

Appendix 1:

Global Burden of Disease (GBD) – Brain-Related Disorders Compared with Cardiovascular Disease and Cancer

Disability-Adjusted Life Years (one DALY represents one year of healthy life lost due to illness, disability, or premature death)

Category	Share of Global DALYs	Category Definition	Key References
Mental health disorders	~5–6%	Direct DALYs from depression, anxiety disorders, bipolar disorder, schizophrenia, eating disorders, ASD, ADHD. Burden is dominated by years lived with disability (YLDs, minimal mortality contribution).	GBD Mental Disorders Collaborators, <i>Lancet Psychiatry</i> (2019; 2022); IHME GBD 2019/2021
Substance-use disorders (SUD)	~1.5–2%	DALYs from alcohol use disorder and substance use disorders. Includes both disability and premature mortality.	GBD Substance Use Disorders Collaborators, <i>The Lancet Psychiatry</i> (2019; 2022); IHME GBD 2019/2021 (DALY estimates)
Neurological disorders (GBD cause group)	~14–15%	Includes Alzheimer’s & other dementias, migraine, epilepsy, Parkinson’s disease, multiple sclerosis, motor neuron disease. Stroke is included under neurological disorders in GBD 2021. <u>Excludes</u> mental and substance-use disorders, and co-morbidities.	Feigin et al., <i>The Lancet Neurology</i> (2024); GBD 2021 Neurological Disorders Collaborators
All brain-related disorders (mental + neurological + SUD)	~21–23%	True DALY-based combined burden across three GBD cause groups. Represents the total epidemiological burden of brain-related conditions. Not an official single GBD category.	Derived from IHME GBD 2019/2021 cause-group DALYs (<i>The Lancet Neurology</i> ; <i>Lancet Psychiatry</i>)
Cardiovascular disease (CVD)	~15–16%	Largest single-category cause of DALYs globally; includes ischemic heart disease and hypertensive disease. (Stroke is counted under neurological disorders in current GBD classification).	IHME GBD 2019/2021; Roth et al., <i>The Lancet</i> (2020).
Cancer (all neoplasms)	~9–10%	Includes all malignant cancers; second or third highest burden after CVD and neonatal conditions.	HME GBD 2019/2021; Kocarnik et al., <i>The Lancet Oncology</i> (2022).

Note: In the Global Burden of Disease 2021 classification, stroke is included under neurological disorders rather than cardiovascular disease. Earlier GBD frameworks and some CVD literature may classify stroke differently.