

### ALCOHOL AND COVID-19

## Factsheet

## **COVID-19**

Alcohol increases the risk of COVID-19

Alcohol use increases the risk of COVID-19 infection and of its severe complications.

# Disruption

Alcogenic environments disrupt preventive strategies

Even at low levels of alcohol use, alcogenic environments increase COVID-19 transmission by disrupting preventative strategies, such as physical distancing and hand hygiene.



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### Alcohol Effects

FIG 1 Possible pathways for alcohol's role in activation and inflammation in COVID-19 disease, modified from Golchin et al.

Alcohol increases the number of **ACE2** receptors to whichthe SARS-CoV-2 ("covid") virus particles can bind to infect the host cells; Alcohol may activate the increased production of cytokines, which can contribute to a dangerous excessive inflammatory response characteristic of covid;

Alcohol interferes with the functioning of **T cells**;

Alcohol weakens the virusneutralizing antibody response.



Innate immune system

Adaptive immune system





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# Immunity

Alcohol affects immunity negatively

Alcohol use may reduce immunity to a coronavirus infection.

# Complications

Alcohol triggers excessive immune response

Alcohol use may increase the risk of serious complications by triggering an excessive immune response.





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# Risk factor

Alcohol is a risk factor for chronic comorbidities of COVID-19

A review of 34 studies found that in patients with severe or fatal COVID-19, the most prevalent chronic comorbidities were obesity and hypertension.

# Diseases

Alcohol is a risk factor for chronic comorbidities of COVID-19

Obesity and hypertension were followed by type 2 diabetes, cardiovascular disease, respiratory disease, cerebrovascular disease, malignancy, kidney disease and liver disease.





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# **Consequences = risk factor**

Many complications from heavy alcohol use are themselves risk factors for more serious outcomes from COVID-19 infection (e.g. diabetes, obesity, cardiovascular disease)

- Alcohol use, especially heavy use, can compromise immune system responses and also increase susceptibility to serious respiratory illnesses.
- Alcohol harm causes substantial health care costs.
- Domestic violence, fueled by alcohol has increased in many places during the pandemic.
- Alcohol use can exacerbate COVID-19-related isolation, boredom, stress, anxiety, and depression; these same factors may also lead to heavy alcohol use and disorder and addiction



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# **400**

### Alcohol harm causes substantial health care resouces

Alcohol drives over 400 varieties of illness and injury, as well as social harm. In these ways, alcohol harm is placing a considerable burden on healthcare and other social services.

# ELJ 20%

### The alcohol burden on the delivery of health services is significant

A study of over 100 emergency departments (EDs) from 33 countries showed that, on average, alcohol contributes to 20% of injuries and 11.5% of all non-injury ED presentations.



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AMBULANCE

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## Alcohol related hospitalization

### A substantial proportion of hospital admissions are also attributable to alcohol in most countries

- 59,469 in Sweden in 2014 (3.8% of all recorded hospital admissions that year)
- 46,016 in Finland, in 2016 (6.3% of all recorded hospital admissions that year), and
- 105,065 in Canada in 2017 (4.3% of all recorded hospital admissions that year).
- In each of these countries, annual prevalence rates for hospitalizations due to alcohol have exceeded COVID-19 hospitalization rates attained in 2020.





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## Burden on health services

### The alcohol burden on the delivery of health services is significant

- Since the 1980s, over 100 emergency departments (EDs) from 33 countries have participated in an international study of alcohol's contribution to injury. This global study shows that:
- Among participating countries, on average, alcohol contributes to 20% of injuries and 11.5% of all non-injury ED presentations.
- It was estimated that in 2014 there were nearly 5 million alcohol-related ED presentations in the US.
- A Canadian study estimated over 700,000 such presentations in 2017.





# SORRY WE ARE CLOCHOL AND COVID-19

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# Up, Down, Stable

The coronavirus pandemic has affected alcohol use levels in societies around the world. Early analysis shows that alcohol use increased in some communities and countries, remained stable in others and even declined in some groups and countries

- In high income countries, surveys show that more people increased than reduced alcohol use during the early COVID-19 lockdowns.
- In low- and middle-income countries total sales and consumption have mostly decreased.
- In Sweden, alcohol use declined by 7% during March and April 2020 because growth in retail sales was more than offset by the decline in travelers' imports.

