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Commentary

# The internalising blind spot in ADHD pharmacotherapy research

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## Response

Chaulagain and colleagues provide a methodologically rigorous causal analysis of ADHD pharmacotherapy on contact with child welfare services (CWS), using a provider-preference instrumental variable design applied to nationwide Norwegian registry data.[1] Their finding that medication reduces supportive interventions and out-of-home placements in the first two years after diagnosis is clinically important. However, the reliance on CWS contact as a primary outcome measure systematically prioritises the externalising manifestations of ADHD, potentially overlooking the internalising burden associated with ADHD. We argue that this blind spot is not a minor caveat but a substantive constraint on the clinical conclusions that can be drawn.

## CWS contact as an externalising proxy

Child welfare systems are designed to detect unsafe caregiving environments, disruptive behaviour and family breakdown. As Chaulagain et al note, the scope and foci of these systems vary globally; for instance, CWS in Nordic countries like Norway emphasise supportive home-based interventions and family preservation, whereas systems in the USA or Eastern Europe often maintain a higher threshold for intervention, focusing more strictly on child safety and the restriction of parental rights.[1] Regardless of these jurisdictional variations in service delivery, CWS are not sensitive instruments for depression, emotional dysregulation or suicidal ideation. This matters because internalising psychopathology is not peripheral in ADHD: a recent systematic review and meta-analysis estimated a pooled depression rate of 11% in children and adolescents with the disorder – substantially higher than in neurotypical peers – with rates reaching 60% in some clinical samples.[2] Indeed, Chaulagain et al's baseline data (Table 1) reveal that 24.1% of their ADHD cohort already presented with comorbidities at diagnosis.[1] This significant early-stage prevalence underscores that internalising vulnerabilities are not peripheral, even in paediatric populations where overt depressive or suicidal crises are less frequent than in adults. A further meta-analytic synthesis of longitudinal data found that ADHD itself elevates the risk of subsequent depression and anxiety, whereas pharmacotherapy may attenuate this risk.[3] The broad clinical landscape of ADHD, spanning genetic heterogeneity, diverse comorbid profiles and cognitive impairment across multiple domains, makes clear that externalising behaviour represents only one dimension of the disorder's long-term sequelae.[4] While pharmacotherapy may attenuate the disruptive behaviours that typically precipitate CWS involvement, it does not inherently mitigate the underlying depressive symptoms that drive long-term functional impairment.

## Adversity, maltreatment and the depression burden

The sociodemographic profile of the study cohort amplifies this concern. Children with ADHD in the sample more frequently lived in single-parent households and with parents of lower income and educational attainment – recognised proxies for adverse childhood experiences and maltreatment exposure. Childhood maltreatment, which substantially overlaps with the circumstances that trigger CWS involvement, has been causally estimated to account for approximately 21% of the population burden of depression and 41% of suicide attempts.[5] A study design that measures CWS contact as its primary end-point therefore risks conflating reduction in service utilisation with improvement in child mental health. This is particularly pertinent given that the 'supportive' focus of the Norwegian CWS might capture milder family stressors that are more easily mitigated by symptom-reducing medication, whereas the true internalising burden remains unaddressed by such service-level metrics. The authors themselves acknowledge this ambiguity, noting that CWS involvement is not inherently a negative outcome. We would add that its reduction is not inherently a positive one, if it is unaccompanied by evidence of reduced internalising morbidity.

## Adherence attenuation and the internalising risk window

The attenuation of treatment effects in years three and four merits consideration beyond the externalising frame. The authors attribute this decline to reduced adherence and developmental shifts. A large multinational cohort study confirms that ADHD medication discontinuation is common and accelerates substantially across adolescence.[6] Critically, adolescence is also the period during which depressive risk intensifies. If the same adherence trajectory that erodes the CWS benefit is simultaneously removing any protective effect against depression, the net internalising outcome of discontinuation may be considerably worse than the CWS data suggest. Broadening ascertainment to antidepressant prescription records and emergency psychiatric admissions would allow direct testing of this hypothesis within the existing registry infrastructure.

## Representativeness, suicidality and the complete outcome spectrum

The instrumental variable approach estimates a local average treatment effect for patients 'on the margin' of treatment – those whose medication decisions are most influenced by prescribing variation between clinics. Research comparing RCT-eligible and RCT-ineligible individuals in Swedish population data demonstrates



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that patients with complex comorbidities and adverse psychosocial circumstances are systematically excluded from trials, precisely the profile most likely to populate CWS registries.[7] For this subgroup, the question of whether pharmacotherapy reduces depression and self-harm is clinically urgent. A large Swedish target-trial emulation recently showed that ADHD medication was associated with meaningfully reduced rates of suicidal behaviours – an effect that a CWS-only end-point would entirely miss.[8] A companion study from the same Norwegian research programme found no consistent protective effect of pharmacotherapy against mood disorders in this cohort, making it all the more pressing to test internalising and externalising outcomes simultaneously in future work.[9]

## Beyond system contact

We strongly advocate that future registry-based causal inference studies on ADHD pharmacotherapy formally integrate depression diagnoses, antidepressant prescriptions, self-harm records and psychiatric emergency presentations as co-primary end-points alongside CWS contact. Stratified analyses by prior adversity, maltreatment history and baseline emotional comorbidity would allow estimation of differential treatment response in the most vulnerable subgroups. The Norwegian registry infrastructure used by Chaulagain and colleagues is ideally positioned for this extension. Such an approach would move the field beyond measuring jurisdictionally variable system contact as a surrogate for well-being and toward a genuinely comprehensive assessment of what ADHD pharmacotherapy means for the children who need it most. By integrating internalising markers into future registry-based studies, researchers can explore whether early pharmacological intervention yields a long-term protective effect that extends into adulthood. Given the high adult comorbidity of depression and suicidality, identifying whether paediatric symptom control can alter these late-life trajectories is a clinical and public health imperative that transcends simple measures of system contact.

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## Author contributions

R.Z. conceptualised the manuscript and drafted the initial text. Z.Y. contributed to the literature review and critical revision of the manuscript. Y.T. provided intellectual guidance, contributed to the conceptualisation and performed the final editing and revision.

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## Declaration of interest

None.

## References

1 Chaulagain A, Widding-Havneraas T, Elwert F, Markussen S, Lyhmann I, Halmøy A, et al. Effect of pharmacological treatment of attention–deficit hyperactivity disorder on contacts with child welfare services. *Br J Psychiatry* [Epub ahead of print] 5 Mar 2026. Available from: https://doi.org/10.1192/bjp.2026.10554.

2 Wang S, Stewart TM, Ozen I, Mukherjee A, Rhodes SM. Rates of depression in children and adolescents with ADHD: a systematic review and meta-analysis. *J Attent Disord* 2025; **29**: 924–52.

3 Zhang Y, Liao W, Rao Y, Gao W, Yang R. Effects of ADHD and ADHD medications on depression and anxiety in children and adolescents: a systematic review and meta-analysis. *J Psychiatr Res* 2025; **181**: 623–39.

4 Faraone SV, Bellgrove MA, Brikell I, Cortese S, Hartman CA, Hollis C, et al. Attention-deficit/hyperactivity disorder. *Nat Rev Dis Primers* 2024; **10**: 11.

5 Grummitt L, Baldwin JR, Lafoa'i J, Keyes KM, Barrett EL. Burden of mental disorders and suicide attributable to childhood maltreatment. *JAMA Psychiatry* 2024; **81**: 782–8.

6 Brikell I, Yao H, Li L, Astrup A, Gao L, Gillies MB, et al. ADHD medication discontinuation and persistence across the lifespan: a retrospective observational study using population-based databases. *Lancet Psychiatry* 2024; **11**: 16–26.

7 Garcia-Argibay M, Chang Z, Brikell I, Kuja-Halkola R, D'Onofrio BM, Lichtenstein P, et al. Evaluating ADHD medication trial representativeness: a Swedish population-based study comparing hypothetically trial-eligible and trial-ineligible individuals. *Lancet Psychiatry* 2025: **12**: 131–9.

8 Zhang L, Zhu N, Sjölander A, Nourredine M, Li L, Garcia-Argibay M, et al. ADHD drug treatment and risk of suicidal behaviours, substance misuse, accidental injuries, transport accidents, and criminality: emulation of target trials. *BMJ* 2025; **390**: e083658.

9 Lyhmann I, Widding-Havneraas T, Bjelland I, Markussen S, Elwert F, Chaulagain A, et al. Effect of pharmacological treatment of attention-deficit/hyperactivity disorder on later psychiatric comorbidity: a population-based prospective long-term study. *BMJ Mental Health* 2024; **27**: e301003.



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