); or (2) TANF, a program that provide cash assistance to families in need.

Results

Of the 1,390,666 children aged 2 to 17 years who were continuously enrolled in the NYS Medicaid program in 2013, 5.4% (n = 75,652) met the case definition for receipt of clinical care for ADHD (Table 1). Among this cohort, 42.2% (n = 31,905) received both psychological services and medication treatment, 35.0% (n = 26,514) received medication only, 16.2% (n = 12,253) received psychological services only, and 6.6% (n = 4,980) received neither treatment.

Table 1 shows that when compared with the overall population of children aged 2 to 17 years in NYS Medicaid, the ADHD cohort had a higher proportion of children aged 6 to 11 years (56.6% vs. 38.6%), fewer children aged 2 to 5 years (8.9% vs. 29.0%), a higher proportion of males (72.9% vs. 51.5%), a higher proportion of non-Hispanic White children (42.2% vs. 27.3%), a slightly less metropolitan population (82.7% vs. 92.6%), and a much higher proportion of children receiving SSI benefits (29.0% vs. 7.4%).

Figure 1 demonstrates a few additional notable sociodemographic differences across the four mutually exclusive treatment groups for children identified with ADHD. By age group, there was a higher proportion of the youngest children (aged 2–5 years) receiving psychological services only (23.2%) or receiving no services at all (17.6%) compared with older children, whereas older children (aged 6–11 years or 12–17 years) were more likely to receive both psychological services and medication (43.0% and 44.0%, respectively), or to receive medication only (36.1% and 34.8%, respectively). Compared to the other four race/ethnicity categories, non-Hispanic White children had the highest percentage (46.2%) receiving medication only, whereas Hispanic children were more likely to have received psychological services only (23.4%). Children from metropolitan areas had a higher proportion receiving psychological services only compared with children from other areas (18.1% vs. 7.1%) and a lower proportion receiving medication only (32.1% vs. 49.1%). A higher proportion of

children with ADHD and receiving SSI received both psychological services and medication, compared to children with ADHD and receiving TANF (51.2 % vs. 38.5%).

Although the ADHD cohort comprised only 5.4% of the total Medicaid group, the total costs for the ADHD cohort accounted for 18.1% (US\$729,250,258) of the total costs (US \$4,026,563,864) for all children in Medicaid in 2013 (Table 2). The overall average cost per child with ADHD was US\$9,640, and ranged from US\$0 to US\$923,678. The average cost per child for the ADHD cohort was approximately 3.2 times the average cost per child for all children in Medicaid persisted across most sociodemographic groups except by SES indicators. The average cost per child among the subset of children receiving SSI who had ADHD was slightly lower than the average per child cost among all children in Medicaid receiving SSI (US\$15,974 vs. US\$16,194).

The majority (55%) of the total Medicaid costs for children with ADHD were expended on the treatment group that received both psychological services and medication (US \$403,320,070), followed by 24% (US\$175,206,898) from those who received medication only, and 14% (US\$99,881,602) from the group who received psychological services only (Table 2). Children with ADHD receiving psychological services and medication had the highest average cost per child (US\$12,641) of the four treatment groups.

Although the overall proportion of total costs for those receiving neither psychological services nor medication (7%; US\$50,841,688) was small in comparison with the total overall costs, the average cost per child with ADHD receiving neither treatment was the second highest among the four treatment groups (US\$10,209), and greater than the average cost per child for children receiving medication only or psychological services only. Children with ADHD receiving psychological services and medication had the highest median costs (US\$6,008), followed by those who received psychological services only (US \$3,298) and those who received medication only (US\$2,687), whereas children with ADHD who received neither treatment had the lowest median costs (US\$2,225).

The subset of costs for ADHD-related claims (psychological services, ADHD medication, and any service with an ADHD diagnosis code) totaled US\$331.5 million and accounted for 45.5% of the total Medicaid costs incurred for the ADHD cohort (Tables 2 and 3). This ranged from a high of 51.6% (US\$208,197,408 out of US\$403,320,070) of the total Medicaid costs for children receiving both psychological services and medication to a low of 30.1% (US\$15,285,833 out of US\$50,841,688) of the total Medicaid costs for children receiving neither. The average cost per child was US\$4,389 (Table 3) for ADHD-related services among all children with ADHD, and ranged from US\$0 to US\$454,734. The median for ADHD-related costs ranged from US\$413 among children with ADHD receiving neither medication nor psychological services to US\$3,774 among children with ADHD receiving both treatment types.

Discussion

This study estimated the proportion of children receiving clinical care for ADHD and types of treatments these children received, as well as estimates of the total and ADHD-related costs for children aged 2 to 17 years covered by Medicaid in one large state (New York) in 2013. There were some noted sociodemographic differences associated with receipt of different treatment combinations among children with ADHD. Children receiving both medication and psychological services were more likely to be 6 to 17 years old, of Black race, or receiving SSI, whereas children receiving medication alone were more likely to be White, living in a nonmetropolitan area or receiving TANF; and children receiving psychological services alone were more likely to be 2 to 5 years of age, non-White, or living in a metropolitan area. These sociodemographic differences may reflect differences in presence of cooccurring conditions (particularly for children receiving SSI), family treatment preferences, or availability of treatment services (Finnerty et al., 2016; Koerting et al., 2013).

Average costs for children enrolled in Medicaid receiving clinical care for ADHD were US \$9,640 in 2013, compared with average costs of US\$3,042 for all children enrolled in Medicaid in 2013. This finding of higher average costs for children with ADHD is consistent with results for other populations, though the net difference in average annual cost is higher in New York Medicaid than in other published studies (Matza, Paramore, & Prasad, 2005). This may partially be explained by variations between states, such as differences in services covered by Medicaid or differences in reimbursement rates, as well as rising costs related to health care over time. The finding of higher average costs for children with ADHD compared with all children in Medicaid persisted across each sociodemographic subgroup with the exception of children receiving SSI. This is likely due to the higher medical costs associated with the physical or mental condition(s) that qualified these children for SSI, and the costs associated for children with ADHD in this group were not higher than for children without ADHD who qualified for SSI based on another condition.

Children with ADHD receiving both psychological services and medication had the highest average cost per child (US\$12,641) in 2013. However, despite having no costs for ADHDrelated medication or psychological services, children with ADHD who received neither treatment had higher overall mean expenditures (US\$10,209) than those receiving only one type of treatment. The finding of higher overall costs for children with ADHD receiving both medication and psychological services than children with ADHD receiving medication alone was similar to results from a recently published analysis of 2002–2011 Medical Expenditure Panel Survey (MEPS) data (deJong, Williams, & Thomas, 2016). However, the group reporting neither medication nor counseling in the MEPS study had lower annual costs than the groups receiving treatment, which contrasts with the results found for the New York Medicaid population. The higher costs for children with ADHD receiving neither type of treatment in the current study may be due to the use of care related to cooccurring conditions or acute health events such as unintentional injury, though the presence of cooccurring conditions or frequency of acute events was not explored in this analysis. The median costs served as another indicator for measuring central tendency in cases when there were a few children that incurred extreme high Medicaid expenses that influenced the

average expense. The median costs among children receiving neither treatment are lower than that for other treatment groups, suggesting that a small number of children with high costs drove the higher mean costs for this group.

Study Strengths and Limitations

This study provides unique and new information on childhood ADHD prevalence, treatment patterns, and their associated costs in NYS. Our findings revealed several sociodemographic differences associated with health care costs and treatment types for children receiving clinical care for ADHD, including differences by age, gender, and race/ethnicity. A major strength of the study is that it may provide a framework to identify children with ADHD and, based on their treatment categories and sociodemographics, better target interventions to them that may improve the quality of their care and reduce unnecessary utilization.

Nearly one out of 10 children (8.9%) receiving clinical care for ADHD in the New York Medicaid program was aged between 2 years and 5 years. Although this group represented a somewhat disproportionately low fraction of total expenditures for children with ADHD (6.3%), an opportunity exists to implement cost-effective approaches to treatment in this population. For example, parent behavioral training is as effective as medication for treating ADHD in this age group (Charach et al., 2011), and evidence suggests that initiating treatment with parent behavioral training incurs less cost over a school year than starting treatment with medication (Page et al., 2016). Although our analyses did not address the sequence of treatment types received by these young children receiving clinical care for ADHD (i.e., degree of alignment with AAP treatment guidelines), our study found that nearly half of children (46.9%) in this age group had not received any psychological services in 2013. This is valuable information, suggesting an opportunity to increase the proportion of young children who receive treatment in line with clinical guidelines (AAP, 2011).

The results of this study are also subject to several limitations. This analysis only included children actively being managed for ADHD during one calendar year, and therefore, estimates do not represent the underlying prevalence of the disorder in this population because children with ADHD who did not receive the minimum services reimbursed through Medicaid claims to meet the study ADHD case definition would not be identified in this sample. Also, grouping children into mutually exclusive treatment groups based on the evidence of at least one visit for a psychological treatment service or medication received, rather than requiring a higher number of medication or psychological treatment services claims, might have led to different conclusions regarding the utilization of services for ADHD than if different thresholds were used to characterize receipt of medication or psychological treatment services. For this analysis, we focused our estimates on broad categories of treatment received for ADHD (medication and psychological services), and did not individually quantify associated costs for other ADHD-related services, such as medication management visits or diagnostic testing. Only direct medical costs over a single calendar year were used in this study. Patients' out-of-pocket costs, costs related to additional coverage outside of Medicaid, and indirect costs, such as costs related to traveling to appointments and missing work, were not included in the analysis (Guevara et al., 2001), nor were changes in service utilization or associated costs over time. Other than the

identification of children in Medicaid receiving SSI (indicating that these children had a qualifying disability), we did not explicitly adjust for the presence of cooccurring conditions or severity of ADHD, both of which may have affected the types and amount of treatment received and the magnitude of associated payments. Finally, even though this study concluded that the 5.4% of the total Medicaid group with ADHD accounted for 18.1% of the total costs for all children in Medicaid in 2013 (Table 2), it did not consider the relationship between expenditures and effectiveness of ADHD management (i.e., whether increased expenditures resulted in better outcomes for children with ADHD). The relationship between expenditures and outcomes may warrant further investigation in future studies.

Policy Implications

In the spring of 2015, NYS' Medicaid leadership convened a group to develop a roadmap for redefining the provider payment system by advancing VBP. VBP is a strategy to structure health care provider payment to reward the quality and efficiency of health care delivery. The Medicaid program in NYS has several population groups who have complex, high-cost medical needs. Children do not usually constitute a large proportion of these population groups; however, this analysis has underscored the importance of understanding the population of children with ADHD on Medicaid. In 2013, the ADHD cohort comprised 5.4% of the total Medicaid pediatric population, but the total costs for the ADHD cohort accounted for 18.1% of the total costs for all children in Medicaid. Almost half of total Medicaid costs for the ADHD cohort (US\$331.5 million) were for ADHD-related treatment and services, indicating this may be a group to consider targeting for opportunities to offer better-coordinated and more efficient care. Future work may help to determine whether investment in such treatment improvements leads to better long-term outcomes for children by reducing potentially avoidable emergency department visits or hospitalizations, as well as potentially reducing other health care utilization, therefore, resulting in overall lower medical costs compared with children who received less or no treatment. Health insurance plans, health care providers, and parents can work together to ensure that children with ADHD are receiving the most appropriate and cost-effective treatment for these children to achieve optimal outcomes.

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Melissa Danielson, MSPH, is a statistician with the Child Development Studies Team within the National Center on Birth Defects and Developmental Disabilities at the Centers for Disease Control and Prevention. Her work includes epidemiological analyses related to ADHD and other mental, emotional, and behavioral conditions among children and adolescents, including work on disorder prevalence, clinical presentation, service utilization, and outcomes for children diagnosed with these conditions.

Lindsay Cogan, PhD, MS, is the director of the Division of Quality Measurement at the NYS Department of Health. Her work includes oversight of the collection and reporting of quality measures examining the health care delivery system in NYS using several standards and requirements, including the National Committee for Quality Assurance Healthcare Effectiveness Data and Information Set (HEDIS), the Consumer Assessment of Healthcare Providers and Systems (CAHPS), Children's Health Insurance Program Reauthorization Act (CHIPRA), Medicare and Medicaid Meaningful Use, Health Home, Medicaid Adult and Child Core Quality Measures. She has extensive knowledge and background on quality measurement. She also holds a research faculty appointment with the University at Albany School of Public Health, Health Policy, Management and Behavior Department.

Leah Hines, MPH, is a research scientist in the NYS Department of Health's Bureau of Occupational Health and Injury Prevention. She participates in all phases of injury research and surveillance, and contributes directly toward problem definition, study design, execution, analyses, and interpretation and presentation of results. She identifies injury risk factors and outcomes; monitors and evaluates the effects of risk exposure at home, at work, and in the community; and conducts exposure investigations and surveil-lance to identify and reduce health risks. She obtained her MPH with a concentration in Epidemiology from the University at Albany School of Public Health.

Brian Armour, PhD, is the associate director of science for the Centers for Disease Control and Prevention Office on Smoking and Health (OSH). Prior to joining OSH, he served as a senior economist with the Division of Human Development and Disability in the National Center on Birth Defects and Developmental Disabilities. His research interests include the health and wellness of people with disabilities, physician financial incentives, the quality of health care, and the economics of smoking.

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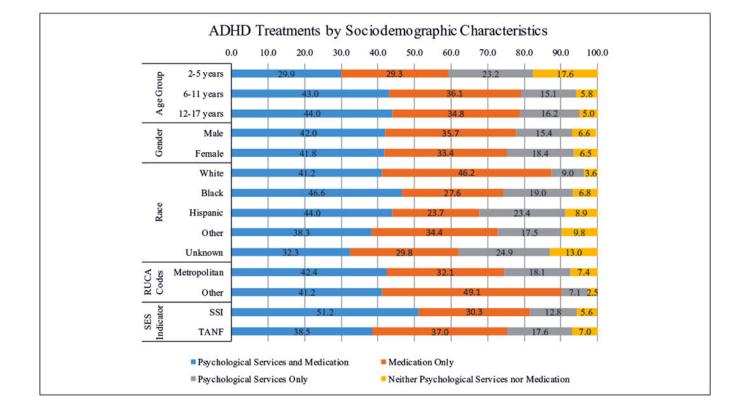


Figure 1.

Proportion of New York State children in Medicaid with ADHD receiving different treatments by sociodemographic characteristics, 2013.

Note. RUCA = rural–urban commuting area; SES = socioeconomic status; SSI =

Supplemental Security Income; TANF = Temporary Assistance for Needy Families.

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Table 1.

Sociodemographic Characteristics of All New York State Children in Medicaid Aged 2 to 17 Years, All Children in Medicaid Aged 2 to 17 Years With ADHD, and Children With ADHD Grouped by Treatment Received, 2013.

Guo et al.

| 253; 253; | | All children in Medicaid | | A | All children in Medicaid with ADHD | ADHD | |
|--|-----------------------------|--|--|---|--|---|---|
| Age group (vensi) 1.553 (127) 2-5 403.352 (290) 6,692 (8.9) 2.000 (6.3) 1.958 (7.4) 1.553 (127) 6-11 536.622 (38.6) 42.816 (56.6) 18.406 (57.7) 15.468 (58.3) 6.455 (52.7) 12-17 450.602 (32.4) 2.5,140 (34.6) 11,499 (36.0) 9.088 (34.3) 4.245 (34.6) Gender 7 7.532 (51.5) 55.10 (72.9) 23.327 (73.1) 19.653 (7.4) 1.553 (12.7) Male 716.325 (51.5) 55.10 (72.9) 2.3.327 (73.1) 19.653 (7.4) 8.481 (69.2) Male 716.325 (51.5) 55.10 (72.9) 2.3.327 (73.1) 19.663 (7.1) 8.481 (69.2) Male 716.325 (51.5) 55.10 (72.9) 2.3.327 (73.1) 19.663 (7.1) 8.481 (69.2) Nuic 379.826 (27.3) 31.889 (42.2) 13.136 (41.2) 14.73 (55.6) 2.376 (30.8) Nuic 717.041 (12.7) 50.94 (67.2) 1.376 (64.9) 1.746 (55.6) 1.246 (55.6) Nucvu 177.044 (12.7) 5.938 (67.7) 1.366 (4.9) 1.466 (5.6) 1.270 (8.9.4) | Characteristics | Overall $(n = 1, 390, 666)$ $n \ (9_6)$ | Overall ADHD cohort $(n = 75,652) n$ (%) | Received both psychological services and medication $(n = 31,905; 42.2\%) n (\%)$ | Received medication only (n = 26,514; 35.0%) n (%) | Received psychological services only $(n = 12,253;$ 16.2%) $n (0,0)$ | Received neither medication nor psychological services ($n = 4,980; 6.6\%$) $n (\%)$ |
| 2-5 403.352 (29.0) 6.692 (8.9) $2.000 (6.3)$ $1.958 (7.4)$ $1.553 (12.7)$ $6-11$ $336.022 (38.6)$ $42.816 (56.6)$ $18.406 (57.7)$ $15.468 (58.3)$ $6.455 (52.7)$ $12-17$ $450.602 (32.4)$ $26.144 (34.6)$ $11.499 (56.0)$ $9.088 (34.3)$ $4.245 (32.7)$ $12-17$ $450.602 (32.4)$ $26.144 (34.6)$ $11.499 (56.0)$ $9.088 (34.3)$ $4.246 (32.9)$ $dender$ $716.325 (51.5)$ $55.110 (72.2)$ $8.578 (26.9)$ $6.861 (25.9)$ $3.772 (30.8)$ $Male$ $716.325 (51.5)$ $3.110 (72.9)$ $2.35.78 (26.9)$ $6.861 (25.9)$ $3.772 (30.8)$ $Male$ $716.325 (51.5)$ $3.110 (72.9)$ $3.372 (71.1)$ $9.653 (74.1)$ $8.781 (69.2)$ $Male$ $716.325 (51.5)$ $3.110 (72.9)$ $3.732 (71.1)$ $9.681 (25.9)$ $3.772 (30.8)$ $Male$ $717.014 (12.7)$ $9.928 (27.3)$ $14.73 (55.6)$ $2.876 (23.5)$ $2.876 (23.5)$ $Male$ $11.77014 (12.7)$ $5.909 (67.1)$ $1.937 (6.1)$ $1.7704 (6.6)$ $8.47 (7.2)$ | Age group (years) | | | | | | |
| 6-11 $536,622 (38.6)$ $42816 (56.6)$ $18,406 (57.7)$ $15,468 (58.3)$ $6455 (52.7)$ $12-17$ $450,692 (32.4)$ $26,144 (34.6)$ $11,499 (36.0)$ $9088 (34.3)$ $4.235 (34.5)$ Gender $716,325 (51.5)$ $55,110 (72.9)$ $23,3327 (73.1)$ $19,655 (74.1)$ $8,481 (69.2)$ Male $716,325 (51.5)$ $55,110 (72.9)$ $23,3327 (73.1)$ $19,655 (74.1)$ $8,481 (69.2)$ Male $716,325 (51.5)$ $55,110 (72.9)$ $8,578 (26.9)$ $6.861 (25.9)$ $3.772 (30.8)$ Male $716,325 (51.5)$ $31,389 (42.2)$ $13,316 (41.2)$ $13,316 (41.2)$ $2372 (31.8)$ Mine $717,014 (12.7)$ $31,389 (42.2)$ $13,316 (41.2)$ $1,730 (6.6)$ $287 (3.6)$ Unknown $117,014 (12.7)$ $5,638 (6.7)$ $1,337 (6.1)$ $1,740 (6.6)$ $884 (7.2)$ Unknown $117,914 (12.7)$ $5,638 (6.7)$ $1,337 (6.1)$ $1,740 (6.6)$ $884 (7.2)$ Unknown $117,914 (12.7)$ $5,536 (6.7)$ $1,337 (6.1)$ $1,740 (6.6)$ $884 (7.2)$ | 2-5 | 403,352 (29.0) | 6,692 (8.9) | 2,000 (6.3) | 1,958 (7.4) | 1,553 (12.7) | 1,181 (23.7) |
| 12-17 450.692 ($3.2.4$) 26.144 ($3.4.6$) 11.499 (36.0) 9.088 (34.3) 4.245 (34.6) Gender 716.325 (51.5) 55.110 (72.9) 23.327 (73.1) 19653 (74.1) 8.481 (69.2) Male 716.325 (51.5) 55.110 (72.9) 23.327 (73.1) 19653 (74.1) 8.481 (69.2) Male 716.325 (51.5) 20.542 (77.2) 8.578 (56.9) 6.861 (25.9) 3.772 (30.8) Race 57382 (27.3) 31.889 (42.2) 31.386 (41.2) 14.743 (55.6) 2.876 (36.5) Nuice 379826 (73.1) 14.612 (19.3) 8.488 (65.5) 4.364 (17.2) 2.876 (36.5) Hispanic 1171914 (12.7) 5.0396 (6.7) 1.337 (6.1) 1.746 (5.5) 1.267 (36.5) Unknown 171914 (12.4) 4.851 (6.4) 1.366 (4.9) 1.366 (4.9) 1.366 (4.9) 1.366 (4.9) 1.366 (4.9) 1.366 (4.9) 1.366 ($7.5.5$) 2.876 ($7.5.5$) 2.876 ($7.5.5$) Unknown 171914 (12.4) 4.851 (6.4) 1.36 | 6-11 | 536,622 (38.6) | 42,816 (56.6) | 18,406 (57.7) | 15,468 (58.3) | 6,455 (52.7) | 2,487 (49.9) |
| Gender Male 716,325 (51.5) 55.110 (72.9) 23.327 (73.1) 19,653 (74.1) 8,481 (69.2) Male 716,325 (51.5) 55.110 (72.9) 2.3.327 (73.1) 19,653 (74.1) 8,481 (69.2) Race 674,341 (48.5) 20,542 (27.2) 8,578 (26.9) 6.861 (25.9) 3.772 (30.8) Race 779,826 (27.3) 31.889 (42.2) 13.136 (41.2) 14,743 (55.6) 2.876 (23.5) White 379,826 (77.3) 31.889 (42.2) 13.136 (41.2) 14,743 (55.6) 2.876 (36.8) White 379,826 (77.3) 31.889 (42.2) 13.136 (41.2) 14,743 (55.6) 2.876 (36.8) Hispanic 117,7014 (12.7) 5,039 (6.7) 1,937 (6.1) 1,740 (66.6) 884 (7.2) Unknown 171,914 (12.4) 4,851 (6.4) 1,566 (4.9) 1,740 (5.5) 1,208 (9.9) RICA codes 177,014 (12.7) 5,039 (6.7) 1,356 (4.1) 1,740 (5.5) 1,208 (9.9) Metropolian 1,281,932 (92.6) 6,538 (82.7) 2,538 (16.9) 6,420 (24.2) 928 (7.6) Other | 12–17 | 450,692 (32.4) | 26,144 (34.6) | 11,499 (36.0) | 9,088 (34.3) | 4,245 (34.6) | 1,312 (26.4) |
| | Gender | | | | | | |
| Female $674.341 (48.5)$ $20.542 (27.2)$ $8.578 (26.9)$ $6.861 (25.9)$ $3.772 (30.8)$ RaceRace $379.826 (27.3)$ $31.889 (42.2)$ $13.136 (41.2)$ $14.713 (55.6)$ $2.876 (23.5)$ Black $250.687 (18.0)$ $14.612 (19.3)$ $6.808 (21.3)$ $4.031 (15.2)$ $2.876 (23.5)$ Black $250.687 (18.0)$ $14.612 (19.3)$ $6.808 (21.3)$ $4.031 (15.2)$ $2.876 (23.5)$ Black $250.687 (18.0)$ $14.612 (19.3)$ $6.808 (21.3)$ $4.031 (15.2)$ $2.876 (23.5)$ Other $1177014 (12.7)$ $5.059 (6.7)$ $19.241 (2.4)$ $8.458 (25.5)$ $4.554 (17.2)$ $4.567 (36.8)$ Other $1171014 (12.7)$ $5.059 (6.7)$ $1.927 (6.1)$ $1.770 (6.6)$ $8.84 (7.2)$ Unknown $1711914 (12.4)$ $4.851 (6.4)$ $1.927 (6.1)$ $1.740 (6.6)$ $8.84 (7.2)$ Other $177014 (12.7)$ $5.059 (6.7)$ $1.937 (6.1)$ $1.740 (5.5)$ $8.84 (7.2)$ RUC A codes $1171914 (12.4)$ $4.851 (6.4)$ $1.937 (6.1)$ $1.740 (5.6)$ $8.84 (7.2)$ Metropolitan $1.288.195 (92.6)$ $6.2.58 (82.7)$ $26.522 (83.1)$ $20.094 (75.8)$ $11.325 (92.4)$ Other d $102.471 (7.4)$ $13.064 (17.3)$ $5.383 (16.9)$ $6.420 (24.2)$ $928 (7.6)$ StS b indicator $103.181 (7.4)$ $21.920 (290)$ $11.229 (35.2)$ $6.444 (25.1)$ $92.8 (7.6)$ StS b indicator $1.03.181 (7.4)$ $21.920 (290)$ $11.229 (35.2)$ $6.444 (25.1)$ $92.81 (7.6)$ T | Male | 716,325 (51.5) | 55,110 (72.9) | 23,327 (73.1) | 19,653 (74.1) | 8,481 (69.2) | 3,649 (73.3) |
| RaceNine379,826 (27.3)31,889 (42.2)13,136 (41.2) $14,743 (55.6)$ $2.876 (23.5)$ White $379,826 (27.3)$ $31,889 (42.2)$ $13,136 (41.2)$ $14,743 (55.6)$ $2.876 (23.5)$ Black $250,687 (18.0)$ $14,612 (19.3)$ $6,808 (21.3)$ $4,031 (15.2)$ $2.778 (22.7)$ Hispanic $411,225 (29.6)$ $19,241 (25.4)$ $8,458 (26.5)$ $4,554 (17.2)$ $4,507 (36.8)$ Other $177,014 (12.7)$ $5,059 (6.7)$ $1,937 (6.1)$ $1,740 (6.6)$ $884 (7.2)$ Unknown $171,914 (12.4)$ $4,851 (6.4)$ $1,566 (4.9)$ $1,740 (5.5)$ $1,208 (9.9)$ RUCA codes $171,914 (12.4)$ $4,851 (6.4)$ $1,566 (4.9)$ $1,740 (5.5)$ $1,208 (9.9)$ RUCA codes $171,914 (12.4)$ $4,851 (6.4)$ $1,566 (4.9)$ $1,740 (5.5)$ $1,208 (9.9)$ RUCA codes $171,914 (12.4)$ $2,851 (6.4)$ $1,566 (4.9)$ $1,746 (5.5)$ $1,208 (9.9)$ RUCA codes $171,914 (12.4)$ $2,851 (6.4)$ $1,566 (4.9)$ $1,746 (5.5)$ $1,208 (9.9)$ Metropolitan $1,288,195 (92.6)$ $6,2588 (82.7)$ $26,522 (83.1)$ $20,094 (75.8)$ $11,325 (92.4)$ Other ^d $102,471 (7.4)$ $13,064 (17.3)$ $5,333 (16.9)$ $6,420 (24.2)$ $928 (7.6)$ Stb ^b indicator $103,181 (7.4)$ $21,920 (29.0)$ $11,229 (35.2)$ $6,644 (25.1)$ $92,813 (7.6)$ Stl $103,181 (7.4)$ $21,920 (29.0)$ $11,229 (35.2)$ $6,644 (25.1)$ $9,440 (77.0)$ TANF $1,288,92.6)$ < | Female | 674,341 (48.5) | 20,542 (27.2) | 8,578 (26.9) | 6,861 (25.9) | 3,772 (30.8) | 1,331 (26.7) |
| White $379, 826$ (27.3) $31, 889$ (4.22) 13.136 (41.2) $14, 743$ (55.6) 2876 (23.5)Black $250, 687$ (18.0) $14, 612$ (19.3) $6, 808$ (21.3) $4, 031$ (15.2) $2, 778$ (22.7)Hispanic $411, 225$ (29.6) $19, 241$ (25.4) $8, 458$ (26.5) $4, 554$ (17.2) $4, 507$ (36.8)Other $177, 014$ (12.7) $5, 059$ (6.7) $1, 937$ (6.1) $1, 740$ (6.6) 884 (7.2)Unknown $171, 914$ (12.7) $4, 851$ (6.4) $1, 566$ (4.9) $1, 746$ (5.5) $1, 208$ (9.9)RUCA codes $177, 014$ (12.7) $4, 851$ (6.4) $1, 566$ (4.9) $1, 446$ (5.5) $1, 208$ (9.9)RUCA codes $171, 914$ (12.4) $4, 851$ (6.4) $1, 566$ (4.9) $1, 446$ (5.5) $1, 208$ (9.9)RUCA codes $171, 914$ (12.4) $1, 3064$ (17.3) $26, 522$ (83.1) $20, 094$ (75.8) $11, 325$ (92.4)Metropolitan $1, 288, 195$ (92.6) $6, 2588$ (82.7) $26, 522$ (83.1) $20, 094$ (75.8) $11, 325$ (92.4)Other $1, 02, 471$ (7.4) $1, 02, 411$ (7.4) $5, 333$ (16.9) $6, 420$ (24.2) 928 (7.6)SES ^b indicator $102, 471$ (7.4) $21, 920$ (29.0) $11, 229$ (35.2) $6, 644$ (25.1) $2, 813$ (23.0)SSI $103, 181$ (7.4) $23, 732$ (71.0) $20, 676$ (64.8) $9, 6644$ (25.1) $9, 440$ (77.0)SAI $1, 287, 692.6$ $5, 37, 72$ (71.0) $20, 676$ (64.8) $9, 440$ (77.0) | Race | | | | | | |
| $ \begin{array}{llllllllllllllllllllllllllllllllllll$ | White | 379,826 (27.3) | 31,889 (42.2) | 13,136 (41.2) | 14,743 (55.6) | 2,876 (23.5) | 1,134 (22.8) |
| Hispanic $411,225$ (29.6) $19,241$ (25.4) $8,458$ (26.5) $4,554$ (17.2) $4,507$ (36.8)Other $177,014$ (12.7) $5,059$ (6.7) $1,937$ (6.1) $1,740$ (6.6) 884 (7.2)Unknown $171,914$ (12.4) $4,851$ (6.4) $1,937$ (6.1) $1,740$ (6.6) 884 (7.2)Unknown $171,914$ (12.4) $4,851$ (6.4) $1,566$ (4.9) $1,740$ (5.5) $1,208$ (9.9)RUCA codes $2,538$ (82.7) $26,522$ (83.1) $20,094$ (75.8) $11,325$ (92.4)Metropolitan $1,288,195$ (92.6) $62,588$ (82.7) $26,522$ (83.1) $20,094$ (75.8) $11,325$ (92.4)Other ^a $102,471$ (7.4) $13,064$ (17.3) $5,383$ (16.9) $6,420$ (24.2) 928 (7.6)SES ^b indicatorSSI $103,181$ (7.4) $21,920$ (29.0) $11,229$ (35.2) $6,644$ (25.1) $2,813$ (23.0)TANF $1,287,485$ (92.6) $53,732$ (71.0) $20,676$ (64.8) $19,870$ (74.9) $9,440$ (77.0) | Black | 250,687 (18.0) | 14,612 (19.3) | 6,808 (21.3) | 4,031 (15.2) | 2,778 (22.7) | 995 (20.0) |
| | Hispanic | 411,225 (29.6) | 19,241 (25.4) | 8,458 (26.5) | 4,554 (17.2) | 4,507 (36.8) | 1,722 (34.6) |
| $ \begin{array}{c cccc} \mbox{Unknown} & 171,914 (12.4) & 4,851 (6.4) & 1,566 (4.9) & 1,446 (5.5) & 1,208 (9.9) \\ \mbox{RUCA codes} & & & & & & & & & & & & & & & & & & &$ | Other | 177,014 (12.7) | 5,059 (6.7) | 1,937 (6.1) | 1,740 (6.6) | 884 (7.2) | 498 (10.0) |
| RUCA codes RUCA codes Metropolitan 1,288,195 (92.6) 62,588 (82.7) 26,522 (83.1) 20,094 (75.8) 11,325 (92.4) Other ⁴ 102,471 (7.4) 13,064 (17.3) 5,383 (16.9) 6,420 (24.2) 928 (7.6) SES b indicator SSI 103,181 (7.4) 13,064 (17.3) 5,383 (16.9) 6,644 (25.1) 928 (7.6) TANF 1,287,485 (92.6) 53,732 (71.0) 20,676 (64.8) 19,870 (74.9) 9,440 (77.0) | Unknown | 171,914 (12.4) | 4,851 (6.4) | 1,566(4.9) | 1,446 (5.5) | 1,208(9.9) | 631 (12.7) |
| Metropolitan 1,288,195 (92.6) 62,588 (82.7) 26,522 (83.1) 20,094 (75.8) 11,325 (92.4) Other ^a 102,471 (7.4) 13,064 (17.3) 5,383 (16.9) 6,420 (24.2) 928 (7.6) SES ^b indicator 5,383 (16.9) 6,420 (24.2) 928 (7.6) 928 (7.6) SES ^b indicator 103,181 (7.4) 13,064 (17.3) 5,383 (16.9) 6,644 (25.1) 2,813 (23.0) TANF 1,287,485 (92.6) 53,732 (71.0) 20,676 (64.8) 19,870 (74.9) 9,440 (77.0) | RUCA codes | | | | | | |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | Metropolitan | 1,288,195 (92.6) | 62,588 (82.7) | 26,522 (83.1) | 20,094 (75.8) | 11,325 (92.4) | 4,647 (93.3) |
| SES ^b indicator SSI 103,181 (7.4) 21,920 (29.0) 11,229 (35.2) 6,644 (25.1) 2,813 (23.0) TANF 1,287,485 (92.6) 53,732 (71.0) 20,676 (64.8) 19,870 (74.9) 9,440 (77.0) | Other ^a | 102,471 (7.4) | 13,064 (17.3) | 5,383 (16.9) | 6,420 (24.2) | 928 (7.6) | 333 (6.7) |
| SSI 103,181 (7.4) 21,920 (29.0) 11,229 (35.2) 6,644 (25.1) 2,813 (23.0) TANF 1,287,485 (92.6) 53,732 (71.0) 20,676 (64.8) 19,870 (74.9) 9,440 (77.0) | SES^b indicator | | | | | | |
| TANF 1,287,485 (92.6) 53,732 (71.0) 20,676 (64.8) 19,870 (74.9) 9,440 (77.0) | ISS | 103,181 (7.4) | 21,920 (29.0) | 11,229 (35.2) | 6,644 (25.1) | 2,813 (23.0) | 1,234 (24.8) |
| | TANF | 1,287,485 (92.6) | 53,732 (71.0) | 20,676 (64.8) | 19,870 (74.9) | 9,440 (77.0) | 3,746 (75.2) |
| <i>Note</i> . SSI = Supplemental Security Income; TANF = Temporary Assistance for Needy Families; SES = socioeconomic status; RUCA = rural-urban commuting area. | <i>Note</i> . SSI = Supplet | mental Security Income; TA | NF = Temporary Assistanc | ce for Needy Families; SES = socie | economic status; RUCA = rur | al-urban commuting area. | |

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 $^{a}\mathrm{Other}$ includes micropolitan, small town, rural and out of state/unknown.

 $b_{
m SES:}$ SSI and TANF.

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Table 2.

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Total Medicaid Costs and Per Child Mean and Median Cost for All New York State Children in Medicaid Aged 2 to 17 Years, All Children in Medicaid ADHD Grouped by Treatments Received, 2013.

| | All children in Medicaid | Medicaid | | | | | | | All children in N | All children in Medicaid with ADHD | | | | | | |
|--------------------------------------|---|---------------|---------------------|----------------|---|--------------------|-------------------|------------------------------------|--------------------------|------------------------------------|----------------|--------------------------------------|------------------|--------------------|-------------------|--|
| | | | Overall ADHD cohort | HD cohort | Received both psychological services and medication | chological service | s and medication | Recei | Received medication only | only | Received | Received psychological services only | vices only | Received neither I | nedication nor ps | Received neither medication nor psychological services |
| | Total costs | Per child M | Total costs | Per child M | Total costs | Per child M | Per child median | Total costs | Per child M | Per child median | Total costs | Per child M | Per child median | Total costs | Per child M | Per child median |
| Total | US\$4,026,563,864 | US\$3,042 | US\$729,250,258 | US\$9,640 | US\$403,320,070 | US\$12,641 | US\$6,008 | US\$175,206,898 | US\$6,608 | US\$2,687 | US\$99,881,602 | US\$8,152 | US\$3,298 | US\$50,841,688 | US\$10,209 | US\$2,225 |
| Age group | | | | | | | | | | | | | | | | |
| 2-5 years | US\$1,038,994,557 | US\$2,661 | US\$45,652,342 | US\$6,822 | US\$18,377,496 | US\$9,189 | US\$5,690 | US\$10,340,1 12 | US\$5,281 | US\$2,874 | US\$9,936,172 | US\$6,398 | US\$3,363 | US\$6,998,562 | US\$5,926 | US\$2,347 |
| 6-11 years | US\$1,380,007,924 | US\$2,692 | US\$358,346,400 | US\$8,369 | US\$209,582,825 | US\$1 1,387 | US\$5,793 | US\$84,923,417 | US\$5,490 | US\$2,605 | US\$42,437,939 | US\$6,574 | US\$3,053 | US\$21,402,219 | US\$8,606 | US\$1,900 |
| 12–17 years | US\$1,607,561,384 | US\$3,823 | US\$325,251,516 | US\$12,441 | US\$175,359,749 | US\$15,250 | US\$6,590 | US\$79,943,369 | US\$8,797 | US\$2,800 | US\$47,507,491 | US\$11,191 | US\$3,753 | US\$22,440,907 | US\$17,104 | US\$3,501 |
| Gender | | | | | | | | | | | | | | | | |
| Male | US\$2,303,904,600 | US\$3,387 | US\$527,625,232 | US\$9,574 | US\$293,316,615 | US\$12,574 | US\$6,025 | US\$131,656,987 | US\$6,699 | US\$2,690 | US\$66,230,146 | US\$7,809 | US\$3,180 | US\$36,421,484 | US\$9,981 | US\$2,183 |
| Female | US\$1,722,659,265 | US\$2,678 | US\$201,625,026 | US\$9,815 | US\$1 10,003,455 | US\$12,824 | US\$5,981 | US\$43,549,911 | US\$6,347 | US\$2,682 | US\$33,651,456 | US\$8,921 | US\$3,554 | US\$14,420,204 | US\$10,834 | US\$2,390 |
| Race | | | | | | | | | | | | | | | | |
| White | US\$1,345,408,999 | US\$3,683 | US\$294,934,588 | US\$9,249 | US\$165,354,879 | US\$12,588 | US\$6,136 | US\$88,733,736 | US\$6,019 | US\$2,794 | US\$26,597,506 | US\$9,248 | US\$3,382 | US\$14,248,466 | US\$12,565 | US\$2,492 |
| Black | US\$706,407,894 | US\$3,057 | US\$154,333,823 | US\$10,562 | US\$92,395,954 | US\$13,572 | US\$5,984 | US\$28,876,470 | US\$7,164 | US\$2,458 | US\$23,998,637 | US\$8,639 | US\$3,090 | US\$9,062,763 | US\$9,108 | US\$2,1 10 |
| Hispanic | US\$1,089,442,820 | US\$2,751 | US\$157,771,353 | US\$8,200 | US\$90,648,430 | US\$10,717 | US\$5,864 | US\$27,088,996 | US\$5,948 | US\$2,567 | US\$28,795,665 | US\$6,389 | US\$3,228 | US\$11,238,263 | US\$6,526 | US\$1,935 |
| Other | US\$432,143,018 | US\$2,567 | US\$51,193,856 | US\$10,1 19 | US\$29,234,470 | US\$15,093 | US\$6,181 | US\$10,419,899 | US\$5,988 | US\$2,549 | US\$7,1 11,635 | US\$8,045 | US\$3,406 | US\$4,427,852 | US\$8,891 | US\$2,1 12 |
| Unknown | US\$453,161,133 | US\$2,785 | US\$71,016,637 | US\$14,640 | US\$25,686,338 | US\$16,403 | US\$5,818 | US\$20,087,797 | US\$13,892 | US\$2,774 | US\$13,378,159 | US\$ 11,075 | US\$3,916 | US\$11,864,343 | US\$18,802 | US\$4,588 |
| RUCA codes | | | | | | | | | | | | | | | | |
| Metropolitan | US\$3,662,798,852 | US\$2,988 | US\$620,968,436 | US\$9,922 | US\$341,251,684 | US\$12,867 | US\$6,016 | US\$139,985,852 | US\$6,967 | US\$2,657 | US\$92,670,242 | US\$8,183 | US\$3,312 | US\$47,060,659 | US\$10,127 | US\$2,209 |
| Other ^a | US\$363,765,012 | US\$3,725 | US\$108,281,822 | US\$8,289 | US\$62,068,386 | US\$1 1,530 | US\$5,965 | US\$35,221,046 | US\$5,486 | US\$2,764 | US\$7,211,360 | US\$7,771 | US\$3,097 | US\$3,781,029 | US\$11,354 | US\$2,471 |
| ${ m SES}^b$ indicator | | | | | | | | | | | | | | | | |
| ISS | US\$1,591,074,254 | US\$16,194 | US\$350,141,830 | US\$15,974 | US\$200,734,553 | US\$17,876 | US\$8,060 | US\$86,004,801 | US\$12,945 | US\$4,034 | US\$39,522,051 | US\$14,050 | US\$4,628 | US\$23,880,425 | US\$19,352 | US\$4,585 |
| TANF | US\$2,435,489,610 | US\$1,987 | US\$379,108,428 | US\$7,056 | US\$202,585,517 | US\$9,798 | US\$5,274 | US\$89,202,097 | US\$4,489 | US\$2,448 | US\$60,359,551 | US\$6,394 | US\$3,020 | US\$26,961,263 | US\$7,197 | US\$1,954 |
| <i>Note</i> . SSI = Sup _l | Note: SSI = Supplemental Security Income; TANF = Temporary Assistance for Needy Families; SES = socioeconomic status; | Income; TAI | VF = Temporary | Assistance for | r Needy Families; | SES = socioe | conomic status; F | RUCA = rural-urban commuting area. | van commuting | g area. | | | | | | |

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 ${}^{a}\!$ Other includes micropolitan, small town, rural and out of state/unknown.

bSES: SSI and TANF.

| | | | | | | | | CIIIIULEII III MIGUICAIU MIUI ADUD | | | | | | |
|----------------------------|---------------------|---------------|-------------------|---|---------------------|-----------------|---------------------|------------------------------------|-----------------|--------------------------------------|---------------------|-----------------|--|---------------------|
| | Overall ADHD cohort | ID cohort | Received both | Received both psychological services and medication | services and | Receiv | ved medication only | only | Received p | Received psychological services only | rvices only | Received neithe | Received neither medication nor psychological services | : psychological |
| | Total costs | Per child M | Total costs | Per child M | Per child median | Total costs | Per child M | Per child median | Total costs | Per child M | Per child median | Total costs | Per child M | Per child median |
| Total | US\$331,510,569 | US\$4,389 | US\$208,197,408 | US\$6,526 | US\$3,774 | US\$67,882,677 | US\$2,560 | US\$ 1,455 | US\$40,144,650 | US\$3,297 | US\$1,485 | US\$15,285,833 | US\$3,099 | US\$413 |
| Age group (years) | ars) | | | | | | | | | | | | | |
| 2-5 | US\$ 18,829,873 | US\$2,825 | US\$9,510,589 | US\$4,755 | US\$3,062 | US\$3,536,453 | US\$ 1,806 | US\$ 1,089 | US\$4,135,427 | US\$2,684 | US\$1,260 | US\$1,647,405 | US\$1,412 | US\$380 |
| 6-11 | US\$181,448,925 | US\$4,243 | US\$ 1 18,587,079 | US\$6,443 | US\$3,864 | US\$37,384,713 | US\$2,417 | US\$ 1,497 | US\$19,1 12,283 | US\$2,977 | US\$1,478 | US\$6,364,850 | US\$2,579 | US\$394 |
| 12–17 | US\$131,231,771 | US\$5,028 | US\$80,099,739 | US\$6,966 | US\$3,782 | US\$26,961,512 | US\$2,967 | US\$1,464 | US\$16,896,941 | US\$4,009 | US\$1,589 | US\$7,273,578 | US\$5,608 | US\$515 |
| Gender | | | | | | | | | | | | | | |
| Male | US\$245,364,441 | US\$4,460 | US\$155,603,436 | US\$6,671 | US\$3,811 | US\$51,629,289 | US\$2,627 | US\$1,479 | US\$27,380,352 | US\$3,250 | US\$1,435 | US\$10,751,364 | US\$2,974 | US\$414 |
| Female | US\$86,146,127 | US\$4,201 | US\$52,593,972 | US\$6,131 | US\$3,674 | US\$ 16,253,388 | US\$2,369 | US\$1,386 | US\$12,764,298 | US\$3,403 | US\$1,601 | US\$4,534,470 | US\$3,443 | US\$406 |
| Race | | | | | | | | | | | | | | |
| White | US\$124,992,574 | US\$3,922 | US\$77,728,853 | US\$5,917 | US\$3,635 | US\$35,218,207 | US\$2,389 | US\$1,620 | US\$8,399,834 | US\$2,935 | US\$1,237 | US\$3,645,681 | US\$3,232 | US\$369 |
| Black | US\$77,1 13,410 | US\$5,290 | US\$52,403,899 | US\$7,697 | US\$4,034 | US\$1 1,586,591 | US\$2,874 | US\$1,316 | US\$10,013,356 | US\$3,637 | US\$1,491 | US\$3,109,564 | US\$3,157 | US\$435 |
| Hispanic | US\$80,137,165 | US\$4,174 | US\$52,643,241 | US\$6,224 | US\$3,843 | US\$ 10,374,967 | US\$2,278 | US\$1,239 | US\$13,469,725 | US\$3,001 | US\$1,563 | US\$3,649,232 | US\$2,145 | US\$407 |
| Other | US\$21,741,707 | US\$4,310 | US\$13,793,039 | US\$7,121 | US\$3,678 | US\$4,265,622 | US\$2,452 | US\$1,278 | US\$3,032,415 | US\$3,470 | US\$1,520 | US\$650,63 1 | US\$1,320 | US\$364 |
| Unknown | US\$27,525,713 | US\$5,692 | US\$1 1,628,376 | US\$7,426 | US\$3,619 | US\$6,437,291 | US\$4,452 | US\$1,335 | US\$5,229,321 | US\$4,361 | US\$1,853 | US\$4,230,725 | US\$6,769 | US\$591 |
| RUCA codes | | | | | | | | | | | | | | |
| Metropolitan | n US\$284,030,777 | US\$4,547 | US\$179,500,723 | US\$6,768 | US\$3,829 | US\$52,708,445 | US\$2,623 | US\$1,398 | US\$37,932,692 | US\$3,372 | US\$1,525 | US\$13,888,917 | US\$3,019 | US\$418 |
| Other ^a | US\$47,479,791 | US\$3,636 | US\$28,696,685 | US\$5,33 1 | US\$3,523 | US\$15,174,231 | US\$2,364 | US\$ 1,664 | US\$2,21 1,958 | US\$2,389 | US\$1,047 | US\$1,396,916 | US\$4,220 | US\$336 |
| SES ^b indicator | | | | | | | | | | | | | | |
| ISS | US\$143,451,728 | US\$6,554 | US\$96,894,204 | US\$8,629 | US\$4,456 | US\$26,109,426 | US\$3,930 | US\$ 1,690 | US\$14,148,215 | US\$5,071 | US\$1,896 | US\$6,299,883 | US\$5,143 | US\$497 |
| TANF | US\$ 188,058,840 | US\$3,506 | US\$1 1 1,303,204 | US\$5,383 | US\$3,474 | US\$41,773,251 | US\$2,102 | US\$1,395 | US\$25,996,435 | US\$2,770 | US\$1,400 | US\$8,985,950 | US\$2,424 | US\$392 |

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 a Other includes micropolitan, small town, rural and out of state/unknown.

 $b_{
m SES}$: SSI and TANF.

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ADHD-Related Total Medicaid Costs and Per Child Mean and Median Cost for All New York State Children With ADHD Grouped by Treatments Received, 2013.

Table 3.