Trauma and ADHD: Supporting children with inattention and disorganisation

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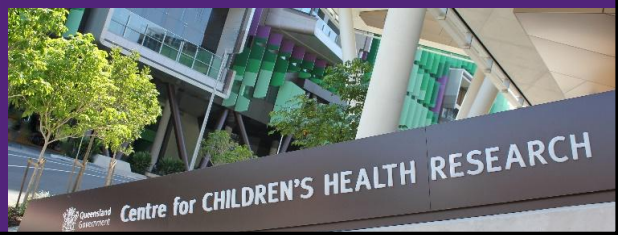

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Acknowledgement of Country

The University of Queensland (UQ) acknowledges the Traditional Owners and their custodianship of the lands on which we meet.

We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country.

We recognise their valuable contributions to Australian and global society.

The Brisbane River pattern from *A Guidance Through Time* by Casey Coolwell and Kyra Mancktelow.



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Cameron

- *12 year old year 7 student, second in a sibship of three, living with mother, father deceased*
- *Severe Aggression, school refusal and parent child conflict*
- *Background of Family Violence, Physical and Emotional Abuse, Suicide of Father when Cameron was 8 and subsequent poverty and housing insecurity for about two years*
- *Mother now employed full time, two siblings are doing well attending school and achieving socially and academically*

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Cameron

- *Has been seen by multiple mental health professionals and CYMHS*
- *"Cameron struggles with depression and anxiety on background of complex bereavement and developmental trauma complicated by poor coping and externalising symptoms. No indication of ADHD"*
- *Severe mother-child conflict*
- *Mother has hit Cameron out of frustration (not recently)*
- *Cameron regularly abuses mother calling her a 'slut' (since she has started dating again)*
- *Mother describes their relationship as very unhealthy*

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Cameron

- ***On Interview, reports low mood, easily angered***
- ***Blames everyone else for his problems***
- ***Very angry at his mother – sees her as the cause of the problems***
- ***Misses his father***
- ***Very anxious about school with bullying by peers who have made ongoing jokes about his father's suicide***
- ***School refusal with subsequent academic decline***
- ***Recent presentations to the ED for aggression at home and threats of suicide***

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What is ADHD?

- ❑ Neuro-developmental Syndrome
- ❑ Broad phenotype with Core Symptoms of

  Inattention, Impulsivity and/ or Hyperactivity
- ❑ Deficits in Executive Functioning with impairment in Emotional Recognition and Regulation
- ❑ Atypical Reward Responses

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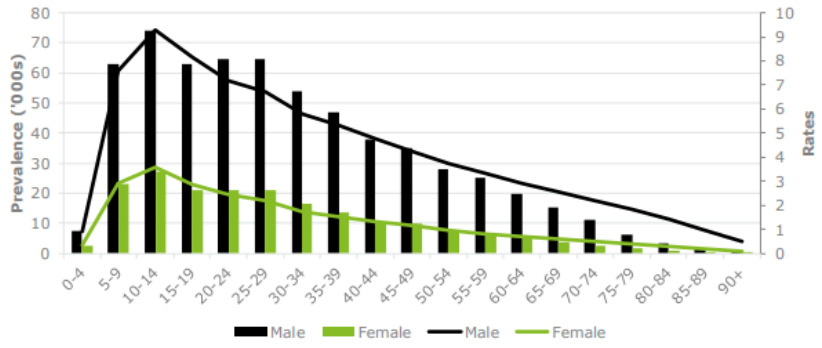
Epidemiology

- High income countries have higher prevalence rates
- ADHD prevalence worldwide ~5.29% (95% CI 5.01-5.56)
- Prevalence in adults 19-45 years ~2.5%
- ~70%-80% heritability
- Prevalence influenced by Societal Factors

Chart 2.2 Estimated prevalence of ADHD, by age and gender, 2019



Source: Deloitte Access Economics analysis based on GBD (2017) and Ebejer et al (2012).

[2] Posner, J., Polanczyk, G. V., & Sonuga-Barke, E. (2020). Attention-deficit hyperactivity disorder. *Lancet (London, England)*, *395*(10222), 450–462. https://doi.org/10.1016/S0140-6736(19)33004-1

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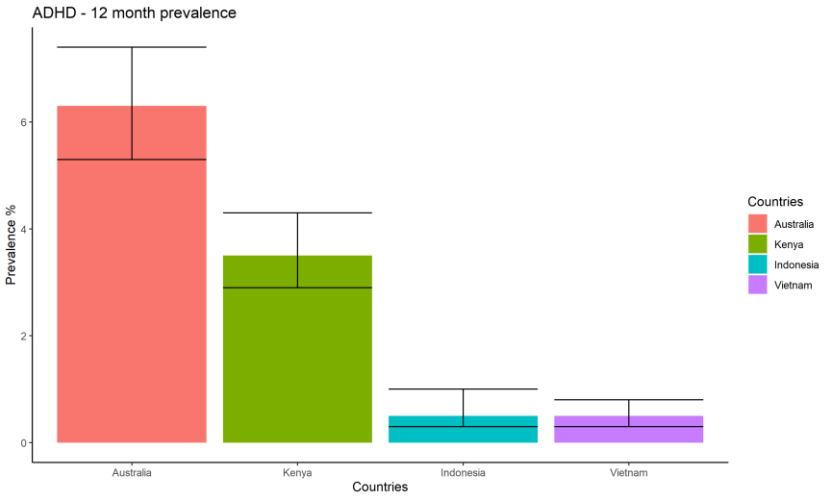
Prevalence of ADHD in Australia, Kenya, Indonesia and Vietnam







Erskine et al. The Lancet 2024

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Potential adverse outcomes of ADHD

















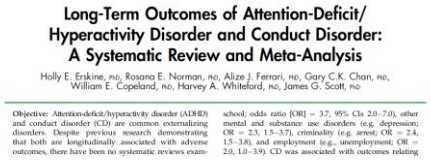

(Erskine et al., JAACAP 2016)

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ADHD arises from the Interaction of Genetic and Environmental Risk Factors

Genetic Factors

High heritability

Multiple Genes with small effects

Risk to First Degree Relative Approx 3.5

Environmental Factors

- Maternal Smoking
- Pregnancy Complications
- Prematurity
- Child Maltreatment
- Acquired Brain Injury
- Screen Time and Digital Media Use

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Default Mode Network (DMN) & Cognitive Control Network (CCN) Organisation

- **DMN** is active when individuals are engaged in self-referential cognitions, introspection and mind wandering.
- **CCN** activated in response to attentional demands
- Studies in children, adolescents and adults with ADHD –

anticorrelations between DMN and CCN reduced or absent

Task-based functional neuroimaging condition	Control	ADHD
At rest or engaged in **introspective tasks** (e.g., recovering autobiographical memories, or assessing others' perspectives)	**DMN** activation ↑ increased **CCN** activation ↓ reduced	**DMN** activation ↑ increased
Externally focused, **goal directed tasks**	**DMN** deactivated **CCN** activation increases	**DMN** remains activated or inadequately downmodulated

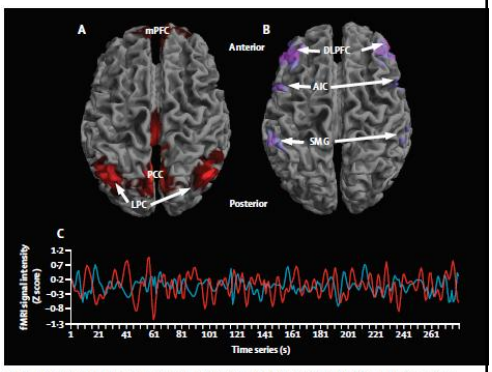

Figure 2: **Functional connectivity within the default mode network (DMN) and the cognitive control network (CCN)**
(A) Resting state functional connectivity maps of the DMN. Red shows positively correlated functional magnetic resonance imaging (fMRI) signal, or positive connectivity, within regions of the DMN including the medial prefrontal cortex (mPFC), posterior cingulate cortex (PCC), and lateral parietal cortex (LPC). (B) Resting state functional connectivity maps of the CCN. Purple shows positively correlated fMRI signal within regions of the CCN including the dorsolateral prefrontal cortex (DLPFC), anterior insular cortex (AIC), and supramarginal gyrus (SMG). (C) Time series data extracted from the DMN (red) and the CCN (blue) show inversely correlated fMRI signal intensity between the DMN and CCN.

Shaw, P., Malek, M., Watson, B., Sharp, W., Evans, A., & Greenstein, D. (2012). Development of cortical surface area and gyrification in attention-deficit/hyperactivity disorder. Biological psychiatry, 72(3), 191–197. https://doi.org/10.1016/j.biopsych.2012.01.031

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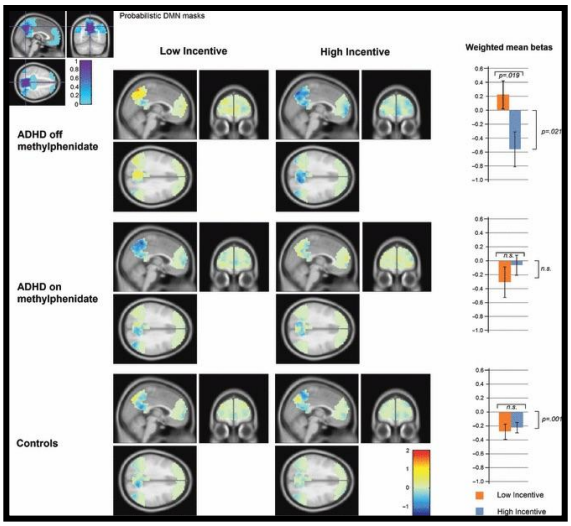
Default Mode Network (DMN) Modulation



Under low task incentive conditions, participants with ADHD (unmedicated)

- DMN deactivation is less than controls

High task incentive condition

- DMN activation did not differ between groups

Introduction of medication (Methylphenidate) to ADHD group

- DMN deactivation occurred with low task incentive conditions

Liddle, E. B., Hollis, C., Batty, M. J., Groom, M. J., Totman, J. J., Liotti, M., Scerif, G., & Liddle, P. F. (2011). Task-related default mode network modulation and inhibitory control in ADHD: effects of motivation and methylphenidate. *Journal of child psychology and psychiatry, and allied disciplines*, 52(7), 761–771. https://doi.org/10.1111/j.1469-7610.2010.02333.x

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Diagnosis of ADHD

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ADHD Diagnosis

DSM 5 Diagnostic criteria

- ≥ 6* symptoms of hyperactivity and impulsivity
- or ≥ 6* symptoms of inattention.

Subtypes:

- *Combined Presentation*
- *Predominantly Inattentive Presentation*
- *Predominantly Hyperactive-Impulsive Presentation*

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Hyperactivity/ Impulsivity

1. Often fidgets with or taps hands or feet, or squirms in seat.
2. Often leaves seat in situations when remaining seated is expected.
3. Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
4. Often unable to play or take part in leisure activities quietly.
5. Is often “on the go” acting as if “driven by a motor”.
6. Often talks excessively.
7. Often blurts out an answer before a question has been completed.
8. Often has trouble waiting their turn.
9. Often interrupts or intrudes on others (e.g., butts into conversations or games)

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Inattention/ Disorganisation

1. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
2. Often has trouble holding attention on tasks or play activities.
3. Often does not seem to listen when spoken to directly.
4. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
5. Often has trouble organizing tasks and activities.
6. Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
7. Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses).
8. Is often easily distracted.
9. Is often forgetful in daily activities.

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ADHD Diagnostic Criteria

- Symptoms occur often
- Be present in more than one setting (e.g., school or work and home)
- Persist for at least six months
- Be present before the age of 12 years* (DSM 5)
- Impair function in academic, social, or occupational activities
- Be excessive for the developmental level of the child

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Key Diagnostic Principles for ADHD

All children with clinically significant emotional or behavioural problems should be screened for a diagnosis of ADHD

Why are they presenting now?

There is no urgency to make a diagnosis- A thorough and comprehensive assessment is essential when examining for core symptoms

Can be done by any health professional who is trained to make the diagnosis of ADHD- it should not be too expensive

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ADHD Requires a Comprehensive Assessment

Comorbidity is the Norm- Screen for Mental Health Problems Other Than ADHD

- Depression and Anxiety
- ASD/ Specific Learning Disorders/ Intellectual Disability
- Conduct Disorder/ Substance Use
- Trauma and Stress Related Disorders
- Bipolar Disorder and Psychosis
- Eating Disorder
- Tic Disorders/ Tourette's Syndrome

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Rating Scales are Essential but not diagnostic

SNAP IV (Swanson, Nolan, and Pelham-IV Questionnaire)

Sample SNAP-IV Teacher and Parent Rating Scale # 6160

James M. Swanson, Ph.D.

Name:_____ Gender: _____ Age: _____ Grade: _____ Date: _____

Ethnicity (check one) ___African-American ___Asian ___Caucasian ___Hispanic ___Other _____

For teacher: Completed by: _____ Type of Class: _____ Class Size: _____

Telephone # at school: _____ Recommended times for follow-up call: _____

For parents: Completed by: _____ # Parents Living in Home: _____ Family Size: _____

Period of Time Covered by Rating: ___Past Week ___Past Month ___Past Year ___Lifetime ___Other_____

For each item, select the box that best describes this child. Put only one check per item.		Not at all (0)	Just a Little (1)	Quite A Bit (2)	Very Much (3)
1.	Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities				
2.	Often has difficulty sustaining attention in tasks or play activities				
3.	Often does not seem to listen when spoken to directly				
4.	Often does not follow through on instructions and fails to finish schoolwork, chores, or duties				

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Asks for behaviour over a period of time

"Often has difficulty sustaining attention in tasks or play activities"

Responses

Not at all	0
Just a little	1
Quite a bit	2
Very much	3

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Other Standardised Assessments

NAPLAN: Declining Trajectory of NAPLAN scores suggests some impairment of learning

WISC (Wechsler Intelligence Scale for Children) and WIAT (Wechsler Individual Achievement Test)

Not essential but sometimes helpful for diagnosing broader neurodiversity (specific learning disorders)

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Management of ADHD

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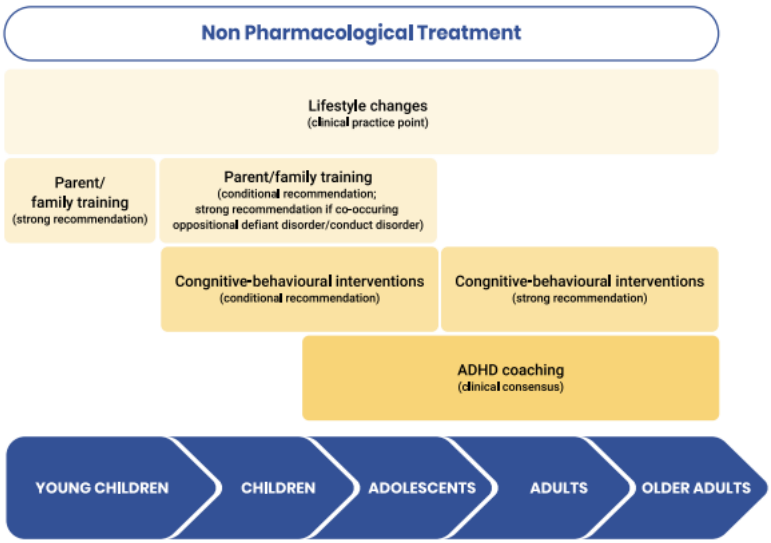
Treatment of ADHD



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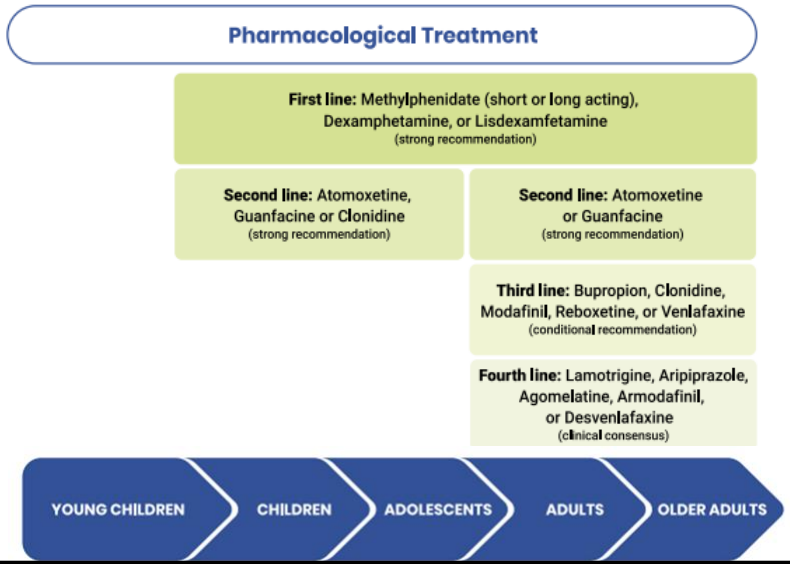
Treatment of ADHD



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Efficacy of Pharmacotherapy for ADHD

- Stimulant medications for ADHD are among the most effective treatments we have in medicine (Effect Size approx. 1-1.5) and they work straight away
- The magnitude of improvement is correlated with the severity of the ADHD symptoms.
- Two stimulants available in Australia - methylphenidate (Ritalin, Concerta) and Dexamfetamine (Vyvanse)

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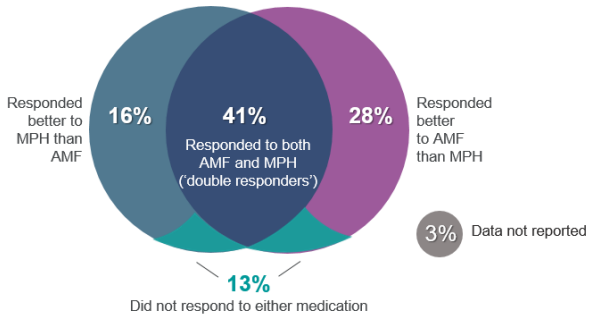
Predicting stimulant response is difficult

Arnold 2000: methylphenidate vs amfetamine

Outcomes

Most patients (n=152/174; 87%) responded to methylphenidate and/or amfetamine[1]

- Nonetheless, some patients responded better to one stimulant than the other, and 13% (n=22/174) did not respond to either



- Adverse events were broadly similar with both medications across the studies

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Main challenge in prescribing stimulants is optimising dose and tolerability- side effects are common

- Appetite suppression, nausea and weight loss
- Anxiety, depression, restriction of emotions, change in personality
- Sleep disturbance
- Headaches, stomach aches, agitation

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Measurement-based Prescribing gives the best outcomes

Rating scale used **at baseline** to determine the level of symptomatology.

SNAP-IV Teacher & Parent Rating Scale

James M. Swanson, Ph.D.

Name: John Gridlock **Today's Date: 02/02/2026**

For Teacher
Completed by: _____ Type of Class: _____ Class Size: _____

For Parents
Completed by: Jane Gridlock

Please fill this questionnaire out with the view of the past week (7 days) of the child's behaviours.

For each item, select the box that best describes this child. Put only one check per item.		Not at all (0)	Just a Little (1)	Quite a Bit (2)	Very Much (3)
1.	Often fails to give close attention to details or makes careless mistakes in school, work, or other activities.				x
2.	Often has difficulty sustaining attention in tasks or play activities				x
3.	Often does not seem to listen when spoken to directly			x	
4.	Often does not follow through on instructions and fails to finish schoolwork, chores, or duties			x	
5.	Often has difficulty organising tasks and activities				x
6.	Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g. schoolwork or homework)				x
7.	Often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books or tools)				x
8.	Often is distracted by extraneous stimuli				x
9.	Often is forgetful in daily activities				x
10.	Often fidgets with hands or feet or squirms in seat		x		
11.	Often leaves seat in classroom or in other situations in which remaining seated is expected		x		

Pharmacotherapy introduced

Rating scale **repeated at review** to determine the response.

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James M. Swanson, Ph.D.

Name: John Gridlock **Today's Date: 02/02/2026**

For Teacher
Completed by: _____ Type of Class: _____ Class Size: _____

For Parents
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1.	Often fails to give close attention to details or makes careless mistakes in school, work, or other activities.			x	
2.	Often has difficulty sustaining attention in tasks or play activities			x	
3.	Often does not seem to listen when spoken to directly		x		
4.	Often does not follow through on instructions and fails to finish schoolwork, chores, or duties		x		
5.	Often has difficulty organising tasks and activities		x		
6.	Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g. schoolwork or homework)			x	
7.	Often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books or tools)		x		
8.	Often is distracted by extraneous stimuli			x	
9.	Often is forgetful in daily activities			x	

Pharmacotherapy adjusted according to response.

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Adjunctive Treatments

- Education for Family and The Child
- Psychology Support if there is comorbid disruptive behaviours, anxiety or depression
- Strategies to assist with organisation
- Support in the School Environment
- Exercise Intervention- Open Skill Activities (unpredictable, dynamic environments requiring high decision-making)

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Organisational Strategies at school and Home

- Minimise distractions
- Break Tasks into Smaller Steps- minimises procrastination
- Write a Daily Priority List- things that need to be worked on that day
- “Parking lot” for thoughts- maintains focus on the current task
- Schedule Regular Breaks
- Work with someone else- Maintains accountability

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ADHD and Adverse Childhood Experiences (ACEs)

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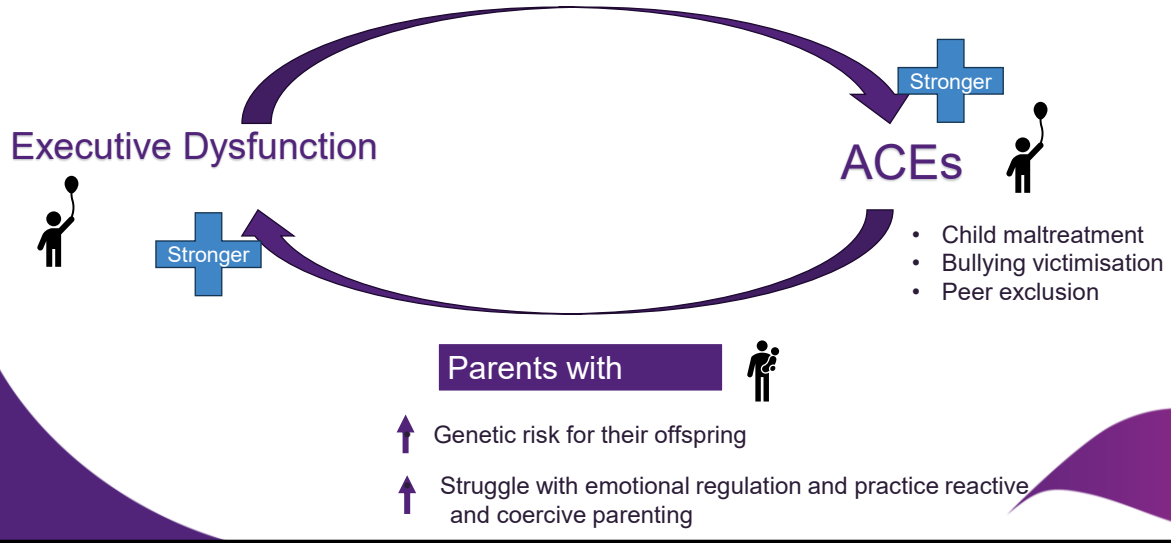
The complex interplay between ADHD and ACEs



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Diagnostic Overshadowing Occurs

- ADHD is often overlooked in children with ACEs and maltreatment
- Maltreatment is often not considered in children with ADHD

Challenges in Delivering Care

- Problems in providing continuity of health care and educational support when children move and change households
- When children live between households, problems in children receiving medication and other treatments consistently

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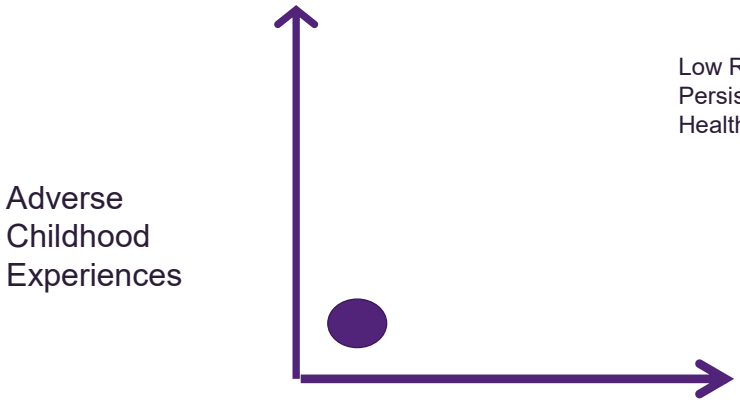
Severity and Persistence of Mental Health Problems



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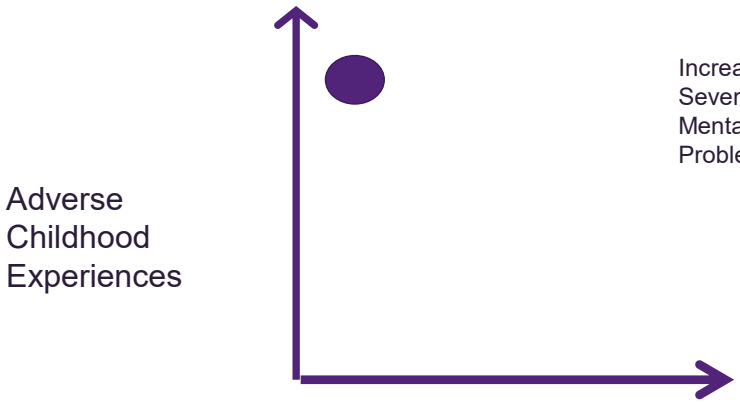
Severity and Persistence of Mental Health Problems



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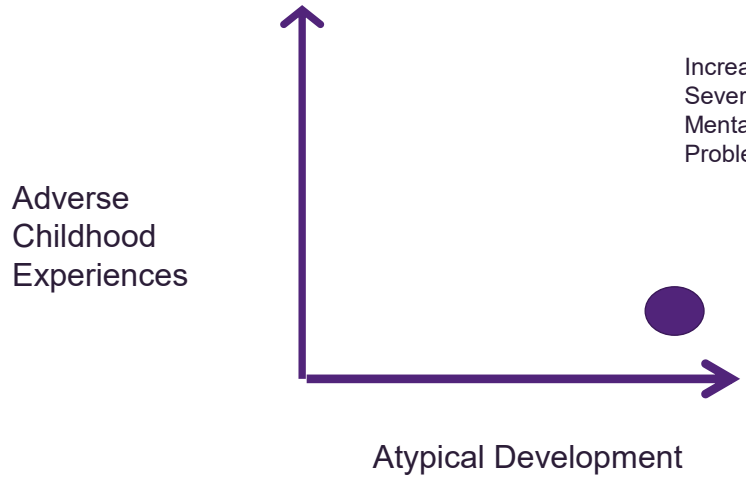
Severity and Persistence of Mental Health Problems



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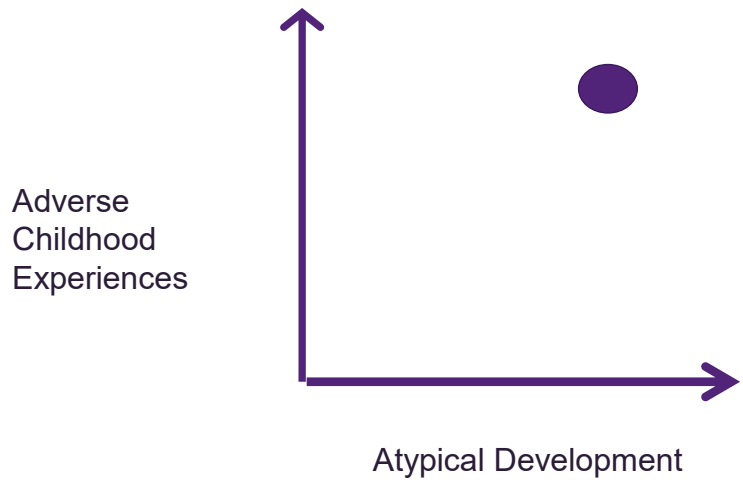
Severity and Persistence of Mental Health Problems



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Cameron was diagnosed and treated for ADHD with ongoing psychological support

- *"Cameron has been significantly better. He has dipped a few times with screaming, fighting and verbalising aggression. However, he recovered from these episodes sooner than in the past. When faced with stressors he thinks more logically more quickly and recovers / calms sooner.*
- *Cameron and I have been getting along significantly better. He is still fighting with his older sister a bit. All in all much better. Thanks for everything."*

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Final Thoughts

- Attentional problems require a comprehensive assessment
- Both ADHD and Child Maltreatment are common and can be severely impairing- we need to hold both in minds as we support children and young people with emotional and behavioural problems
- Addressing either a child's safety or their executive dysfunction alone will fail to adequately address their challenges
- Biopsychosocial management of children with ADHD with careful prescribing of stimulant medication provides optimal care

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Thankyou

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