FairChoices
DCP Analytic Tool

(DCP4 ID: MENTD08-01,02,03,04)
Cluster: Mental & substance use disorders

Management of addiction disorders

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Description of condition and intervention

About 3 million deaths each year are attributed to alcohol consumption globally. Alcohol is reported as the top risk factor for premature mortality and disability in the age group of 15 to 49 years. Further, the harmful use of alcohol accounts for 5.1% of the global burden of disease. Higher rates of alcohol-related deaths and hospitalizations have been stated in the disadvantaged and especially vulnerable populations. Introduction of interventions to manage alcohol-use disorder for prevention and treatment aligns with one of the Sustainable Development Goals target 3.5 (WHO 2018).

Interventions included this evidence brief includes:

Alcohol use disorders, opportunistic screening, and brief intervention

Drug use disorders, opportunistic screening and brief intervention

Opioid Agonist Treatment (OAT)

Tobacco cessation counselling (including nicotine agonist treatment)

International guidelines

Organization	Indications/recommendations	Applicability

		in LIC & Lower MIC settings
World Health Organization	mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings: mental health Gap Action Programme (mhGAP)	Yes

Source: WHO 2016

Intervention attributes

Type of interventions

Table 1: Type of intervention and delivery platform

Intervention taxonomy	Type of intervention	Delivery platform
Alcohol use disorders, opportunistic screening, and brief intervention	Curative	Health Center
Drug use disorders, opportunistic screening and brief intervention	Curative	Health Center
Opioid Agonist Treatment (OAT)	Prevention	Community
Tobacco cessation counselling (including nicotine agonist treatment)	Prevention	Health Center

Equity

In addition to considerations like cost-effectiveness and health systems factors, dimensions of equity can be relevant for priority setting. The opportunity for a long and healthy life varies according to the severity of a health condition that individuals might have, so there are inequities in individuals' opportunities for long and healthy lives based on the health conditions they face. Metrics used to estimate the severity of illness at an individual level can be used to help prioritize those with less opportunity for lifetime health. FairChoices: DCP Analytics Tool uses Health adjusted age of death (HAAD), which is a metric that estimates the number of years lived from birth to death, discounting years lived with disability. A high HAAD thus represents a disease less severe in terms of lifetime health loss, while a low HAAD represents a disease

that is severe on average, causing early death or a long period of severe disability. It is also possible to estimate the distribution of HAAD across individuals with a health condition. FairChoices shows for each intervention an average HAAD value of the conditions that are affected by respective interventions that have health effects. Additionally, a plot shows HAAD values for around 290 conditions (Johansson KA et al 2020).

Time dependence

Low level of urgency. Treatment outcomes not highly affected by some days of delay.

Population in need of interventions

Table 2: Population in need for interventions for management of addiction disorders

Intervention taxonomy	Treated population & treated fraction	Affected population & treated fraction	Disease state addressed
Alcohol use disorders, opportunistic screening, and brief intervention	10 to 99 years (prevalent cases); 1; both gender	10 to 99 years;1; both gender	Alcohol use disorders
Drug use disorders, opportunistic screening and brief intervention	10 to 99 years (prevalent cases);1; both gender	10 to 99 years;1; both gender	Drug use disorders
Opioid Agonist Treatment (OAT)	20 to 99 years; 1; both gender	20 to 99 years;1; both gender	Opioid use disorders (prevalent cases); HIV/AIDS (incident cases)
Tobacco cessation counselling (including nicotine agonist treatment)	20 to 99 years; 1; both gender	Aortic aneurysm: 0.128 Tracheal, bronchus, and lung cancer: 0.444 Chronic obstructive pulmonary disease: 0.252 Intracerebral haemorrhage: 0.111 Ischemic heart disease:0.111 Larynx cancer: 0.396 Lip and oral cavity cancer:0.174 Nasopharynx cancer: 0.182 Esophageal cancer: 0.164 Prostate cancer: 0.012	Aortic aneurysm Tracheal, bronchus, and lung cancer Chronic obstructive pulmonary disease Intracerebral hemorrhage Ischemic heart disease Larynx cancer Lip and oral cavity cancer Nasopharynx cancer Oesophageal cancer Prostate cancer Chronic obstructive pulmonary disease

		Chronic obstructive pulmonary disease:0.012 20 to 99 years;1; both gender	

Intervention effect and safety

Table 1: Effect and safety of interventions for management of addiction disorders

Effect of intervention		Certainty of evidence
Mortality (due to condition) Alcohol use disorders, opportunistic screening, and brief intervention	In a meta-analysis of randomized studies comparing brief interventions with a control group, using the fixed-effects model, the prevented fraction was 0.33, indicating that about one in every three deaths is prevented by the intervention (Cuijpers, 2004).	See appendix
Opioid Agonist Treatment (OAT)	0.795 relative risk reduction for the opioid use disorders	
Disability Alcohol use disorders, opportunistic screening, and brief intervention	0.1 relative risk reduction (assumed)	
Drug use disorders, opportunistic screening and brief intervention	0.1 relative risk reduction (assumed)	

Model assumptions

Table 2: Summary of model parameters and values used in FairChoices – DCP Analytical Tool

Category	Model parameter	Notes
Interventions	Alcohol use disorders, opportunistic screening, and brief intervention Relapse prevention medication for alcohol use/dependence Management of alcohol withdrawal	
Cost parameters		
Treated population	See table 2	Global Burden of Disease study 2019
Gender		
Age		
Treated fraction		
Effect parameters		
Affected population	Those with condition	
Affected gender	See table 2	
Affected fraction age		
Affected fraction for mortality reduction		
Comparison	No intervention	
Mortality Reduction Alcohol use disorders, opportunistic screening, and brief intervention	0.33	Cuijpers, 2004
Disability Reduction (RRR) Alcohol use disorders, opportunistic screening, and brief intervention Drug use disorders, opportunistic screening and brief intervention	0.10	Assumed for each

Intervention cost

The unit cost for screening and brief intervention for alcohol use disorders was estimated at USD 68.42 in South Africa in 2008. The cost is based on Chisholm et al. 2016, which provided estimates for the annual cost per average case receiving non-specialized care. The unit cost was calculated as the sum for the cost of identification and assessment (of new cases) (USD 4.95), brief interventions and follow-up (USD 28.05), and management of alcohol withdrawal (35.42).

Based on a costing study in Indonesia, the unit cost for provision of harm reduction services such as safe injection equipment and opioid substitution therapy to people who inject drugs is estimated to be $333 per person in 2007 USD in Indonesia (Afriandi, 2010). The unit cost is calculated from the health system perspective based on a program cost of $42,926.25 for 129 clients and a 1-year observation period.

References

WHO 2018: World Health Organization. Global status report on alcohol and health 2018: executive summary. World Health Organization; 2018.

WHO 2016: World Health Organization. mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings: mental health Gap Action Programme (mhGAP). World Health Organization; 2016.

Johansson KA et al 2020: Johansson KA, Coates MM, Økland JM, Tsuchiya A, Bukhman G, Norheim OF, Haaland Ø. Health by disease categories. Distributional Cost-Effectiveness Analysis: Quantifying Health Equity Impacts and Trade-Offs. 2020 Sep 30:105.

Cuijpers 2004: Cuijpers, P., Riper, H., & Lemmers, L. (2004). The effects on mortality of brief interventions for problem drinking: A meta-analysis. Addiction, 99(7), 839–845. https://doi.org/10.1111/j.1360-0443.2004.00778.x

Chisholm et al 2016: Chisholm D, Burman-Roy S, Fekadu A, Kathree T, Kizza D, Luitel NP, Petersen I, Shidhaye R, De Silva M, Lund C. Estimating the cost of implementing district mental healthcare plans in five low- and middle-income countries: the PRIME study. Br J Psychiatry. 2016 Jan;208 Suppl 56(Suppl 56):s71-8. doi: 10.1192/bjp.bp.114.153866. Epub 2015 Oct 7. PMID: 26447170; PMCID: PMC4698559.

Afriandi I, Siregar AYM, Meheus F, et al. Costs of hospital-based methadone maintenance treatment in HIV/AIDS control among injecting drug users in Indonesia. Health Policy. 2010;95(1):69-73.

Appendix

Literature Review for effectiveness & safety

This literature search is an example of Level 1 search for intervention inputs taken from DCP3 or generated in an ad hoc manner (e.g., quick google search found one study of cervical cancer screening cost-effectiveness that was used to create an effectiveness parameter for that intervention).

Level of evidence of efficacy studies:

1. low (expert opinions, case series, reports, low-quality case control studies)
2. moderate (high quality case control studies, low quality cohort studies)
3. high (high quality cohort studies, individual RCTs)
4. very high (multiple RCTs, meta-analysis, systematic review, clinical practice guidelines)