

Economic impact and service utilisation of children with attention-deficit/hyperactivity disorder - a systematic review and a meta-analysis



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BACKGROUND

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders in children, with a prevalence of 5-7% [1]. ADHD often co-exists with other developmental disorders, e.g., autism. ADHD results in substantial long-term health, social and financial impacts on the individual, family and healthcare system [2,3].

AIMS

This study aims to systematically synthesise the literature on service utilisation and costs for children with ADHD.

METHODS

The search was conducted via nine databases for peer-reviewed primary studies published in English from 2007: Medline, The Cochrane Library, NHS EED, HTA, DARE, Econlit, Embase, PsycINFO, and CINAHL. Two independent reviewers conducted title/abstract and full-text screenings. The National Heart, Lung and Blood Institute tool was used to assess the quality of the studies.

Costs were synthesised to 2022 US dollars using a three-step method of standardisation, inflation and conversion. Meta-analysis was conducted for studies that reported on direct medical costs.

The review was registered in PROSPERO (CRD42022346675).

RESULTS

Figure 1: PRISMA chart

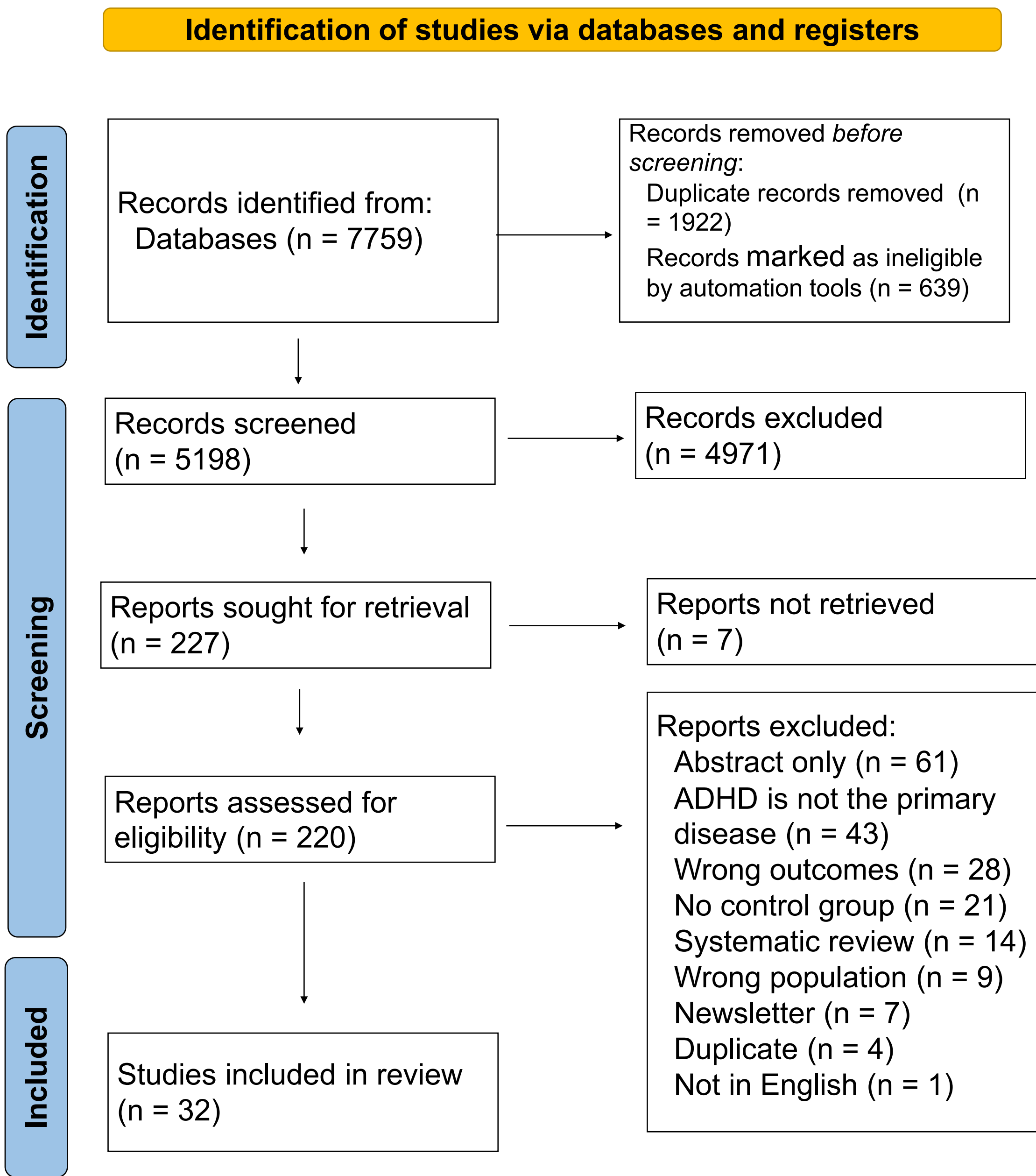
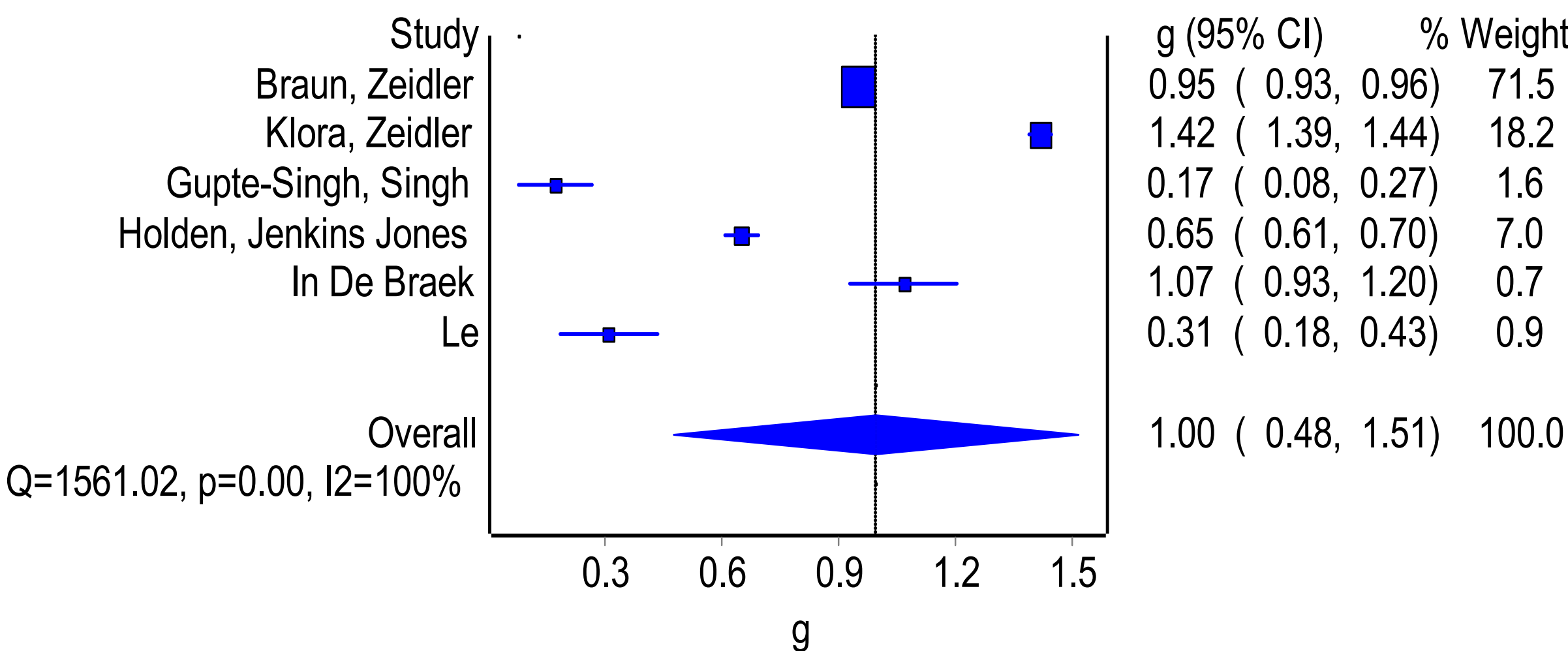


Figure 2: Forest plot - Direct medical cost



KEYS FINDINGS

Service utilisation was higher in children with ADHD compared to children without ADHD.
Many children with ADHD did not access services. This highlights inequity in ADHD service access/utilization.
Children with ADHD were twice as likely to have unmet health needs than those without the condition.

Children with ADHD were associated with higher healthcare and societal costs compared to children in the general population.

Mental health and pharmaceuticals service utilisation drove the direct costs. Absenteeism and unemployment were the main indirect costs.

Table 1: Service utilization and costs associated with ADHD (range in mean across studies)

Cost items (USD cost or % that use item)	Children with ADHD	Children without ADHD
Annual mental health services use	32% to 91%	3.4% to 45%
Annual outpatient care use	23% to 94%	4.3% to 86%
Annual inpatient care services use	23% to 39%	13% to 18%
Pharmaceuticals use	22% to 93%	0% to 14%
Special services use	5% to 37%	1% to 6%
Annual healthcare cost per child (USD)	\$760 to \$12,424	\$377 to \$3,920
Annual societal cost per child (USD)	\$1,279 to \$19,688	\$532 to \$6,813
Productivity losses: unemployment rate	38% mothers and 10% fathers	20% mothers and 5% fathers

CONCLUSION

ADHD was associated with increased service utilisation (mainly mental health and pharmaceutical services) and costs. There was also evidence on unmet health needs and underservicing (having needs but did not access/utilize services) among children with ADHD. Given the substantial lifelong outcomes of ADHD, strategies to improve service utilisation for children with ADHD are needed.

REFERENCES

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