

## **Knowledge Notes**

### **Alcohol Availability, Neighborhood Deprivation, and Links to Alcohol-Related Harms**

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#### **Objective**

This review explores the relationship between availability of alcohol, alcohol consumption, and adverse alcohol-related health and social outcomes. It also examines whether alcohol availability, consumption, and alcohol-related adverse outcomes differ among different socioeconomic groups. It concludes by describing strategies to help reduce alcohol-related harm.

#### **Background**

Alcohol is the most widely used psychoactive drug in Canada. A wide range of adverse health and social outcomes have been associated with excessive alcohol consumption. Globally, alcohol causes all deaths and disability due to alcohol use disorder and fetal alcohol spectrum disorder and contributes to 50% of deaths and disability due to liver disease. Alcohol also contributes to deaths and disability resulting from heart disease, hemorrhagic stroke, unintentional injuries, falls, traffic injuries, lower respiratory infections and HIV (World Health Organization [WHO], 2014). Alcohol causally contributes to development of oropharyngeal, laryngeal, esophageal, liver, colon, rectal and female breast cancers (Connor, 2016), as well as cancers of pancreas, prostate, and skin (melanoma) (Bagnardi et al., 2015; Zhao, Stockwell, Roemer, & Chirkritzhis, 2016). Heavy drinking is also closely associated with numerous adverse social outcomes, such as violent crimes including murder, rape, assault, and child and spousal abuse (WHO, 2010 & 2014).

Alcohol-related harms can be prevented or reduced by developing a culture of moderation. Accordingly, both the pan-Canadian National Alcohol Strategy (National Alcohol Strategy Working Group, 2007) and Alberta Alcohol Strategy (Alberta Health Services, 2008) have emphasized the importance of responsibility and moderation, and the value of local, context-specific alcohol policies, such as municipal alcohol policies, in reducing alcohol-related harm.

#### **Alcohol Availability, Alcohol Consumption and Alcohol-Related Harms**

Alcohol outlet density and proximity-based measures (e.g., distance to nearest alcohol outlet) are among the most commonly used measures for the physical availability of alcohol (Holmes et al., 2014). Another important aspect of alcohol availability is the type of outlet serving alcohol; on-premise outlets are licensed to sell alcohol for consumption on the premises (e.g., bars, clubs, and restaurants), while off-premise outlets sell alcohol for consumption elsewhere (e.g., liquor stores and supermarkets). Outlet type and other important characteristics of individual alcohol retailers can influence drinking behaviors and alcohol-related harms in various ways (Centers for Disease Control and Prevention [CDC], 2017). A number of studies have found an association between alcohol outlet density and increased risk of harmful drinking (Kavanagh et

al., 2011), as well as, higher alcohol consumption (Ayuka, Barnett, & Pearce, 2014; Bryden, Roberts, McKee, & Petticrew, 2012). It is unclear if alcohol consumption mediates the relationship between alcohol outlets and alcohol-related harms; nonetheless, a large body of evidence suggests an association between alcohol outlet density and violence, including intimate partner violence (Popova et al., 2009; Livingston, 2008; Kearns, Reidy, & Valle, 2014; Cunradi, Mair, Ponicki, & Remer, 2012; Livingston, 2010, Snowden, 2016), suicide and homicide (Kaplan et al., 2013; Zalzman & Mann, 2007; Giesbrecht et al., 2015; Hohl et al., 2017), mortality and hospitalizations from all alcohol-related outcomes (Stockwell et al., 2011 & 2013; Richardson et al., 2015; Fone et al., 2016), and other adverse outcomes.

Several studies have found that the most deprived neighborhoods tend to have higher density of alcohol outlets compared to the least deprived areas (Berke et al., 2010; Huckle, Huakau, Sweetsur, Huisman, & Casswell, 2008; Shortt et al., 2015). Cross-sectional surveys have shown that socioeconomically disadvantaged groups report drinking the same or less on average than groups with higher socioeconomic status (SES), and are also more likely to report abstaining altogether (Robinson & Harris, 2011; Jefferis, Manor, & Power, 2007). Despite their lower or similar alcohol consumption however, people of low SES experience greater alcohol-related morbidity and mortality (Castillo-Carniglia, Kaufman, & Pino, 2014; Jones, Bates, McCoy, & Bellis, 2015; Lewer et al., 2016). The phenomenon of experiencing more alcohol-related problems despite consuming less alcohol has been referred to as Alcohol Harm Paradox (Smith & Foster, 2014). Different mechanisms have been proposed for the association between risk of alcohol-attributable disease and SES including “(i) differences in drinking behaviors, including quality of the alcohol consumed; (ii) interaction through clustering of risky lifestyle behaviors, such as heavy alcohol use and smoking; and (iii) differential access to healthcare” (Jones et al., 2015, p. 12). Greater vulnerability of low SES individuals to the damaging effects of alcohol may also be due to differences in the availability of social support, drinking context, and neighborhood deprivation, acting both independently of, and in interaction with, individual SES (cited in Jones et al., 2015, p.12).

The most recent data from the Canadian Institute for Health Information (CIHI) also demonstrate the existence of inequities in alcohol-related harm across Canada. Compared with Canadians living in the highest-income neighborhoods, those residing in deprived neighborhoods in 2015-2016 had higher rates of hospitalizations entirely caused by alcohol (CIHI, 2017). The income-related gradient in alcohol-caused hospitalizations was most pronounced in Alberta where poorest neighborhoods had 3.8-fold greater rates for hospitalizations due to conditions entirely caused by alcohol compared to Alberta's most affluent neighborhoods (CIHI, 2017). Despite lower prevalence of heavy drinking among lower income Canadians, they had significantly higher rates for hospitalizations entirely caused by alcohol. The authors argued that it is possible that those living in deprived neighborhoods are more susceptible to the consequences of living with lower income. Individuals with lower income tend to experience higher stress levels while having fewer social support networks and fewer resources to cope, they also have other risk factors such as poorer diet and physical inactivity (CIHI, 2017). Furthermore, those in

poorer neighborhoods may have greater exposure to unsafe drinking settings, different beverage choices and higher frequency of binge drinking (CIHI, 2017).

### **Strategies to Reduce Alcohol-Related Harm**

A number of individual-level and societal-level strategies can address factors that affect alcohol consumption and alcohol outcomes. Alcohol Screening, Brief Intervention and Referral (SBIR), for example, is an individual-level strategy that has been shown to reduce alcohol-related harm in at-risk individuals (CIHI, 2017). Societal-level strategies include alcohol control systems by which governments regulate the sale and distribution of alcohol, physical availability regulations (e.g., setting hours of sale and measures to reduce the number of alcohol outlets), and pricing policies (e.g., minimum pricing, restricting discounts, and taxation) (CIHI, 2017). Pricing policies are considered to be among the most effective strategies for reducing alcohol harm (CIHI, 2017; WHO, 2014). To develop more effective alcohol pricing policies, Thomas (2012) suggested the following three principles: (1) Indexing alcohol prices to inflation to ensure prices do not decrease relative to other goods over time, (2) Establishing prices based on alcohol content, creating price incentives for lower strength alcohol products and price disincentives for higher strength (more hazardous) alcohol products, and (3) Establishing minimum prices, which may be especially effective in reducing alcohol consumption among young adults and other higher risk drinkers who tend to purchase lower priced alcohol (Thomas, 2012).

### **Limitations of the Literature**

The methodological limitations in the alcohol research literature are extensive and would need to be considered when interpreting the findings of different studies. For example, many studies are cross-sectional and as such do not permit changes in health-related or social measures to be directly attributed to alcohol outlet density, sales concentration, or consumption. Survey-based research studies may be affected by self-report issues such as recall bias, underestimation of alcohol consumption, and social desirability bias. Other limitations in the alcohol literature include publication bias, ambiguities related to outlet type classifications, and non-standardized measures for alcohol consumption across studies.

### **Concluding Remarks**

Overall, the studies point to an association between alcohol outlet density and alcohol consumption, as well as a variety of alcohol-related harms. Studies examining the relationship between SES, alcohol consumption, and alcohol-related harms have generally found that for a given level of consumption, lower SES groups tend to experience higher levels of alcohol-attributable harm than higher SES groups. To address inequities in alcohol-related harm, a comprehensive approach that can address both the root causes and consequences of inequities is recommended (WHO, 2014). Increasing the price of alcohol has been regarded as the most promising policy intervention to reduce social inequities in alcohol-related harm (WHO, 2014).

To address inequities in alcohol-related harm, WHO (2014) also recommends:

- Local measures to reduce the availability of alcohol in high-risk communities (e.g., restricting the times and locations of alcohol sales);

- Zoning and licensing measures to ensure that disadvantaged areas are not exposed to a higher density of alcohol outlets;
- Actions aimed at reducing the differential access to- and treatment within the health system (e.g., reducing financial, geographical and cultural barriers to accessing primary care and alcohol treatment services for groups experiencing disproportionate alcohol-related harm, etc.);
- Social protection policies that can protect against the adverse impact of economic shocks and unemployment;
- Harm reduction measures (e.g., safe places to sober up and community patrols) to help reduce the more severe consequences of harmful alcohol use among those experiencing social exclusion.





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