



Citations

36% of the world's population is affected by a neurobiological diagnosis in their lifetime - autism, traumatic brain injury, stroke, developmental disabilities, genetic syndromes, or mental health challenges.

(Because some of the statistics are a range, such as those with genetic syndromes, we draw upon the median of those ranged percentages to get 36%)

PREVALENCE STATISTICS

Cerebral Palsy

Recent population-based studies from around the world report prevalence estimates of CP ranging from 1 to nearly 4 per 1,000 live births or per 1,000 children

About 1 in 345 children (3 per 1,000 8-year-old children) in the United States have been identified with CP, according to 2010 estimates from CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network

<https://www.cdc.gov/ncbddd/cp/data.html>

Autism

In 2021, the CDC reported that approximately 1 in 44 children in the U.S. is diagnosed with an autism spectrum disorder (ASD), according to 2018 data.

<https://www.autismspeaks.org/autism-statistics-asd>

Brain Injury & Stroke

As the cumulative result of past traumatic brain injuries, an estimated 5.3 million men, women, and children are living with a permanent TBI-related disability in the United States today.

https://www.cdc.gov/traumaticbraininjury/pubs/tbi_report_to_congress.html

Brain Injury occurs at a rate of 500 out of 100,000 individuals yearly in Canada.

<https://www.nbia.ca/brain-injury-statistics/>

Approximately 2% of Americans are living with disabilities related to traumatic brain injury. (2021)

<https://tbi.com/traumatic-brain-injury-statistics-on-recovery-and-mortality/>

Sixty-nine million (95% CI 64–74 million) individuals worldwide are estimated to sustain a TBI each year

<https://thejns.org/view/journals/j-neurosurg/130/4/article-p1080.xml>

Genetic Syndromes

Genetic disorders and congenital abnormalities occur in about 2%-5% of all live births

Emery AEH, Rimoin DL, eds. Principles and practice of medical genetics, Vols. 1 and 2, 2nd ed. Edinburgh, Churchill Livingstone, 1990.

The observed prevalence of Down syndrome among live births in the EMR has been reported to vary from 1.15 per 1000 in the UAE [1] to 2.5 per 1000 in Egypt [2].

1) Al-Ghazali LI et al. The profile of major congenital abnormalities in the UAE population. Journal of medical genetics, 1995, 32:7-13.

2) Abd-Al-Salam E. Hereditary disorders. A report presented to the Regional Consultation on Community Genetic Services, World Health Organization Regional Office for the Eastern Mediterranean, Alexandria, 17-21 April, 1994 (available on request from the Non-Communicable Diseases Unit, World Health Organization Regional Office for the Eastern Mediterranean, Alexandria, Egypt).

Cri du Chat syndrome. CdCS has an estimated prevalence of approximately 1 in 50,000 live births (Niebuhr, 1978)

Smith-Magenis syndrome. SMS has a reported prevalence of between 1 in 25,000 live births (Greenberg et al., 1996), and 1 in 15,000 (Laje et al., 2010).

Fragile X syndrome. FXS is the most common inherited form of intellectual disability with a prevalence of approximately 1 in 3,600 males and 1 in 8,000 females (Turner, Webb, Wake, & Robinson, 1996).

Angelman syndrome. AS has a reported prevalence of approximately 1 in 52,000 live births (Oiglane-Shilk et al., 2006)

Cornelia de Lange syndrome. CdLS has a reported prevalence of between 1 in 10,000 and 1 in 50,000 live births (Beck & Fenger, 1985; Oritz, 1985)

Prader-Willi syndrome. PWS has a reported prevalence of approximately 1 in 52,000 live births (Whittington et al., 2001),

Williams syndrome. WS has a reported prevalence of 1 in 7,500 live births (Stromme, Bjornstad, & Ramstad, 2002)

Down syndrome. DS is the most common cause of intellectual disability associated with a chromosomal anomaly, with an estimated prevalence of 1 in every 732 live births when averaged across maternal ages (Canfield et al., 2006)

Learning Differences

The estimate for learning disabilities in 2011–2012 was 8.0 percent for children of ages 3–17, with 4 percent rated as mild and 4 percent rated as moderate or severe (NSCH, 2012a).

NSCH. Data query from the child and adolescent health measurement initiative. 2012a. [August 4, 2015]. <http://childhealthdata.org/browse/survey/results?q=2542&r=1>. [Reference list]

Over 4 million kids in the US have at least one learning disability.

One in 59 kids, or 1.69 percent of kids live with one or more learning disabilities <https://www.healthyplace.com/parenting/learning-disabilities/learning-disabilities-statistics-and-prevalence>

Intellectual and Developmental Delays

There are over 7 million people with ID in the US.

People with ID are those with “significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates before age 18”. American Association on Intellectual and Developmental Disabilities (AAIDD), *Intellectual Disability: Definition, Classification, and Systems of Supports* (Schalock et al., 2010) and the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5)*, published by the American Psychiatric Association (APA, 2013)

The prevalence of intellectual disability in developing countries is estimated to range from 10 to 15 per 1000 children

Maulik PK, Mascarenhas MN, Mathers CD, Dua T, Saxena S. Prevalence of intellectual disability: a meta-analysis of population-based studies. *Res Dev Disabil.* 2011 Mar-Apr;32(2):419-36.

Of Scotland's 5 295 403 population, 26 349 (0.5%) had intellectual disabilities; <https://pubmed.ncbi.nlm.nih.gov/29070675/>

Estimates of the prevalence of ID among children in the United States based on epidemiologic studies range widely, from 8.7 to 36.8 per 1,000 (Boyle and Lary, 1996; Camp et al., 1998)

Boyle CA, Lary JM. Prevalence of selected developmental disabilities in children 3-10 years of age: The Metropolitan Atlanta Developmental Disabilities Surveillance Program, 1991. *Morbidity and Mortality Weekly Report.* 1996;45(SS02):1-14.

Camp BW, Broman SH, Nichols PL, Leff M. Maternal and neonatal risk factors for mental retardation: Defining the “at-risk” child. *Early Human Development*. 1998;50(2):159–173
<https://www.ncbi.nlm.nih.gov/books/NBK332894/>

In a survey exploring the training of health care professionals, more than 80% of U.S. medical school students report receiving no clinical training regarding people with ID; more than 50% of medical and dental school deans report that graduates of their programs are simply “not competent” to treat people with ID.²

Corbin S., Holder M., Engstrom K. *Changing Attitudes, Changing the World: The Health and Health Care of People with Intellectual Disabilities*, Washington, DC: Special Olympics International; 2005.

EBR

- 1 in every 8 people in the world live with a mental disorder
- Mental disorders involve significant disturbances in thinking, emotional regulation, or behaviour
- There are many different types of mental disorders
- Effective prevention and treatment options exist
- Most people do not have access to effective care

<https://www.who.int/news-room/fact-sheets/detail/mental-disorders>

In 2019, 1 in every 8 people, or 970 million people around the world were living with a mental disorder, with anxiety and depressive disorders the most common (1)

Institute of Health Metrics and Evaluation. Global Health Data Exchange (GHDx), (<https://vizhub.healthdata.org/gbd-results/>, accessed 14 May 2022).

In 2020, the number of people living with anxiety and depressive disorders rose significantly because of the COVID-19 pandemic. Initial estimates show a 26% and 28% increase respectively for anxiety and major depressive disorders in just one year

[Mental Health and COVID-19: Early evidence of the pandemic’s impact](#). Geneva: World Health Organization; 2022.

An expanding literature base indicates the incidence and prevalence of emotional/behavioral problems in young children is increasing. The U.S. Department of Health and Human Services’ (DHHS’) 1999 report, *Mental Health: A Report of the Surgeon General*, estimates that at least one in five (20%) children and adolescents has a mental health disorder at some point in their life from childhood to adolescence

Department of Health and Human Services (US); Rockville (MD): Department of Health and Human Services. *Mental health: a report of the Surgeon General*. 1999

Estimates of the number of children suffering from serious emotional/behavioral problems vary significantly depending on the study cited. A literature review revealed estimates ranging from 5% to 26%:

- 7% (15% mild) by Richman et al. (1975)¹⁸

Richman N, Stevenson JE, Graham PJ. Prevalence of behavior problems in 3-year-old children: an epidemiological study in a London borough. *J Child Psychol Psychiatry*. 1975;16:277–87

- 11% by Earls (1980)¹⁹

Earls F. Prevalence of behavior problems in 3-year-old children: a cross national replication. *Arch Gen Psychiatry*. 1980;37:1153–1157

- 11.8% by Gould et al. (1980)²⁰

Gould MS, Wunsch-Hitzig R, Dohrenwend BP. Formulation of hypotheses about the prevalence, treatment, and prognostic significance of psychiatric disorders in children in the United States. In: Dohrenwend BP, Dohrenwend BS, Gould MS, editors. *Mental illness in the United States*. New York: epidemiological estimates; 1980. pp. 9–44.

- 5% by Vikan (1985)²¹ (he considered socio-demographic variables an explanation for the low prevalence)

Vikan A. Psychiatric epidemiology in a sample of 1,510 ten-year old children. I. Prevalence. *J Child Psychol Psychiatry*. 1985;26:55–75.

- 26% by Verhulst et al. (1985)²²

Verhulst FC, Akkerhuis GW, Althaus M. Mental health in Dutch children: I. A cross cultural comparison. *Acta Psychiatr Scand Suppl*. 1985;323:1–108

- 14.1% by Cornely and Bromet (1986)²³

Cornely P, Bromet E. Prevalence of behavior problems in three-year-old children living near Three Mile Island: a comparative analysis. *J Child Psychol Psychiatry*. 1986;27(4):489–498.

- 16.5% by Offord et al. (1987)²⁴

Offord D, Boyle MH, Szatmari P, Rae-Grant NI, Links PS, Cadman DT, et al. Ontario Child Health Study II: six month prevalence of disorder and rates service utilization. *Arch Gen Psychiatry*. 1987;44:832–836.

- 9% to 13% by Friedman et al. (1996 and 1998)^{25,26}

Friedman RM, Kutash K, Duchnowski AJ. The population of concern: defining the issues. In: Stroul BA, editor. *Children's mental health: creating systems of care in a changing society*. Baltimore: Paul H. Brookes. 1996. pp. 69–95.

Friedman RM, Katz-Leavy JW, Manderscheid RW, Sondheimer DL. Rockville (MD): Department of Health and Human Services. Prevalence of serious emotional disturbance on children and adolescents. In: Manderscheid RW, Sonnenschein MA, editors. *Mental Health, United States, 1996*. 1996. pp. 71–89.

- 16% to 20% by Anderson et al. (1987),²⁷ Costello et al. (1988a),²⁸ Bird et al. (1989),²⁹ Costello (1989),³⁰ Velez et al. (1989),³¹ Brandenburg et al. (1990),³² Esser et al. (1990),³² McGee et al. (1990),³³ and

Anderson JC, Williams S, McGee R, Silva PA. DSM-III disorders in preadolescent children. Prevalence in a large sample from the general population. *Arch Gen Psychiatry*. 1987;44:69–76.

Costello EJ, Costello AJ, Edelbrock C, Burns BJ, Dulcan MK. Psychiatric disorders in pediatric primary care. Prevalence and risk factors. *Arch Gen Psychiatry*. 1988;45:1107–1116.

Bird HR, Gould MS, Yager T, Staghezza B, Canino G. Risk factors for maladjustment in Puerto Rican children. *J Am Acad Child Adolesc Psychiatry*. 1989;28:847–850

Costello EJ. Developments in child psychiatric epidemiology. *J Am Acad Child Adolesc Psychiatry*. 1989;28:836–41

Velez CN, Johnson J, Cohen P. A longitudinal analysis of selected risk factors for childhood psychopathology. *J Am Acad Child Adolesc Psychiatry*. 1989;28:861–864

Brandenburg NA, Friedman RM, Silver SE. The epidemiology of childhood psychiatric disorders: prevalence findings from recent studies. *J Am Acad Child Adolesc Psychiatry*. 1990;29:76–83

Esser G, Schmidt MH, Woerner W. Epidemiology and course of psychiatric disorders in school age children: results of a longitudinal study. *J Child Psychol Psychiatry*. 1990;31:243–263.

McGee R, Feehan M, Williams S, Partridge F, Silva PA, Kelly J. DSM-III disorders in a large sample of adolescents. *J Am Acad Child Adolesc Psychiatry*. 1990;29:611–619

- 3% to 21.4% by Lavigne et al. (1996)³⁴

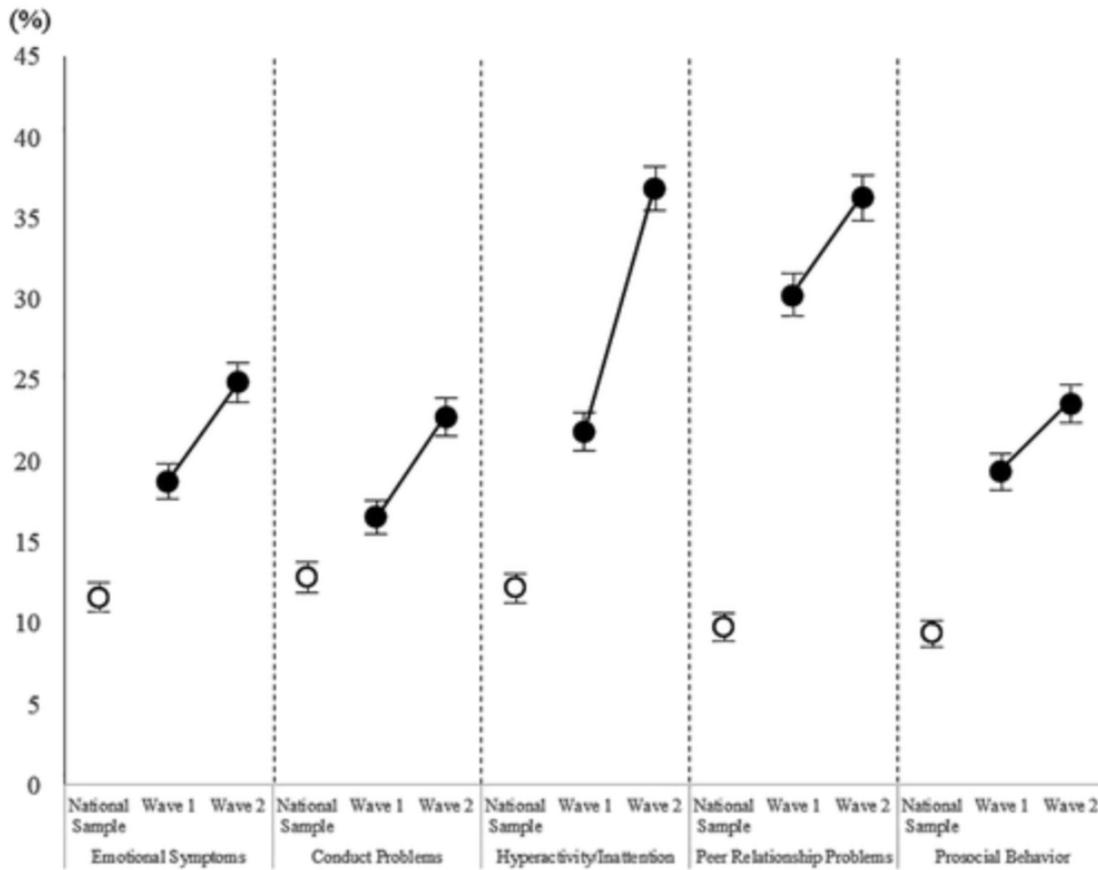
Lavigne JV, Gibbons RD, Christoffel KK, Arend R, Rosenbaum D, Binns H. Prevalence rates and correlates of psychiatric disorders among preschool children. *J Am Acad Child Adolesc Psychiatry*. 1996;35:204–214.

We estimate the prevalence of emotional/behavioral disturbance in children 0–5 years of age is in the range of 9.5% to 14.2%.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1525276/#B18>

As illustrated in the Figure 1, the estimates and 95% CIs of the proportions of clinical-level problems were higher at Wave 2 than at Wave 1 in all five SDQ subscales: emotional symptoms (18.7% [17.6–19.8] at Wave 1; 24.8% [23.6–26.0] at Wave 2), conduct problems (16.5% [15.4–17.6] at Wave 1; 22.7% [21.5–23.9] at Wave 2), hyperactivity/inattention (21.8% [20.6–23.0] at Wave 1; 36.8% [35.4–38.2] at Wave 2), peer relationship problems (30.2% [28.9–31.5] at Wave 1; 36.2% [34.8–37.6] at Wave 2), and lack of prosocial behavior (19.3% [18.2–20.4] at Wave 1; 23.5% [22.3–24.7] at Wave 2).

<https://acamh.onlinelibrary.wiley.com/doi/full/10.1111/jcv2.12007>



Trauma Response (PTSD)

However, only a minority develops posttraumatic stress disorder (PTSD) [3,4]. The lifetime prevalence of PTSD varies widely across epidemiologic studies, with rates that range from less than 1% (e.g., Nigeria [5] or Switzerland [6]) up to approximately 5–9% (in the United States [7], the Netherlands [8], and Norway [9]), and as high as 37% in post conflict countries (e.g., Liberia, Algeria, and Cambodia [10]).

