



### Background

The Alberta Health Services (AHS) Provincial Psychology Professional Practice Council (PPPPC) identified an opportunity to support local efforts to advance clarity of the psychologists' role and evidence based practice in health care. Each of these resources is developed independently by AHS psychologists, and reviewed by the AHS PPPPC. We are pleased to share this information to support both psychologists' practice and leaders' awareness of the quality and cost-effective impacts psychologists can bring to programs, to further quality, patient and family centred care.

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## The Role of Psychologists in Treating Substance Use and Concurrent Disorders within the Multidisciplinary Team

### Psychologists provide:

- Psychologists possess a comprehensive skillset and are equipped to take practitioner, leadership and organizational, and program development and evaluation roles<sup>1, 2</sup>:
- Practical competencies enable psychologists to: conduct comprehensive psychological assessments for individuals with multiple complex needs; accurately identify clinical diagnoses and effectively convey this information to facilitate understanding and support change; develop an integrative biopsychosocial case formulation, drawing on psychological theory and principles; develop a tailored treatment plan based on the case formulation and evidence-based practices; deliver both generalist and specialist psychological interventions for individuals, groups, and their families; and facilitate engagement with recovery-oriented community resources.

- Leadership and organizational competencies enable psychologists to: provide consultation, supervision, and training for multidisciplinary and interdisciplinary teams; use professional skills to guide safe and ethical practices; communicate effectively with various stakeholders; advise management on specific psychological clinical standards; enhance the overall psychological competence of treatment teams; and promote workplace well-being, consistent with organizational psychology principles and practices.
- Research is a core component of psychologists' training and skillset, and is essential to designing and validating treatment outcome measures, and conducting quality research to evaluate treatment efficacy. Psychologists are skilled in translating research findings into effective and efficient clinical practice, and disseminating knowledge to stakeholders and the broader public.
- The role of psychologists in service delivery is highlighted by current evidence on the nature of addiction: problematic substance use frequently occurs within a broader cluster of psychological problems; various psychological constructs have been associated with problematic substance use; effective treatment approaches are fundamentally psychological; and non-specific therapeutic factors included in psychologists' training (e.g., empathy, therapeutic alliance) are important determinants of favourable treatment outcomes<sup>2</sup>.

### Substance Use and Concurrent Disorders: Definition, Prevalence, and Classification

- In the *Diagnostic and Statistical Manual, Fifth Edition (DSM-5)*<sup>3</sup>, the *substance-related and addictive disorders* section includes *substance use disorders*, *substance-induced disorders*, and *non-substance-related disorders* (i.e., gambling disorder). A substance use disorder (SUD) is characterized by a cluster of substance-related cognitive, behavioral, and physiological symptoms associated with persistent substance use despite significant adverse consequences in important areas of functioning (e.g., social, vo-

cational, legal, medical, interpersonal). Substance-induced conditions include withdrawal, intoxication, and other substance/medication-induced mental disorders. Here, *concurrent disorder* refers to the co-occurrence of a SUD and either a mental health disorder or a substance-induced mental health disorder.

- In Canada, the lifetime prevalence of alcohol use disorder is 18% and of drug use disorders is 4%<sup>4</sup>. The lifetime prevalence of any SUD is 22%. Estimates of SUDs among individuals with psychological disorders vary depending on the sample but are much higher than the general population. Based on data from the 2002 Canadian Community Health Survey, the 12-month prevalence of psychological disorders among those with substance use problems was two to three times higher compared to those without substance problems<sup>5</sup>. Other estimates indicate that between 40-60% of individuals with a psychological disorder have a lifetime SUD and 25-35% have an active SUD<sup>6</sup>.
- The 2010 Global Burden of Disease study estimates that the global burden of disease—an indicator of health based on years of life lost due to disability and to premature mortality—is 0.7% from alcohol and 0.8% from illicit drugs<sup>7</sup>. Together, alcohol, tobacco, and illicit drug use is implicated in over 12% of mortality worldwide and constitutes the leading cause of preventable death<sup>8</sup>.
- Epidemiological and clinical research has demonstrated that most individuals who use drugs and alcohol do not develop a SUD<sup>9,10</sup>. Sociodemographic and historical correlates of substance use include: younger age (18-25), male gender, unmarried status, limited income, lower educational attainment, family history of substance use, and earlier onset of use<sup>10-13</sup>. The correlates and risk factors associated with SUD tend to also be associated with substance use in psychiatric populations<sup>14</sup>. Although risk factors have been identified, data also point toward broad diversity among individuals with SUD<sup>9</sup>. This heterogeneity calls for services that are sensitive and adaptable to individual differences.
- Research on pathways to substance use resolution or recovery indicate that natural recov-

ery (i.e., without external assistance) is associated with less severe and less complex substance use history<sup>12,15,16</sup>, whereas treatment-assisted recovery is associated with increased severity of substance use problems, drug-related legal involvements, and the presence of concurrent psychological disorders<sup>15</sup>. Abstinence-based goals and outcomes are also related to greater problem severity compared to moderation-based approaches<sup>16,17</sup>.

## Psychosocial Impact

- A large proportion of individuals in community mental health treatment programs present with problematic drug or alcohol use (44%)<sup>18</sup>. Similarly, the majority of individuals presenting to community substance use treatment programs for drug or alcohol problems experience mental health difficulties (75% and 85%, respectively)<sup>18</sup>.
- The odds of having a concurrent SUD is particularly elevated for severe and persistent mental health diagnoses, such as bipolar and schizophrenia<sup>12,13</sup>. Across psychological disorders, the odds of concurrent substance use disorders generally increases with increasing severity of psychopathology<sup>12,13</sup>.
  - **Bipolar disorder.** Comorbid SUD is associated with more frequent and longer-lasting mood episodes, more mixed manic-depressive episodes, and lower functional recovery, even during abstinence<sup>19,20</sup>.
  - **Schizophrenia.** Psychosis patients with concurrent SUD have more positive symptoms and are more likely to report recent symptom exacerbation<sup>21</sup>. SUD is associated with a substantially reduced likelihood of remission among first-episode psychosis patients<sup>22</sup>.
  - **Post-traumatic stress disorder.** History of trauma and PTSD are important risk factors for SUD, with estimates that as high as half of individuals seeking treatment for SUDs also meet criteria for lifetime PTSD<sup>14,23</sup>.
  - **Anxiety Disorders.** Across anxiety disorders, panic disorder and obsessive-compulsive disorder show the strongest association with substance use<sup>5,12,13</sup>.
  - **Depression.** There is strong evidence that alcohol worsens depressive symptoms<sup>19</sup>; however, longitudinal research shows that

individuals initially diagnosed with substance-induced depression are equally likely to experience a depressive episode at follow-up as those initially diagnosed with major depression<sup>19</sup>, highlighting the need for concurrent disorder treatment.

- **Attention-deficit / hyperactive disorder (ADHD).** ADHD is overrepresented in SUD populations<sup>24</sup>. Some studies have found relatively greater risk of SUD among those with hyperactive symptoms in childhood<sup>25</sup>, whereas other studies have found similar risk magnitude across ADHD subtypes<sup>26</sup>.
- **Personality disorder.** Antisocial personality disorder (ASPD) and borderline personality disorder are the most common comorbid personality disorders, with ASPD representing one of the most prevalent psychological disorders overall<sup>5,12,13</sup>.
- Comorbid substance use is associated with worse course of mental illness, including: higher risk of treatment noncompliance and poorer clinical outcomes; more frequent manic, psychotic, or depressive episodes; more frequent inpatient admissions, use of emergency services, and suicide behaviour; more medical issues and higher rates of early mortality; higher risk of violence and legal involvement; and higher risk of victimization, housing instability, homelessness, unemployment, and poverty<sup>5,20,27</sup>.

## Psychological Factors in the Onset and Maintenance of Concurrent Disorders

- Many hypotheses have been proposed and tested to explain why individuals with severe psychological disorders are especially vulnerable to SUDs<sup>10,14,28</sup>. The self-medication model proposes that substance use is an attempt to treat psychological symptoms; however, there is weak empirical support for this explanation<sup>29</sup>. Research points toward a shared etiologic model that acknowledges the complex interplay of biopsychosocial vulnerability factors that contribute to individual variation in the propensity to develop a concurrent disorder. Early acquired, predisposing factors that appear to increase vulnerability to both psy-

chological and substance use disorders include: genetic factors, neurobiological dysfunction, pre-natal stress, and early adverse life experiences, such as child sexual or physical abuse<sup>9,10,28</sup>. The relationship between substance use and mental health is likely multifactorial and bidirectional<sup>10,14</sup>.

- Evidence from prospective studies, though limited in number, indicates that psychological disorders tend to predate and predict problematic alcohol and drug use, and that specific psychological disorders differentially impact the severity of substance use<sup>10,30</sup>. There is also evidence that the prospective risk of developing a substance use diagnosis increases as a function of the number of pre-existing psychological disorders. It is estimated that the successful treatment of pre-existing psychological disorders would reduce cases of secondary alcohol and drug abuse by 54% and 89%, respectively<sup>30</sup>.
- Longitudinal investigations show that premorbid behavioural and personality traits increase vulnerability to substance use, namely: disruptive behavioural disorders in childhood (e.g., conduct disorder, ODD); ASPD in adulthood; externalizing (e.g., violent, disruptive) behaviours; and impulsivity and sensation-seeking<sup>10,31</sup>. Impulsivity and sensation-seeking have been identified as factors that influence the transition from controlled substance use to problematic substance use<sup>10</sup>.

### Assessment Services

- Psychological assessment is considered a core component of treatment<sup>32</sup>. A range of established assessment procedures are used to elicit detailed information about the presenting problem and protective factors, the social circumstances in which they occur, and the individual's personal goals for treatment. Assessment information is integrated within a case formulation that draws upon psychological theory and evidence and incorporates biological, psychological, and social factors to form a coherent understanding of the problem, including precipitating and maintenance factors<sup>14,33</sup>. The formulation is used to collaboratively develop an evidence-based treatment plan that is tailored to the individual's needs,

goals (short- and long-term), and preferences. Tailored treatment plans (i.e., need-service matching) leads to more efficient and effective service delivery<sup>34</sup>.

- Assessing substance use involves the evaluation of: substance type (primary and secondary substances); current and historical patterns of use (first and last use, methods of administration, quantity, frequency); symptoms of tolerance and withdrawal; contexts of use and possible motives; impact of substance use across multiple areas of functioning; pattern changes and periods of abstinence; previous treatment experience (where, when, outcome, effective and ineffective strategies); motivation to address substance use; substance use goals (e.g., abstinence, reduction, remain the same); and possible treatment barriers<sup>14,34</sup>. The individual's stage of change<sup>35,36</sup> and sense of self-efficacy with respect to addressing substance use (and mental health) is assessed in order to provide treatment recommendations and match interventions accordingly<sup>37</sup>. Laboratory testing (e.g., urine screens) can provide useful information for establishing accurate substance use diagnoses<sup>38</sup>. Individuals with severe psychological disorders tend to experience more negative consequences with relatively lower quantities of alcohol and drugs compared to the general population; therefore, quantity of use, alone, is a poor indicator of SUD<sup>4</sup>.
- Other important areas of functioning that are impacted by substance use and mental health are assessed in order to provide comprehensive treatment: psychosocial history; family and social supports; education and work history; housing and accommodation; medical history; emotional functioning; legal involvement; and risk behaviour<sup>14,33</sup>.
- The diagnosis of individuals with concurrent psychological symptoms and substance use is complex because the effects of alcohol and drugs can mimic psychological symptoms (e.g., manic-like symptoms with certain stimulants)<sup>14,33</sup>. It is also challenging to determine whether psychological symptoms are substance-induced (secondary) or related to a primary psychological disorder. Factors to consider are the chronology of symptom presentation (the earlier-onset disorder is assumed to



be primary), psychological symptom resolution or persistence during periods of abstinence, and whether substance use is identified as a coping strategy for psychological symptoms<sup>14,33</sup>.

- Diagnostic complexity underscores the importance of an accurate and complete diagnostic evaluation. Clinical psychologists have competency in conducting comprehensive cognitive, neuropsychological, and/or psychodiagnostic assessment using standardized assessment measures (standardized personality measures, symptom inventories, cognitive and academic testing). Comprehensive neurological and cognitive assessments identify cognitive limitations and strengths, which can impact treatment and overall functioning. Psychodiagnostic assessments provide diagnostic clarity for complex psychological presentations in order to guide psychosocial and pharmacological therapy.
- A number of substance use screening and assessment measures have been developed:
  - Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)<sup>39</sup>: a clinician-administered combined screen for alcohol and drug use, and associated risks for each substance identified.
  - Cut down, Annoyed, Guilty, Eye-opener (CAGE) or CAGE–Adapted to Include Drugs (CAGE-AID)<sup>40</sup>: brief self-report screening measures for alcohol use or aggregate drug use (i.e., no reference to a specific drug), respectively.
  - Drugs Abuse Screening Test (DAST)<sup>41</sup>: self-report measure of lifetime problematic aggregate drug use (no distinction between current and past use).
  - Alcohol Use Disorders Identification Test (AUDIT)<sup>42</sup>: self-report measure of alcohol intake, dependence, and alcohol-related problems.
  - Co-occurring Disorder Screening Instrument (CODSI)<sup>43</sup>: self-report measure to identify drug-related problems in mental and physical health, relationships, and work or school adjustment.
  - Addiction Severity Index (ASI)<sup>44</sup>: structured interview designed to measure patient problems and severity on multiple dimensions, designed to aid in service matching.

- Structured Clinical Interview for DSM-5 (SCID-5)<sup>45</sup>: semi-structured interview for the diagnosis of DSM-5 disorders.

## Psychological Services and Interventions

### Treatment Model and Approach

- Best-practice guidelines for substance use treatment highlight the importance of person-centered care and shared decision-making, whereby the individual's needs, goals, and preferences are taken into account<sup>46</sup>. With this approach, individuals are informed of treatment options—abstinence, moderation (i.e., continued, limited use without significant negative consequences), harm-reduction (i.e., reduce the harms associated with substance use)—and have the opportunity to make informed choices about available interventions and supports in collaboration with their healthcare providers<sup>14,46</sup>. Prescriptive or confrontational approaches are ineffective and counterproductive as they result in poor treatment compliance and low retention rates<sup>47</sup>.
- Literature on concurrent disorders and the development of evidence-based practices have been relatively limited compared to primary SUD, despite the high prevalence of comorbidity. For concurrent disorders, an integrative, cohesive treatment model that addresses both mental health concerns and substance use simultaneously with the same treatment team is recommended<sup>14,47-52</sup>. Traditional, non-integrated systems that address psychological symptoms and substance use sequentially or with separate services have several disadvantages and are associated with poorer prognosis<sup>14</sup>.
- Core components of an integrated treatment model include: prioritization of the reduction of negative consequences (i.e., harm-reduction); time-unlimited services (i.e., services are not terminated prematurely for individuals who would otherwise improve with ongoing integrated treatment); client-centered, motivation-based, stage-wise treatment; collaboration between multidisciplinary service providers; availability of multiple treatment modalities (i.e., individual, group, and family therapy formats); fostering optimism and confidence

in the outcomes; and comprehensive services directed not only to substance use and mental health concerns, but also to other affected areas of functioning (e.g., housing, employment, interpersonal relationships, quality of life)<sup>14,35,47-52</sup>. These factors parallel effective mechanisms of change identified within primary substance use literature<sup>32,37</sup>.

- Treatment intensity (e.g., outpatient, day treatment, residential) is determined based on a stepped-care approach whereby the least intrusive treatment approach is applied first<sup>53</sup>. Residential treatment is considered when individuals are not benefitting from community-based or outpatient treatment. Residential treatment provides a safe environment, daily structure, and multiple interventions to support recovery. Residential or inpatient detoxification may be a pre-requisite for residential treatment.
- Outpatient concurrent disorder treatment requires comprehensive services and interventions (e.g., individual and group therapy, vocational services, family therapy, community support groups); therefore, a case management approach is recommended<sup>14</sup>. The case manager assesses and monitors the individual's stage of treatment, systematically coordinates services that are appropriate to the individual's readiness for change, and promotes collaborative service delivery.
- Osher and Kofoed's stages of treatment model<sup>54</sup>, conceptually adapted from Prochaska and DiClemente's transtheoretical stages of change model<sup>35,36</sup>, is central to integrated concurrent disorder treatment as it provides a conceptual framework for the ongoing assessment of readiness for change, collaborative goal-setting, and intervention selection appropriate to the individual's motivational state and stage of the recovery process (in contrast to prematurely attempting behavioural change). Each stage is characterized by different processes and goals, and non-linear movement through the stages is common: *engagement* focuses on forming the therapeutic alliance; *persuasion* involves enhancing awareness of the impact of substance use and harnessing motivation for change; *active treatment* (initiated if the individual expresses motivation to reduce substance use) includes a number of

clinical approaches to support and reinforce the individual's recovery goals (e.g., moderate use, abstinence); and *relapse prevention* focuses on recovery maintenance and promoting reintegration and quality of life.

### Motivational Interviewing

- Motivational interviewing (MI)<sup>55</sup> is considered first-line treatment for substance use and concurrent disorders and is integrated at each stage of treatment and across therapy modalities<sup>14,37</sup>. MI is based on the premise that change occurs when individuals realize their own internal motivation to change (as opposed to external pressures) and is considered integral to helping individuals identify substance use concerns, resolve potential ambivalence, facilitate dialogue about goals and aspirations, and address barriers to change.

### Brief Intervention

- Brief intervention is a time-limited, MI-based approach that is effective for the early detection and management of substance use. It can be used when an individual presents to a service with another psychological or medical condition and is not necessarily seeking treatment for substance use. Brief Intervention has shown significant long-term benefits on primary SUD after three to four sessions<sup>56,57</sup>. The goals are to assess and identify substance use behaviour, reduce associated harms, provide information and increase awareness, motivate behaviour change, and encourage more intensive treatment if necessary.

### Cognitive-Behavioural Therapy

- There is a large empirical-base supporting the effectiveness of cognitive-behavioural therapy (CBT) in treating mental health problems and primary substance use and it is, therefore, particularly well-suited to treat concurrent disorders<sup>57-60</sup>. CBT is an umbrella term that describes a wide range of therapies that consider thoughts, beliefs, and behaviours as central to emotion regulation. CBT can be applied using various treatment modalities and tends to be relatively brief. Within the context of substance use, CBT can involve: learning behavioural coping skills for high-risk situations;

challenging maladaptive beliefs about the effects of substance use; and addressing core beliefs that impact vulnerability to substance use<sup>58</sup>.

- The growing research base for third wave mindfulness-based CBT interventions, including dialectical-behavioural therapy and acceptance-commitment therapy, has shown reductions in substance use and cravings<sup>58-62</sup>. Benefits of mindfulness on substance use may be related to the development of acceptance of present-moment thoughts and experiences rather than engaging in substance use to avoid or suppress unpleasant experiences<sup>62</sup>. Traditional CBT and mindfulness-based interventions show similar effectiveness (as do most treatment approaches)<sup>63,64</sup>.

### Relapse Prevention

- Structured relapse prevention helps individuals to anticipate high-risk factors (e.g., situations, thoughts, behaviours, emotions) and develop coping skills to manage risk; identify and manage relapse warning signs; improve interpersonal communication; develop a recovery network and social supports; learn to interrupt lapses and relapses; and use relapse as a learning tool<sup>14,33,65</sup>. According to the National Institute for Health Care Excellence (NICE) guidelines, individuals who have achieved abstinence should be offered continued treatment and support for at least six months to reduce the risk of relapse, enhance recovery maintenance, and reduce risk of adverse outcomes<sup>32</sup>.
- Relapses are recognized as part of the change process and are not viewed as failures. Relapses are considered an opportunity for learning and growth, and for the reevaluation of treatment needs, goals, and approaches. Sustained relapses may require a shift back to the persuasion stage. A relapse within the context of a moderation-based approach might initiate a goal change toward abstinence if the individual no longer perceives that moderate use is viable<sup>14</sup>.

### Couple and Family Therapy

- Research consistently demonstrates the substantial benefit of including family and other social supports in treatment delivery<sup>66</sup>. Family-based therapies have demonstrated similar or superior treatment efficacy as individual-based approaches<sup>67</sup>.
- Family-based interventions (e.g., Brief Family Therapy, Behavioural Family Counselling) aim to provide psychoeducation, address adverse impacts of substance use, and address maladaptive family systems that contribute to the maintenance of substance use<sup>66,67</sup>.
- Behavioural Couples Therapy is an empirically supported treatment for couples in which one partner presents with addiction concerns and has been shown to produce greater abstinence and improved relationship functioning than individual-based treatment and to reduce domestic violence and emotional problems of the couple's children<sup>66-68</sup>.

### Group Therapy

- Group therapy provides a context for psychoeducation and broad skill building, is conducive to engendering social support, and provides peer learning opportunities. Group therapy appears to be equally as effective as individual therapy for primary substance use<sup>69</sup>, and there is evidence that outcomes are enhanced with concurrent group and individual therapy<sup>70</sup>. Additional research is needed to identify the most effective types of group therapy and its optimal delivery, particularly with concurrent disorder populations.
- Self-help or community meetings (e.g., 12-Step, Self-Management and Recovery Training or SMART) are promoted to encourage treatment engagement, promote recovery maintenance, and facilitate social contact. There is evidence that support groups can improve outcomes for individuals with SUDs<sup>71,72</sup>; however, most outcome research has focussed on 12-step groups for alcohol use (e.g., Alcoholic Anonymous) and there is a lack of research for concurrent disorder populations.

## Resources & Guidelines

- Canadian Society of Addiction Medicine (CSAM). Retrieved from <https://csam-smca.org/>
- Cochrane Drugs and Alcohol Review Group (CDAG). Retrieved from <https://cda.cochrane.org/our-reviews>
- el-Guebaly, N., Carrá, G., & Galanter, M. (2015). *Textbook of addiction treatment: International perspective*. Milan, Italy: Springer-Verlag Mailand.
- Galanter, M., Kleber, H., & Brady, K. T. (Eds.). (2014). *Textbook of substance abuse treatment (5th ed.)*. Arlington, VA: American Psychiatric Publishing, Inc.
- Marlatt, A., & Donovan, D. (Eds.). (2005). *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors (2nd ed.)*. New York, NY: Guilford Press.
- McGovern, M. P., & Carroll, K. M. (2003). Evidence-based practices for substance use disorders. *The Psychiatric Clinics of North America*, 26, 991–1010.
- Miller, W. R., & Rollnick, S. (2012). *Motivational interviewing (3rd ed.)*. New York, NY: Guilford Press.
- National Institute for Health Care Excellence. Alcohol. Retrieved from <https://www.nice.org.uk/guidance/lifestyle-and-wellbeing/alcohol>
- National Institute for Health Care Excellence. Drug misuse. Retrieved from <https://www.nice.org.uk/guidance/health-protection/drug-misuse>
- Ries, R. K., Fiellin, D. A., Miller, S. C., & Saitz, R. (Eds.). (2014). *The ASAM principles of addiction medicine (5th ed.)*. Rockville, MD: American Society of Addiction Medicine.
- Washton, A. M., & Zweben, J. E. (2006). *Treating alcohol and drug problems in psychotherapy practice: Doing what works*. New York, NY: Guilford Press.

## References

1. British Psychological Society. (2012). *The contribution of clinical psychologists to recovery-orientated drug and alcohol treatment systems*. Leicester, UK: Author.
2. Miller, W. R., & Brown, S. A. (1997). Why psychologists should treat alcohol and drug problems. *American Psychologist*, 52, 1269-1279. doi:10.1037/0003-066X.52.12.1269
3. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington, DC: Author.
4. Statistics Canada. (2012). *Canadian community health survey—mental health, 2012*. Statistics Canada Catalogue no. 82-624-X. Version updated November 2015. Retrieved from <https://www150.statcan.gc.ca/n1/pub/82-624-x/2013001/article/11855-eng.htm#n5>
5. Rush, B., Urbanoski, K., Bassani, D., Castel, S., Wild, T. C., Strike, C. ...Somers, J. (2009). Prevalence of co-occurring mental and substance use disorders in the Canadian population. *Canadian Journal of Psychiatry*, 53, 800-809.
6. Regier, D. A., Farmer, M. E., Rae, D. S., Locke, B. Z., Keither, S. J.,...Goodwin, F. K. (1990). Comorbidity of mental disorders with alcohol and other drug abuse: Results from the Epidemiologic Catchment Area (ECA) Study. *JAMA*, 264, 2511-2518. doi:10.1001/jama.1990.03450190043026
7. Murray, C. J. L., Vos, T., Lozano, R., Naghavi, M., Flaxman, A. D., Michaud, C.,...Memish, Z. A. (2012). Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: A systematic analysis for the Global Burden of Disease Study 2010. *Lancet*, 380, 2197-2223.
8. World Health Organization. (2009). *Global health risks: Mortality and burden of diseases attributable to selected major risks*. Geneva: Author.
9. Rehm, J., Probst, C., Shield, K. (2015). Burden of disease: The epidemiological aspects of addiction. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 65-78). Milan, Italy: Springer-Verlag Mailand.
10. Swendsen, J., & Le Moal, M. (2011). Individual vulnerability to addiction. *Annals of the New York Academy of Sciences*, 1216, 73–85. doi:10.1111/j.1749-6632.2010.05894.x
11. Delker, E., Brown, Q., & Hasin, D. (2015). Epidemiological studies of substance dependence and abuse in adults. *Current Behavioral Neuroscience Reports*, 2, 15-22. doi:10.1007/s40473-015-0030-9



12. Grant, B. F., Saha, T. D., Ruan, W. J., Goldstein, R. B., Chou, S. P., Jung, J. ...Hasin, D. S. (2016). Epidemiology of DSM-5 drug use disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions–III. *JAMA Psychiatry*, 73, 39-47. doi:10.1001/jamapsychiatry.2015.2132
13. Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, P., Jung, J., Zhang, H....Hasin, D. S. (2015). Epidemiology of DSM-5 alcohol use disorder results from the National Epidemiologic Survey on Alcohol and Related Conditions III. *JAMA Psychiatry*, 72, 757-766. doi:10.1001/jamapsychiatry.2015.0584
14. Mueser, K. T., Noordsy, D. L., Drake, R. E., & Fox, L. (2003). *Integrated treatment for dual disorder: A guide to effective practice*. New York, NY: Guilford Press.
15. Kelly, J. F., Bergman, B., Hoepfner, B. B., Vilsaint, C., & White, W. L. (2017). Prevalence and pathways of recovery from drug and alcohol problems in the United States population: Implications for practice, research, policy. *Drug and Alcohol Dependence*, 181, 162-169. doi:10.1016/j.drugalcdep.2017.09.028
16. Stea, J. N., Yakovenko, I., & Hodgins, D. C. (2015). Recovery from cannabis use disorders: Abstinence versus moderation and treatment-assisted recovery versus natural recovery. *Psychology of Addictive Behavior*, 29, 522-531. doi:10.1037/adb0000097.
17. Rosenberg, H. (1993). Prediction of controlled drinking by alcoholics and problem drinkers. *Psychological Bulletin*, 113, 129-139.
18. Weaver, T., Madden, P., Charles, V., & Stimson, G. (2003). Comorbidity of substance misuse and mental illness in community mental health and substance misuse services. *The British Journal of Psychiatry*, 183, 304-313. doi:10.1192/bjp.183.4.304
19. Tolliver, B. K., & Anton, R. F. (2015). Assessment and treatment of mood disorders in the context of substance abuse. *Dialogues in Clinical Neuroscience*, 17, 181-190.
20. Roncero, C., Grau-Lopez, L., Daigre, C., & Casas, M. (2015). Bipolar disorders and co-occurring addictions. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 1959-1977). Milan, Italy: Springer-Verlag Mailand.
21. Swartz, M. S., Wagner, H. R., Swanson, J. W., Stroup, T. S., McEvoy, J. P., Canive, J. M.,... Lieberman, J. A. (2006). Substance use in persons with schizophrenia. *The Journal of Nervous and Mental Disease*, 194, 164-172. doi:10.1097/01.nmd.0000202575.79453.6e.
22. Lambert, M., Conus, P., Lubman, D. I., Wade, D., Yuen, H., Moritz, S.,...Schimmelmann, B. G. (2005). The impact of substance use disorders on clinical outcome in 643 patients with first-episode psychosis. *Acta Psychiatrica Scandinavica*, 112, 141-148. doi:10.1111/j.1600-0447.2005.00554.x
23. Brady, K. T., McCauley, J. L., & Back, S. E. (2015). The comorbidity of post-traumatic stress disorder (PTSD) and substance use disorders. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 1921-1924). Milan, Italy: Springer-Verlag Mailand.
24. Levin, F. R. (2015). Attention deficit/hyperactivity disorder and substance abuse. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 2035-2062). Milan, Italy: Springer-Verlag Mailand.
25. Chang, Z., Lichtenstein, P., & Larsson H. (2012). The effects of childhood ADHD symptoms on early onset substance use: A Swedish twin study. *Journal of Abnormal Child Psychology*, 40, 425-435.
26. Capusan, A. J., Bendtsen, P., Marteinsdottir, I., & Larsson, H. (2016). Comorbidity of adult ADHD and its subtypes with substance use disorder in a large population-based epidemiological study. *Journal of Attention Disorders*. doi:10.1177/1087054715626511
27. Carretta, D., Clerici, M., Bartoli, F., & Carra, G. (2015). Psychotic disorders and substance use disorders. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 2013-2034). Milan, Italy: Springer-Verlag Mailand.
28. Sloboda, Z., Glantz, M. D., & Tarter, R. E. (2012). Revisiting the concepts of risk and protective factors for understanding the etiology and development of substance use and substance use disorders: Implications for prevention. *Substance Use & Misuse*, 47, 944-962. doi:10.3109/10826084.2012.663280
29. Lembke, A. (2012). Time to abandon the self-medication hypothesis in patients with psychiatric disorders. *The American Journal of Drug and Alcohol Abuse*, 38, 524–529.
30. Swendsen, J., Conway, K. P., Degenhardt, L., Glantz, M., Jin, R., Merikangas, K. R.,...Kessler, R. C. (2010). Mental disorders as risk factors for substance use, abuse and dependence: results from the 10-year follow-up of the National Comorbidity Survey. *Addiction*, 105, 1117-1128. doi:10.1111/j.1360-0443.2010.02902.x
31. Szerman, N., & Peris, L. (2015). Personality disorders and addiction disorders. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 2063-2084). Milan, Italy: Springer-Verlag Mailand.
32. National Institute for Health Care Excellence. (2012). *Drug use disorders in adults (Quality Standard QS23)*. Retrieved from <https://www.nice.org.uk/guidance/qs23/chapter/Quality-statement-2-Assessment>
33. Washton, A. M., & Zweben, J. E. (2006). *Treating alcohol and drug problems in psychotherapy practice: Doing what works*. New York, NY: Guilford Press.

34. Friedmann, P. D., Hendrickson, J. C., Gerstein, D. R. and Zhang, Z. (2004). The effect of matching comprehensive services to patients' needs on drug use improvement in addiction treatment. *Addiction*, 99, 962-972. doi:10.1111/j.1360-0443.2004.00772.x
35. Prochaska, J. O. & DiClemente, C. C. (1986). The transtheoretical approach. In J. Norcross (Ed.), *Handbook of eclectic psychotherapy*. New York, NY: Brunner/Mazel.
36. Prochaska, J. O., & DiClemente, C. C. (1992). The transtheoretical approach. In J. Norcross & M. Goldfried (Eds.), *Handbook of Psychotherapy Integration* (pp. 300-334). New York, NY: Brunner/Mazel.
37. Tober, G. (2015). Motivational interviewing and behaviour change in addiction treatment. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 779-791). Milan, Italy: Springer-Verlag Mailand.
38. Jastrzębska, I., Zwolak, A., Szczyrek, M., Wawryniuk, A., Skrzydło-Radomańska, B., & Daniluk, J. (2016). Biomarkers of alcohol misuse: recent advances and future prospects. *Przegląd gastroenterologiczny*, 11, 78-89. doi:10.5114/pg.2016.60252
39. WHO ASSIST Working Group. (2002). Working group: Alcohol, smoking and substance involvement screening test (ASSIST): Development, reliability and feasibility. *Addiction* 97, 1183-1194.
40. Brown, R. L., & Rounds, L. A. (1995) Conjoint screening questionnaires for alcohol and other drug abuse: Criterion validity in a primary care practice. *Wisconsin Medical Journal*, 94, 135-140.
41. Skinner, H. A. (1982). The drug abuse screening test. *Addictive Behaviors*, 7, 363-371. doi:10.1016/0306-4603(82)90005-3
42. Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption: II. *Addiction*, 88, 791-804. doi:10.1111/j.1360-0443.1993.tb02093.x
43. Sacks, S. (2008) Brief overview of screening and assessment for co-occurring disorders. *International Journal of Mental Health and Addiction*, 6, 7-19.
44. McLellan, T., Kushner, H., Metzger, D., Peters, R., Smith, J., Grissom, C.,...Argeriou, M. (1992). The fifth edition of the addiction severity index. *Journal of Substance Abuse Treatment*, 9, 199-213.
45. American Psychiatric Association. (2015). Structured clinical interview for DSM-5 (SCID-5). Retrieved from <http://www.appi.org/products/structured-clinical-interview-for-dsm5-scid-5>
46. National Institute for Health Care Excellence. (2007). Drug misuse in over 16s: Psychosocial interventions (Clinical guideline CG51). Retrieved from <https://www.nice.org.uk/guidance/cg51>
47. Drake, R. E., Essock, S. M., Shaner, A., Carey, K. B., Minkoff, K., Kola, L.,...Rickards, L. (2001). Implementing dual diagnosis services for clients with severe mental illness. *Psychiatric Services*, 52, 469-476.
48. Horsfall, J., Cleary, M., Hunt, G. E., & Walter, G. (2009). Psychosocial treatments for people with co-occurring severe mental illnesses and substance use disorders (dual diagnosis): A review of empirical evidence. *Harvard Review of Psychiatry*, 17, 24-34.
49. Kola, L. A., & Kruszynski, R. (2010) Adapting the integrated dual-disorder treatment model for addiction services. *Alcoholism Treatment Quarterly*, 28, 437-450.
50. McGovern, M. P., & Carroll, K. M. (2003). Evidence-based practices for substance use disorders. *The Psychiatric Clinics of North America*, 26, 991-1010.
51. Kelly, T. M., Daley, D. C., & Douaihy, A. B. (2012). Treatment of substance abusing patients with comorbid psychiatric disorders. *Addictive Behaviors*, 37, 11-24.
52. McLellan, A. T., Hagan, T. A., Levine, M., Gould, F., Meyers, K., Bencivengo, M., & Durrell, J. (1998). Supplemental social services improve outcomes in public addiction treatment. *Addiction*, 93, 1489-1499.
53. Uchtenhagen, A. (2015). Stepped care models in addiction treatment. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 1283-1290). Milan, Italy: Springer-Verlag Mailand.
54. Osher, F. C., & Kofoed, L. L. (1989). Treatment of patients with psychiatric and psychoactive substance abuse disorders. *Hospital & Community Psychiatry*, 40, 1025-1030.
55. Miller, W. R., & Rollnick, S. (2012). *Motivational interviewing* (3rd ed.). New York, NY: Guilford Press.
56. Harlan, J. Gowing, L., & Ali, R. (2015). Brief intervention for illicit drug users. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 293-312). Milan, Italy: Springer-Verlag Mailand.
57. Dunn, C., Deroo, I., & Rivara, F. P. (2001). The use of brief interventions adapted from motivational interviewing across behavioral domains: A systematic review. *Addiction*, 96, 1725-1742. doi:10.1046/j.1360-0443.2001.961217253.x
58. Lee, N. K. (2015). Cognitive behavioral therapies for substance use problems. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 793-810). Milan, Italy: Springer-Verlag Mailand.
59. Magill, M., & Ray, L. A. (2009). Cognitive-behavioral treatment with adult alcohol and illicit drug users: A meta-analysis of randomized controlled trials. *Journal of Studies on Alcohol and Drugs*, 70, 516-527.

60. McHugh, R. K., Hearon, B. A., & Otto, M. W. (2010) Cognitive-behavioral therapy for substance use disorders. *Psychiatric Clinics of North America*, 33, 511-525. doi:10.1016/j.psc.2010.04.012
61. Marcus, M. T. (2015). Mindfulness as behavioural approach in addiction treatment. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 821-840). Milan, Italy: Springer-Verlag Mailand.
62. Chiesa, A., & Serretti, A. (2014). Are mindfulness-based interventions effective for substance use disorders? A systematic review of the evidence. *Substance Use & Misuse*, 19, 492-512. doi:10.3109/10826084.2013.770027
63. Hofmann, S. G., Sawyer, A. T., & Fang, A. (2010). The empirical status of the “new wave” of CBT. *Psychiatric Clinics of North America*, 33, 701-710. doi:10.1016/j.psc.2010.04.006
64. Hunt, G. E., Siegfried, N., Morley, K., Sitharthan, T., & Cleary, M. (2013). Psychosocial interventions for people with both severe mental illness and substance misuse. *Cochrane Database of Systematic Reviews*, 10, CD001088. doi:10.1002/14651858.CD001088.pub3
65. Marlatt, A., & Donovan, D. (Eds.). (2005). *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors* (2nd ed.). New York, NY: Guilford Press.
66. Meis, L. A., Griffin, J. M., Greer, N., Jensen, A. C., MacDonald, R., Carlyle, M.,...Wilt, T. J. (2013). Couple and family involvement in adult mental health treatment: A systematic review. *Clinical Psychology Review*, 33, 275-286. doi:10.1016/j.cpr.2012.12.003
67. Cassidy, A. & Poon, A. W. C. (2019). A scoping review of family-based interventions in drug and alcohol services. *Journal of Social work Practice in the Addictions*, 19, 345-367. doi:10.1080/1533256X.2019.1659068
68. O'Farrell, T. J. (2015). Couples therapy in treatment of alcoholism and drug abuse. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 907-926). Milan, Italy: Springer-Verlag Mailand.
69. Sobell, L. C., Sobell, M. B., & Agrawal, S. (2009). Randomized controlled trial of a cognitive-behavioral motivational intervention in a group versus individual format for substance use disorders. *Psychology of Addictive Behaviors*, 23, 672-683. doi:10.1037/a0016636
70. McHugh, R. K., Park, S., & Weiss, R. D. (2015). Group therapy for substance use disorders. In N. el-Guebaly, G. Carrá, & M. Galanter (Eds.), *Textbook of addiction treatment: International perspective* (pp. 811-820). Milan, Italy: Springer-Verlag Mailand.
71. Tonigan, J. S., Pearson, M. R., Magill, M., & Hagler, K. J. (2018). AA attendance and abstinence for dually diagnosed patients: A meta-analytic review. *Addiction*, 113, 1970-1981. doi:10.1111/add.14268
72. Beck, A., Forbes, E., Baker, A., Kelly, P., & Deane, F., Shakeshaft, A.,...Kelly, J. (2017). Systematic review of SMART Recovery: Outcomes, process variables, and implications for research. *Psychology of Addictive Behaviors*, 31, 1-20. doi:10.1037/adb0000237.

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