

Global Burden of Disease

**Mental Disorders and
Illicit Drug Use Expert Group**



**Methodology Part 1:
Overview**

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There are two major activities involved in this work: estimating **epidemiological parameters** associated with burden of disease for mental disorders, including prevalence/incidence, duration, disability and mortality; and assessing mental disorders and illicit drug use as a **risk factor for disease**, injury and disability, using comparative risk assessment.

Epidemiologic estimates

Disability will be estimated using the disability-adjusted life year (DALY), which is a standardized metric that can be used to quantify loss of healthy years of life due to dying prematurely or to living with the health consequences of diseases or injuries (The GBD Study Operations Manual, 2008). Parameters required to calculate DALYs are being sourced in a multi-stage search of the peer-reviewed and grey literature. The parameters sought for distribution of disease include incidence (annual and cumulative) and prevalence (point, period, 12-month and lifetime). Other parameters sought for modelling life course of the disease include remission (proportion of patients fully remitted), duration (average period of illness prior to remission) and mortality (standardised mortality ratio).

GBD2005 requires the calculation of burden of disease estimates 1990 and 2005. Hence data will be sought from 1980 to present so that time trends can be established for disease parameters.

For more information on DALYs see:

Murray, C. (1994). Quantifying the burden of disease: The technical basis for disability-adjusted life years. *Bulletin of the World Health Organization*, 72: 429-45.

Comparative Risk Assessment

The Global Burden of Disease study will also investigate risk factors for diseases and injuries. Any entity that raises the probability of disease/injury incidence or death can be treated as a risk factor. Risk factors need to be potentially modifiable; evidence of causal effect can be established; relatively specific definition of risk factor exposure; and sufficient data exists on risk factor exposure and risk factor disease relationships.

Comparative Risk Assessment (CRA) is a systematic assessment of the expected changes in population health which would result from modifying the population distribution of exposure to a risk factor or a group of risk factors, with a central aim of analytical and methodological consistency across risk factors. CRA can be used to quantify current mortality and burden of diseases and injuries attributable to past and current exposure, or future avoidable disease and injury burden if current and future risk factor exposure were reduced (The GBD Study Operations Manual, 2008).

Estimates of mental disorders or illicit drug use as a risk factor requires the estimation of the population attributable fraction (PAF), which is the expected proportional reduction in mortality/disability if exposure to mental disorders or illicit drugs was zero. In order to estimate the PAF associated with mental disorders and illicit drug use, the following epidemiological inputs are needed: *exposure* to the mental disorder or illicit drug; disease or injury *outcome* with a causal association to the mental disorder or illicit drug; and estimates of the *proportional effect size* for each mental disorder or illicit drug-related outcome, such as relative risk. Additionally, a counterfactual exposure distribution is required. It is anticipated that for certain outcomes associated with mental disorders and the use of illicit drugs there will be enough data to calculate the PAF.