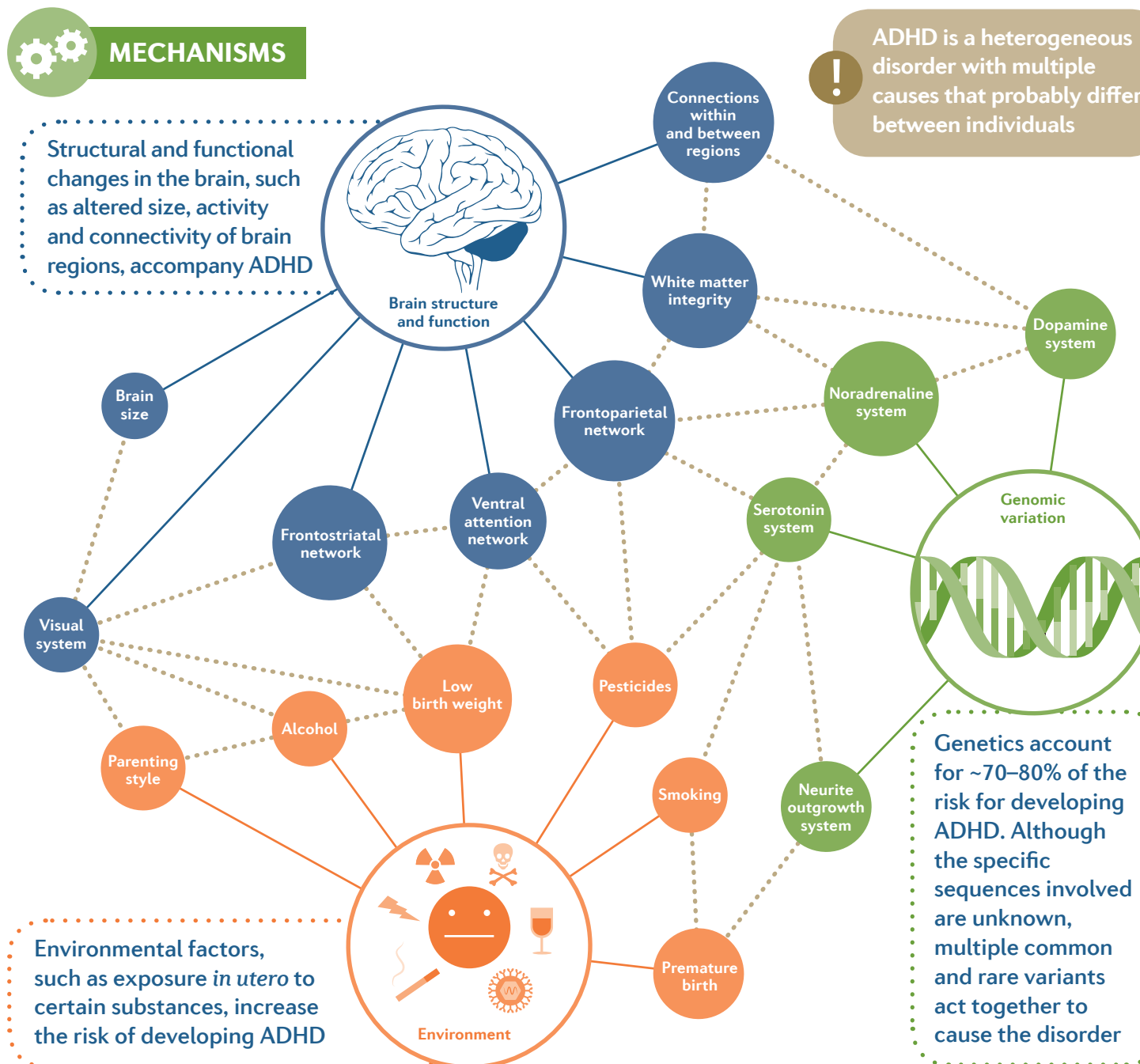


For the Primer, visit [doi:10.1038/nrdp.2015.20](https://doi.org/10.1038/nrdp.2015.20)

➔ **Attention-deficit/hyperactivity disorder (ADHD) is a common neurodevelopmental disorder characterized by impairing symptoms of inattention and hyperactivity-impulsivity. ADHD can also often affect inhibitory control, working memory, planning and reward processing.**

Rx MANAGEMENT

Pharmacological treatments are the most effective approach for minimizing ADHD symptoms in both children and adults, and act to modulate the activity of neurotransmitters. Stimulants alter the transport of dopamine, whereas non-stimulants either inhibit the reuptake of noradrenaline or stimulate the α_2 -adrenergic receptors. Given that patients normally require treatments that manage ADHD symptoms throughout the day, a key challenge for clinicians is to optimize pharmacological formulations and doses to meet the biological characteristics and social needs of each individual patient. Although less effective for core symptoms, non-pharmacological treatments are often the first choice for preschool-aged children and for targeting specific areas of impairment and co-morbid symptoms.



QUALITY OF LIFE

Individuals with ADHD are at increased risk for a range of poor social outcomes throughout their lifetime, including addiction and substance abuse, criminality,

academic and occupational underachievement, social rejection by peers and family conflict. Patients with ADHD are also at increased risk for obesity, suicide and premature death

compared with the general population. Accordingly, these functional impairments translate to reduced quality of life as measured by psychological, social and health indicators.

EPIDEMIOLOGY

ADHD is strongly related to both age and sex. Approximately 5% of children and adolescents and 2.5% of adults are affected by ADHD. The prevalence of ADHD does not markedly differ geographically, and the overall rate of ADHD in the population has remained stable over the past 30 years. Although individuals who experience socioeconomic disadvantage are over-represented among patients with ADHD, no direct evidence links socioeconomic status to the development of this disorder.



OUTLOOK

Large-scale genetic investigations, such as genome-wide association studies and whole-genome sequencing studies, will be crucial in the mapping of the multiple biological pathways that cause ADHD. With combined neuroimaging data, cell-based and animal model research and behavioural studies in humans, the future holds promise for uncovering the basis of ADHD heterogeneity — thereby improving diagnosis and management approaches.