



Appendix B

Overview of Social and Economic Costs of Unmanaged ADHD The Social and Economic Impact of School Supports and Services

The American Medical Association's Council on Scientific Affairs has stated, "Overall, ADHD is one of the best-researched disorders in medicine, and the overall data on its validity are far more compelling than for many medical conditions." ADHD is the most prevalent neurodevelopmental psychiatric disorder in children and often persists into adulthood. ADHD is highly heritable, although environmental factors may also contribute to its development and expression.²

Counseling, behavior therapy, medication, skills training, and educational supports are all significant components of multimodal treatment for ADHD.³ About 11% of U.S. children,⁴ —approximately 6.5 million—have a current ADHD diagnosis, equivalent to roughly one in nine children. At least two-thirds of individuals with ADHD have one or more coexisting conditions. A considerable number of educational disabilities recognized under the

¹ Statement of the American Medical Association's Council on Scientific Affairs in 1998; See *Practice Parameters for the Assessment and Treatment of Children and Adolescents with Attention-Deficit/Hyperactivity Disorder*, 46:7 Journal of the American Academy of Child and Adolescent Psychiatry 894 (2007), available at http://www.aacap.org/App_Themes/AACAP/docs/practice_parameters/jaacap_adhd_2007.pdf

² CHADD.org, About ADHD, The Science of ADHD/Causes and Brain Chemistry. <https://chadd.org/about-adhd/the-science-of-adhd/> ; See also, Jalpa A. Doshi., et al., *Economic Impact of Childhood and Adult Attention-Deficit/Hyperactivity Disorder in the United States*, 51:10 Journal of the American Academy of Child and Adolescent Psychiatry 990 (2012). DOI: 10.1016/j.jaac.2012.07.008

³ See, The MTA Cooperative Group, *A 14-Month Randomized Clinical Trial of Treatment Strategies for Attention-Deficit/Hyperactivity Disorder*, 56:12 Journal of the American Medical Association (1999), available at <http://archpsyc.jamanetwork.com/article.aspx?articleid=205525> ; See also, CHADD, Understanding ADHD, About ADHD <https://chadd.org/about-adhd/treatment-of-adhd/>

⁴ M. L., Claussen, A. H., Bitsko, R. H., Katz, S. M., Newsome, K., Blumberg, S. J., et al. (2024, May-Jun). ADHD Prevalence Among U.S. Children and Adolescents in 2022: Diagnosis, Severity, Co-Occurring Disorders, and Treatment. *J Clin Child Adolesc Psychol*, 53(3), 343-360. <https://doi.org/10.1080/15374416.2024.2335625> which revealed a current prevalence of 11.4% in children 3 to 17 years of age.

Individuals with Disabilities Education Act (IDEA) commonly coexist with ADHD. Many such educational disabilities occur at higher rates in individuals with ADHD than in those without ADHD. For example, up to 50% of children with ADHD have a coexisting specific learning disability (SLD), compared to 5% of children without ADHD.⁵ Approximately 31% to 45% of students with LDs have ADHD.⁶ Therefore, discussions of students with ADHD must also account for the substantial overlap between ADHD and learning disabilities. Research shows *that the likelihood of children with ADHD needing school services, including special education and related services, increases with each coexisting condition.*⁷

ADHD in School

In general, children and adolescents with ADHD have a heightened risk of school failure and youth with ADHD have substantially lower standardized achievement scores and grades, along with higher rates of grade retention and school dropout, than their same-age peers.⁸ Research findings include the following:

- A U.S. study of nearly 30,000 adults found that participants with ADHD were twice as likely as those without ADHD to have failed to graduate from high school on time.⁹
- A nationwide cohort study of more than 750,000 Scottish schoolchildren used linked national registers to identify children who had been prescribed ADHD medication. Even while receiving medication, these children were more than three times as likely as

⁵ CHADD, Understanding ADHD, About ADHD, Coexisting conditions, <https://chadd.org/about-adhd/coexisting-conditions/>

⁶ DuPaul, George J., *Comorbidity of LD and ADHD: Implications of DSM-5 for Assessment and Treatment*, *Journal of Learning Disabilities*, Jan-Feb 46(1):43-51 (2013), abstract available at <https://pubmed.ncbi.nlm.nih.gov/23144063/>

⁷ Larson, Kandyce et al. (2011). *Patterns of Comorbidity, Functioning, and Service Use for US Children With ADHD*, 2007. *Pediatrics*, 127(3):462-470, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3065146/>

⁸ Barkley, Russell A. (Ed), *Attention-deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment* (4th ed), Part I, Chapter 6, *Educational Impairments in Children with ADHD*, (p. 169,) New York, NY, US: Guilford Press, Kindle Edition.

⁹ Breslau, Joshua, et al., *Childhood and adolescent onset psychiatric disorders, substance use, and failure to graduate high school on time*, *Journal of Psychiatric Research*, March (45) 3, 295-301 (2011) <https://www.sciencedirect.com/science/article/abs/pii/S0022395610002001>

peers without ADHD to experience low educational achievement and more than twice as likely to leave school before age 16. They were also more than eight times as likely to have a record of special educational needs, 50% more likely to experience an injury, and 40% more likely to be unemployed.¹⁰

- A meta-analysis of ten studies and 830 young people found that ADHD was strongly associated with poorer performance on measures of overall expressive, receptive, and pragmatic language.¹¹

Many of the symptoms of **ADHD reflect the executive function impairment inherent in ADHD**. Executive function refers to a wide range of central control processes in the brain that activate, integrate, and manage other brain functions. **Because of their impaired executive functions, many students with ADHD experience significant adverse educational impacts and would benefit from school services**, discussed further below. Executive-function challenges that may affect school performance include the following:

1. working memory and recall (holding facts in mind while manipulating information; accessing facts stored in long-term memory)
2. activation, arousal, and effort (getting started; paying attention; completing work)
3. emotion regulation (tolerating frustration; thinking before acting or speaking)
4. internalizing language (using self-talk to control one's behavior and direct future actions)

¹⁰ Fleming, Michael MSc, et al. , *Educational and Health Outcomes of Children Treated for Attention-Deficit/Hyperactivity Disorder*, Journal of the American Medical Association Pediatric, 171 (2017) 2017 <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2624340>

¹¹ Korrel, Hannah, et.al., *Research Review: Language problems in children with Attention-Deficit Hyperactivity Disorder – a systematic meta-analytic review*, Journal of Child Psychiatry and Psychology, June (58)6 (2017) <https://doi.org/10.1111/jcpp.12688>

5. complex problem-solving (breaking an issue into parts, analyzing those parts, and reorganizing them into new ideas or solutions)
6. sustaining focus (easily distracted by surrounding activities, sounds, or their own thoughts)¹²

The markedly high economic and societal costs associated with inadequate school supports and services for students with ADHD underscore the importance of identifying ADHD and providing appropriate interventions.

For example:

- One study found that, compared with people without ADHD, people with ADHD experienced employment rates 10–14% points lower, earnings approximately 33% lower, and social-assistance use 15 percentage points higher.¹³
- A 2025 study involving researchers affiliated with the University of Cambridge examined the prevalence of ADHD and autistic traits among people arrested by the London Metropolitan Police. The findings add to evidence that ADHD is disproportionately common among people who enter the criminal justice system.¹⁴
- A meta-analysis estimated the prevalence of ADHD among incarcerated populations at 25.5%, substantially higher than estimates for the general population.¹⁵
- Childhood ADHD is significantly associated with arrests, convictions, and incarceration during adolescence and adulthood, **but early**

¹² CHADD, Understanding ADHD, *The Science of ADHD*, <https://chadd.org/about-adhd/the-science-of-adhd/>; See also, Brown, Thomas E, Attention Deficit Disorder: The Unfocused Mind in Children and Adults (pp 20-58). New Haven, CT. Yale University Press Health and Wellness. (2005).

¹³ Fletcher, Jason M., *The effects of childhood ADHD on adult labor market outcomes*, Health Econ. Feb;23(2):159-81 (2014), abstract available at <https://pubmed.ncbi.nlm.nih.gov/23427026/>

¹⁴ Brown, D & Procyshyn, TL et al. *Neurodiversity in custody: Screening results for ADHD and autistic traits in individuals arrested by the London Metropolitan Police*. Criminal Behaviour and Mental Health; 10 Dec 2025; 10.1002/cbm.70018. <https://onlinelibrary.wiley.com/doi/10.1002/cbm.70018>

¹⁵ Young, S et al., *A meta-analysis of the prevalence of attention deficit hyperactivity disorder in incarcerated populations*, *Psychological Medicine*. 2015 Jan; 45(2): 247–258, (2015), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4301200/>

treatment of ADHD can change these outcomes.¹⁶

Evidence-based classroom interventions can provide behavioral support and skills training for students with ADHD. For example:

- Organizational Skills Training (OST) is a program provided by school professionals to improve organization, time management, and planning.¹⁷ A study conducted in twenty-two schools compared one hundred and eighty-six students in grades 3–5 who received OST with students who received treatment as usual. Children who received OST showed significant improvements in organizational skills and homework performance, according to both parent and teacher ratings. Improvements were sustained at the five-month follow-up.¹⁸
- Interventions have also been developed to help teachers respond effectively to children’s externalizing, or disruptive, classroom behaviors. A meta-analysis of 31 studies found that teacher-delivered interventions significantly reduced children’s externalizing behavior problems, including ADHD symptoms, and increased prosocial classroom behavior.¹⁹

We know how to educate students with ADHD if they are identified under Section 504 of the Rehabilitation Act of 1973 or IDEA, or any comparable legal protections for students that might be enacted by States. The earlier we identify a student with ADHD, the more effective the educational interventions.

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¹⁶ Mohr-Jensen, C. et al., *A meta-analysis and systematic review of the risks associated with childhood attention-deficit hyperactivity disorder on long-term outcome of arrests, convictions, and incarcerations*. *Clinical Psychology Review*, 48, 32-42, (2016), abstract available at <https://pubmed.ncbi.nlm.nih.gov/27390061/>

¹⁷ Abikoff, H. et al., *Remediating organizational functioning in children with ADHD: immediate and long-term effects from a randomized controlled trial*. *Journal of Consulting and Clinical Psychology*, 81(1), 113-128 (2013). Available at <https://pmc.ncbi.nlm.nih.gov/articles/PMC3549033/>

¹⁸ Nissley-Tsiopinis, J., et al. *School-based organizational skills training for students in grades 3-5: A cluster randomized trial*. *J Consult Clin Psychol*, 92(10), 674-691. (2024, Oct). <https://doi.org/10.1037/ccp0000909>

¹⁹ Aldabbagh, R. et al., *Systematic Review and Meta-Analysis of the Effectiveness of Teacher Delivered Interventions for Externalizing Behaviors*, *Journal of Behavioral Education*, 33, 233–274 (2024). available at <https://link.springer.com/article/10.1007/s10864-022-09491-4>