

CHADD's Advocacy & Public Policy Committee
Lunch and Learn Webinar Series



Analysis and Impact of Federal Healthcare and Education Policies

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CHADD.org/Policy-Positions

Our Calls to Action

- Defend access to FDA-approved treatments for ADHD by rejecting proposals that limit or undermine evidence-based approaches to care.
- Protect educational supports for students with ADHD by maintaining the Department of Education and fully enforcing laws like Section 504 and IDEA.
- Safeguard funding for ADHD and mental health research, ensuring continued investment in the development and evaluation of effective interventions for both children and adults.
- Preserve insurance coverage for ADHD care, across public and private plans, so that individuals and families can access the treatments and services they need to thrive.

CHADD.org/Policy-Positions



One Pager: Meeting
Takeaways and Call to
Action



CHADD Call to Action and Template Advocacy Materials



CHADD Website Advocacy Page

The Effects of Federal Healthcare and Education Policies: ADHD Myths and Realities

Max Wiznitzer, M.D.



CHADD Advocacy & Public Policy Committee Presentation

Disclosure

Dr. Wiznitzer is a member of the CHADD board of directors and co-chair of the professional advisory board

Discussion Points

- What is ADHD?
- Is ADHD a neurobiological disorder?
- Is ADHD overdiagnosed?
- ADHD Medication
 - Are parents/patients seeking medication?
 - Are medications being overprescribed?
 - Are stimulants a threat for patients?

WHAT IS ADHD?

Attention-Deficit/Hyperactivity Disorder

- Most common behavioral disorder of childhood
- Prevalence
 - Children: 7-10% (6.5 million)
 - Adults: 4-6% (15.5 million)
- Male/female ratio
 - Children 2-3:1
 - Adults1:1
- 40-80% persistence into adolescence/adulthood

ADHD Diagnostic Criteria

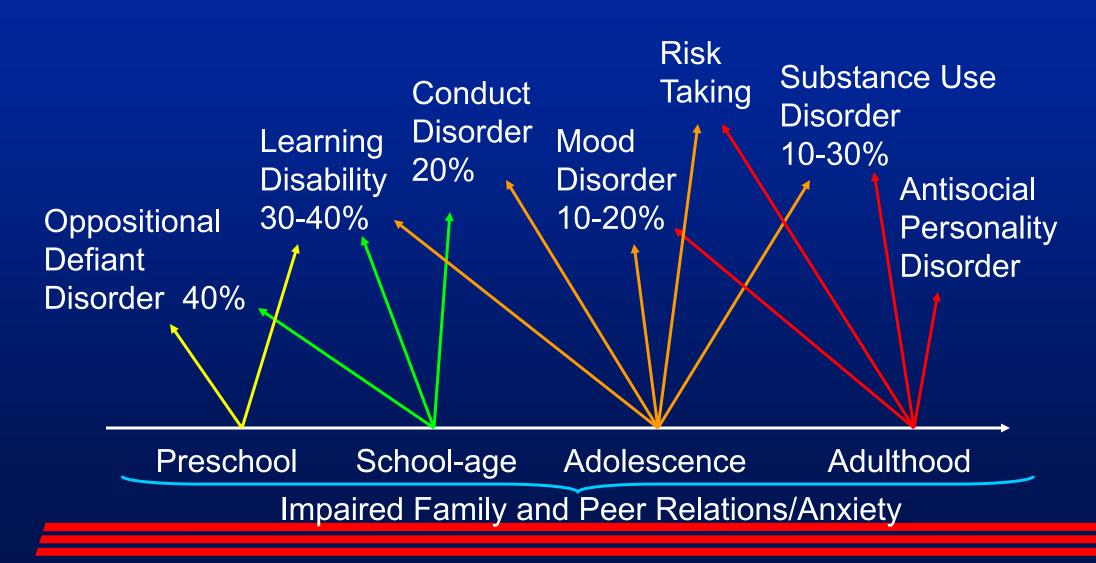
- Inattention inappropriate for developmental level
- Motor overactivity
- Impulsivity
- Onset before age 12 years
- Duration greater than 6 months
- Presence of symptoms in 2 or more settings
- Impairment in social, academic or occupational functioning
- Symptoms may fluctuate in severity over time



- Psychiatric disorders
 - Mood disorder
 - Anxiety disorder
 - Post-traumatic stress disorder
 - Oppositional-defiant disorder
 - Conduct disorder

- Sleep disorder
- Cognitive deficiency
- Learning disability
- Peripheral sensory deficit
- Medication effect
- Seizure disorder
- Neglect/abuse
- Difficult child
- Younger age in kindergarten

ADHD-Complications



Factors Impacting ADHD

BiologyGenetics
Environmental Cemperament Cognition/age



Inattention **Hyperactivity Impulsivity**

Psychosocial Discipline methods Family structure Family competence



Environment

Peer influences Neighborhood impact Access to care

History of ADHD

1902 Morbid Defects of Moral Control

1947 Minimal Brain Damage Syndrome

1962 Minimal Brain Dysfunction

1968 Hyperkinetic Syndrome of Childhood (DSM-II)

1980 ADD +/- Hyperactivity (DSM-III)

1987 ADHD (DSM-III-R) with overactivity/restlessness core

1994 ADHD (DSM-IV)

2013 ADHD (DSM-5)

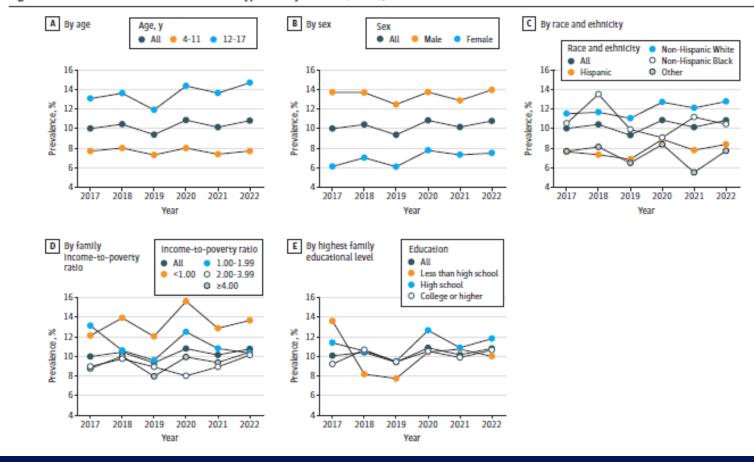
IS ADHD A NEUROBIOLOGICAL DISORDER OR ENVIRONMENTALLY INDUCED?

ADHD-Etiology

- Idiopathic/genetic
- Hypoxic-ischemic encephalopathy
- Traumatic brain injury
- CNS infection
- Inborn errors of metabolism
- External toxins
- Stroke
- Chromosomal disorders
- Medication effect

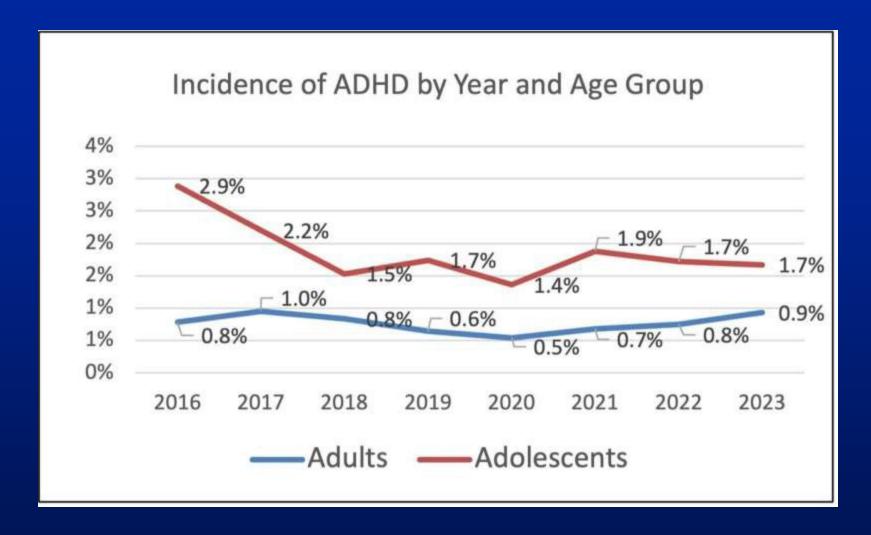
IS ADHD OVERDIAGNOSED?

Figure. Trends in Prevalence of Attention-Deficit Hyperactivity Disorder (ADHD), 2017-2022



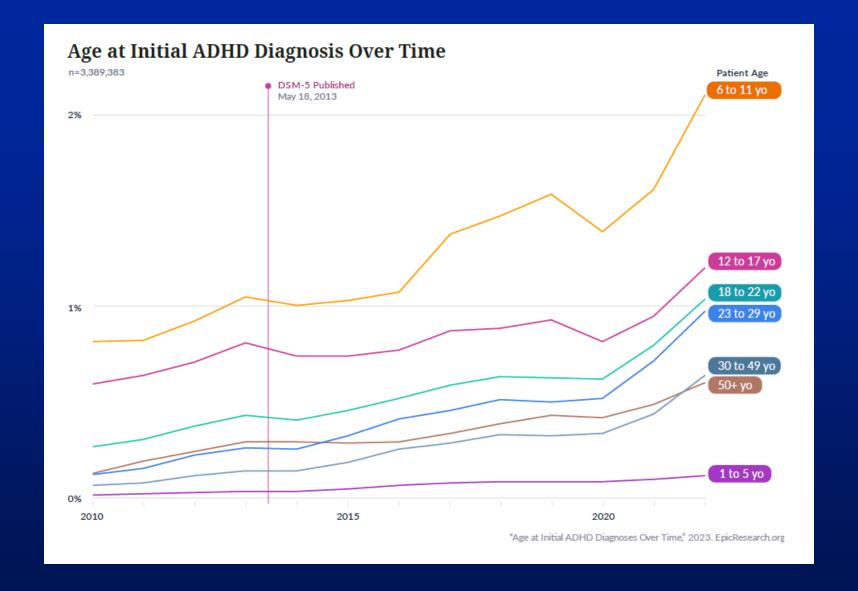
Neurobiology of ADHD

1920: Description of postencephalitic —— behaviour disorder	1920s	—— 1920: Confirmed organicity
1937: Benzedrine sulfate (stimulant) treatment study in 30 children with behavioural disorders and hyperactivity 1930: Hyperkinetic disease described by — Kramer and Pollnow	- 1930s —	1930: Organic driveness syndrome — with ADHD-like symptoms linked to basal ganglia 1939: Cutts and Jasper report amphetamine reduces behaviour without reducing EEG abnormality
1944: Methylphenidate —— synthesized	1940s –	1940: Minimal brain damage assumed in children showing hyperactivity (Ross and Ross)
	1950s —	1957: Photo-metrazol test postulated that — dysfunction of diencephalon alters resistance at synapses in hyperactive children
1968: The DSM first recognizes the disorder as 'hyperkinetic reaction of childhood' in DSM-II 1960: Ritalin is first approved by the FDA for use in children with behavioural problems	1960s —	1961: Bradley and Key report that amphetamine and methylphenidate act on the reticular activating system
	1970s	1970: Kornetsky proposes the 'catecholamine hypothesis'
1987: DSM-III-R 1986: ADD heritability re-establishes the established with disorder as ADHD family studies deficit disorder'	- 1980s —	1983: CT studies 1984: Brain anomalies 1988: Rat model of ADHD brain imaging of ADHD
1994: DSM-IV redefines the diagnosis criteria with subtypes (inattentive, hyperactive and combined) and ADHD is recognized in adults	- 1990s —	1990: PET brain glucose 1998: fMRI studies of ADHD 1998: fMRI studies of ADHD
2009: Guanfacine approved by FDA for treatment of ADHD in children	2000s –	2003: ADHD theories of arousal 2007: Neuroimaging evidence for delayed cortical maturation theory
2017: HiTOP model published with aim to characterize psychopathology by dimensions with ADHD listed as the DSM diagnosis encompassed by the externalizing spectra 2013: DSM-5 removes subgroups and defines symptoms as 'predominantly attentive' or 'predominantly hyperactive/impulsive'	- 2010s –	2010: DMN-task positive network-related attention lapses theory proposed 2019: Discovery of first genome-wide significant risk loci
	2020s	2020: Largest structural imaging analysis in ADHD wia ENIGMA 2023: Largest ADHD GWAS links 27 genetic variants to ADHD

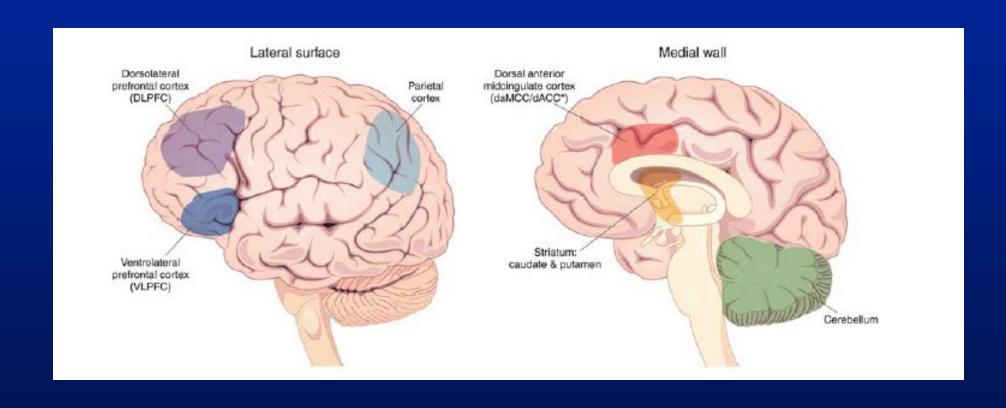


Myth of ADHD Overdiagnosis?

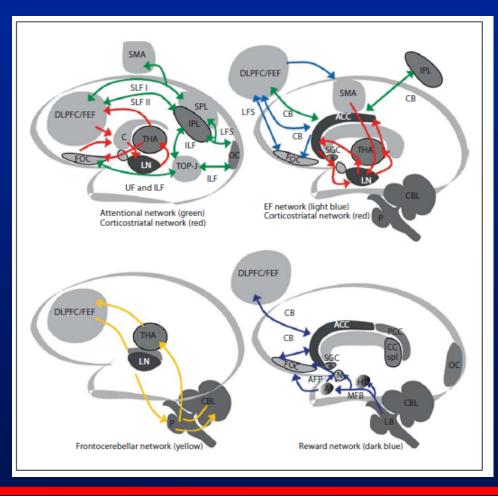
- Misdiagnosis
- Cognitive enhancement expectation
- Inclusion of milder cases/fluctuating severity
- Increased public awareness
- Special education category
- Medication marketing
- Duration of ADHD diagnosis
- Adult ADHD recognition





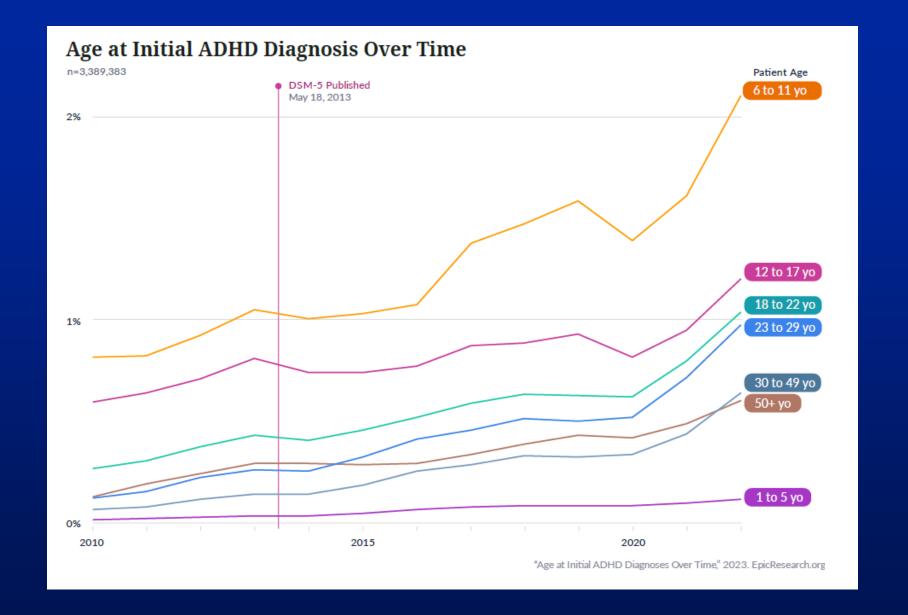


Functional Neuroanatomy of ADHD circuitry

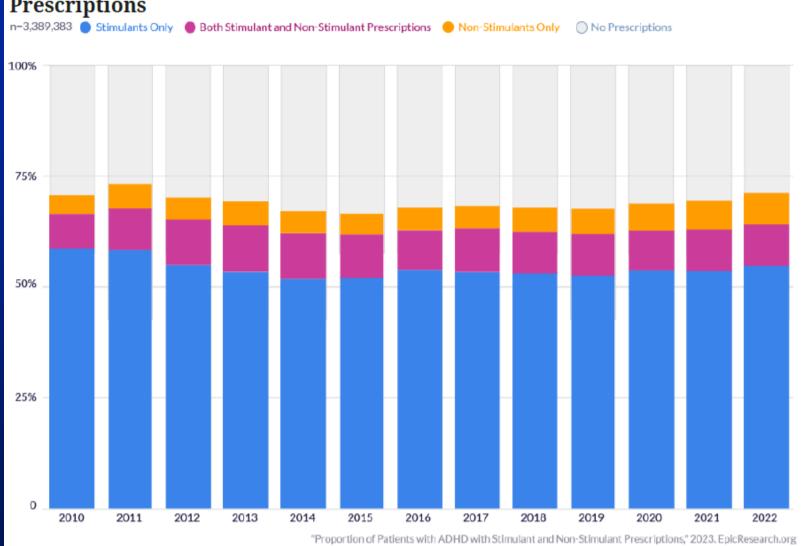


Makris et al 2009





Proportion of Patients with ADHD with Stimulant and Non-Stimulant Prescriptions



ADHD MEDICATION

ADHD Medication

- Rise in prescriptions linked to rise in incidence and increased numbers
 - Impact of COVID pandemic
 - Increased recognition in women
- Treated percentage stable over time
 - Treatment rates affected by location and population

ADHD Treatment Concerns

- Tic initiation/exacerbation
- Impact on growth
- Substance use
- Psychosis and mood disturbance
- Sudden death/cardiovascular event reports

ADHD – Prognosis

- Adult outcome
 - Greater difficulties with reading
 - Less years of schooling
 - Lower graduation rate
 - Lower than expected job placement
 - Impaired social skills
 - Increased comorbidity risk
 - Economic impact \$143-266 billion

ADHD IMPACT

ADHD – Adult Outcome

- Effect on adult labor market
 - Employment reduction 10-14%
 - Earnings reduction 33%
 - Increased social assistance 15 points
- Medication effect
 - Reduced suicide risk attempts
 - Better, but not normal, educational outcome
 - Reduced SUD, driving, obesity, social issues

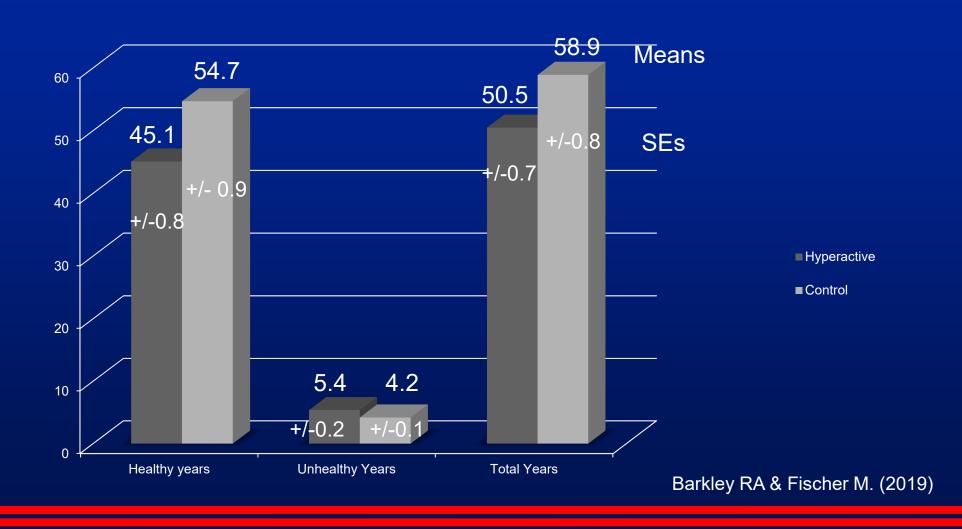
ADHD – Adult Outcome

- Increased risk suicide (SMR = 4.83)
- Increased mortality rate
 - Klein et al (2012) 7.2% at age 41 years
 - London & Landes (2016) 1.8x
 - Dalsgaard (2015) 4.25x
 - Virtanen et al (2018 2.54x

ADHD – Adult Outcome

- Health
 - Accidental injury/TBI
 - Violence (victim and perpetrator)
 - Unplanned pregnancy/STI
 - Increased dementia/BG disorders
 - Poorer management of chronic disorders
 - Poor dental hygiene
 - Increased (3x) obesity and T2 Diabetes (3x)
 - Greater risk cardiovascular disease

Estimated Life Expectancy (yrs. Left) Hyperactive (ADHD-C) Children vs. Controls

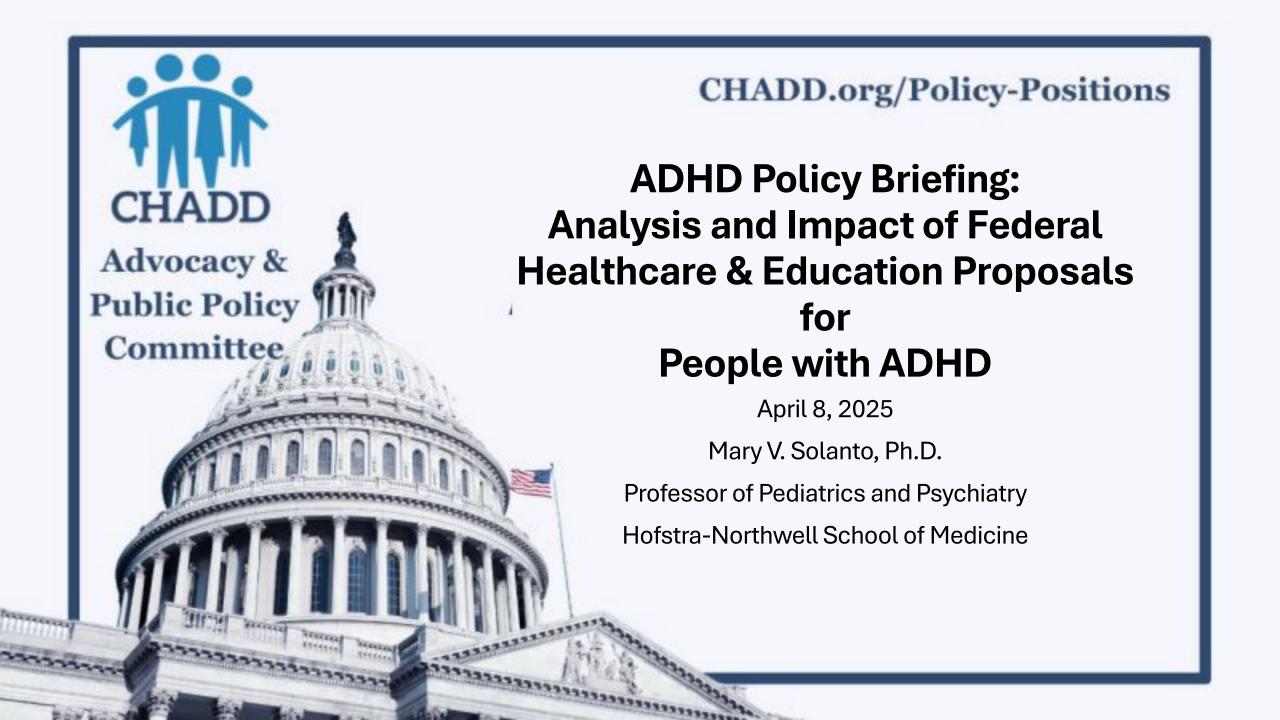


ADHD Life Expectancy Studies

- Barkley RA, Fischer M. Hyperactive Child Syndrome and Estimated Life Expectancy at Young Adult Follow-Up: The Role of ADHD Persistence and Other Potential Predictors. J Atten Disord;23:907–23
- Catalá-López F, Hutton B, Page MJ, Driver JA, Ridao M, Alonso-Arroyo A, et al. Mortality in Persons With Autism Spectrum Disorder or Attention-Deficit/Hyperactivity Disorder. JAMA Pediatr. 2022;176:e216401.
- Schiavone N, Virta M, Leppämäki S, Launes J, Vanninen R, Tuulio-Henriksson A, et al. Mortality in individuals with childhood ADHD or subthreshold symptoms a prospective perinatal risk cohort study over 40 years. BMC Psychiatry. 2022;22:325.
- Mustonen A, Alakokkare A-E, Scott JG, Halt A-H, Vuori M, Hurtig T, et al. Association of ADHD symptoms in adolescence and mortality in Northern Finland Birth Cohort 1986. Nord J Psychiatry. 2023;77:165–71
- O'Nions E, El Baou C, John A, Lewer D, Mandy W, McKechnie DGJ, Petersen I, Stott J. Life expectancy and years of life lost for adults with diagnosed ADHD in the UK: matched cohort study. Br J Psychiatry. 2025:1-8.

Key Points

- ADHD has a neurobiological basis
- Increased diagnosis multifactorial
- Diagnosis is first step to support
- Evidence based multimodal treatment
- Large percent not treated
- Medication 'risks' are exaggerated
- Negative impact on lifespan



Executive (dys)function: How core ADHD symptoms manifest in daily life

- Core symptoms of Inattention and Impulsivity-Hyperactivity often appear as daily struggles with executive function.
- Executive function is "getting things done." It is mediated by the prefrontal cortex of the brain.

Executive Functions Include	
Activation, arousal and effort	Getting started (overcoming procrastination; completing effortful tasks)
Working Memory and recall: "keeping track" keeping info "on-line"	Holding facts in mind while manipulating information
Time-Management, including Planning and Organization	Knowing and keeping to a schedule – e.g. to get ready for school, study for the test etc
Emotional and impulse control	Tolerating frustration; thinking before acting or speaking inappropriately

What happens when ADHD is not recognized and treated in children?

Academically

- Lower Grades
- Perform more poorly on standardized measures of achievement
- More likely to be left back

ADHD does NOT affect intelligence/IQ – it affects children's ability to <u>USE</u> their intelligence

Social-Emotionally

- More likely to be socially rejected or ignored by other children
- Loss of self-esteem
- Anxiety about school performance and abilities

What happens in adulthood?

Some form of ADHD-related symptoms and impairment persists to adulthood for more than 65% of children with the condition.

Academically

- Generally, less likely to go on to college or do more poorly in college.
- In college:
 - Lower GPAs.
 - Fewer course credits achieved.
 - More likely to drop out or fail out.

Occupationally

- More likely to be un- or underemployed.
- More likely to lose or switch jobs.
- On average, earn \$18,000 less per annum than those without ADHD even when matched for educational level.

What happens in adulthood? Cont.

Co-occurring MH conditions:

- Anxiety disorders (1/2 of adults with ADHD)
- Depression (1/3 of adults with ADHD)
- Substance/Alcohol abuse

Physical illnesses:

Due to less conscientiousness with respect to exercise, sleep, nutrition, use of alcohol, drugs, nicotine.

Higher risk for:

- Coronary heart disease
- Obesity
- Type II diabetes
- Eating disorders
- Accidents/injuries
- Suicide

Other negative outcomes

- Higher rates of divorce
- Increased legal problems / arrests
- Financial instability
- Unstable housing or frequent moves

These physical Illnesses result in a life expectancy that is shortened by 8 years, compared to those without ADHD

Conclusions About ADHD

- ADHD is a biologically based chronic condition, beginning in childhood.
- If untreated, results in impairment...
 - Academically, socially, emotionally, and physically
 - Impairment can extend into adulthood
- Multi-modal treatment is effective in preventing/alleviating these impairments

ADHD is a chronic Condition

- For most, ADHD does not disappear with age
 - Symptoms wax and wane, but impairment persists
 - Academic underachievement
 - Criminal Justice
 - Physical and mental health
 - Unemployment
- Without intervention, impairments and costs increase over time

Significant Societal costs

• \$143-\$266 billion each year (~\$208 - \$387.5 billion in 2025

dollars)

Productivity and income loss:

\$88 - \$141 billion

Healthcare:

\$37 - \$94 billion

Education:

\$15 - \$25 billion

Justice System:

\$3 - \$6 billion

Costs by age

Child/Adolescents

\$37.5 - \$71.5 billion

Adults

\$106 - \$194 billion

Life-course view of Adhd

- Investments in effective interventions and supports can curtail costs associated with ADHD
 - Reduce criminal justice resources
 - Reduced healthcare costs
 - Increased vocational productivity and income
- Like all chronic conditions, ADHD requires on-going intervention and support
 - Developmentally appropriate and evidence-based interventions that can build individual capacity
- Starts with ensuring students with ADHD have access to free and appropriate public education and related services

what does Ed do for students with ADHD?

ED Protects Students with ADHD

- Individuals with Disabilities Education Act
 - About half of all students with ADHD have an IEP
 - Students with ADHD have represented the majority of students classified as Other Health Impaired and Emotionally Disturbed for nearly two decades
- Section 504 of the Americans with Disabilities Act
 - At least 13% of students with ADHD have a 504 Plan
 - Texas v. Becerra
- Office of Civil Rights
 - Enforces protections key to the provision of special education and related services for students with ADHD
- These protections are critical for the delivery of evidence-based and developmentally appropriate interventions and supports

ED Supports Rigorous research

National Center for Education Research (11 topics)

- 1. Career and Technical Education
- 2. Civics Education and Social Studies
- 3. Cognition and Student Learning
- 4. Early Learning Programs and Policies
- 5. English Learner Policies, Programs, and Practices
- 6. Improving Education Systems
- 7. Literacy
- 8. Postsecondary and Adult Education
- 9. STEM Education
- 10. Social, Emotional, and Behavioral Context for Teaching and Learning
- 11. Teaching, Teachers, and the Education Workforce

National Center for Special Education Research (12 topics)

- 1. Autism Spectrum Disorders
- 2. Cognition and Student Learning in Special Education
- 3. Early Intervention and Early Learning
- 4. Families of Children with Disabilities
- 5. Educators and School-Based Service Providers
- 6. Reading, Writing, and Language
- 7. STEM
- 8. Social, Emotional and Behavioral Competence
- 9. Systems, Policy, and Finance
- 10. Special Topics
- 11. Technology for Special Education
- 12. Transition to Postsecondary Education, Career, and/or Independent Living

Evidence-based interventions and supports

- The Department of Education plays a critical role in the development and dissemination of interventions that improve outcomes for individuals with ADHD.
- Well-established treatments (beyond medication):
 - Behavioral Parent Training (Pre-school and elementary)
 - Behavioral Classroom Management (Pre-school and elementary)
 - Combined Behavior Management (Pre-school and elementary)
 - Behavioral Peer Intervention (Elementary)
 - Organization Training (Elementary and adolescents)
 - Cognitive Behavioral Therapy (Adult)

ED fills gaps in state funding

- Disability Employment and Vocational Rehabilitation Grants
- Emergency Response Formula Grants
- School Infrastructure Grants
- School Improvement Grants
- Teacher Preparation Grants

ED Collects, analyzes, and reports data on the U.S. Education System

- National Center for Education Statistics (https://nces.ed.gov/)
 - Conducts large-scale longitudinal data collection to inform research, practice, and policy
 - Key sources of information regarding US students
 - National Assessment of Educational Progress (NAEP)
 - Early Childhood Longitudinal Study (ECLS)
 - High School Longitudinal Study of 2009 (HSLS:09)
 - Middle Grades Longitudinal Study of 2017-2018 (MGLS:2017)
 - Rural Education in America (Rural)

Ed Supports evidence-based policy and practice

- Educational Resources Information Center (ERIC; https://eric.ed.gov/)
 - Comprehensive and searchable database of education research and information
- What Works Clearinghouse (https://ies.ed.gov/ncee/wwc/)
 - Central database on educational programs, products, practices and polices
 - Review extant research, determine the quality of evidence, and summarize findings to identify practices that work in education

In summary, the Department of Education

- Provides uniform protections and accountability across the country to provide a free and appropriate public education for students with ADHD
- Supports innovative and impactful scientific research to improve outcomes for individuals with ADHD across their academic careers
- Reviews and analyzes the extant data on educational programs, products, practices and polices to allow stakeholders to make informed choices regarding how to spend educational dollars in improving outcomes for students with ADHD
- Is critical for improving outcomes for individuals with ADHD



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