

Sobering Facts about Alcohol and Cancer

Key Messages

- ※ There has been sufficient evidence in humans that alcohol causes cancer. The risk of cancer starts to increase even with low levels of alcohol consumption. The higher the level of alcohol consumption, the greater the risk of alcohol-associated cancers.
- ※ The Population Health Survey 2020-22 conducted by the Department of Health (DH) showed that 15.7% of local persons aged 15 or above responded “don’t know” to the statement “alcohol consumption can cause cancer” and another 11.2% disagreed with this statement. The survey also revealed that 8.7% of them drank alcohol regularly (i.e. drink at least once a week).
- ※ Alcohol cessation can reverse some alcohol-related carcinogenic mechanisms (such as decrease deoxyribonucleic acid (DNA) damage). Drinkers are urged to recognise the cancer risks and other harms associated with alcohol consumption and appreciate the health benefits of reducing or even stopping alcohol consumption.
- ※ To prevent health problems related to alcohol drinking, the DH has produced toolkits including a self-help booklet for drinkers to change their drinking habits for better health. To access the self-help booklet and other health educational materials pertaining to alcohol and health, please visit the Change for Health website of the DH at www.change4health.gov.hk/en/alcohol_aware/index.html.

Sobering Facts about Alcohol and Cancer

Alcohol is a Group 1 carcinogen (cancer-causing substance), meaning that the World Health Organization (WHO)'s International Agency for Research on Cancer has confirmed that there has been sufficient evidence in humans that alcohol causes cancer^{1, 2}. In 2020, an estimated 741 300 (568 700 for males; 172 600 for females) new cases of cancer were attributable to alcohol drinking globally³.

However, public awareness of the link between alcohol consumption and cancer across the world was generally low⁴⁻⁶. For example, in the United States, many people did not know how alcoholic beverages affected cancer risk⁶. Some perceived alcohol drinking had no effect on cancer risk or even falsely believed that alcoholic beverages, especially wine, lowered cancer risk⁶.

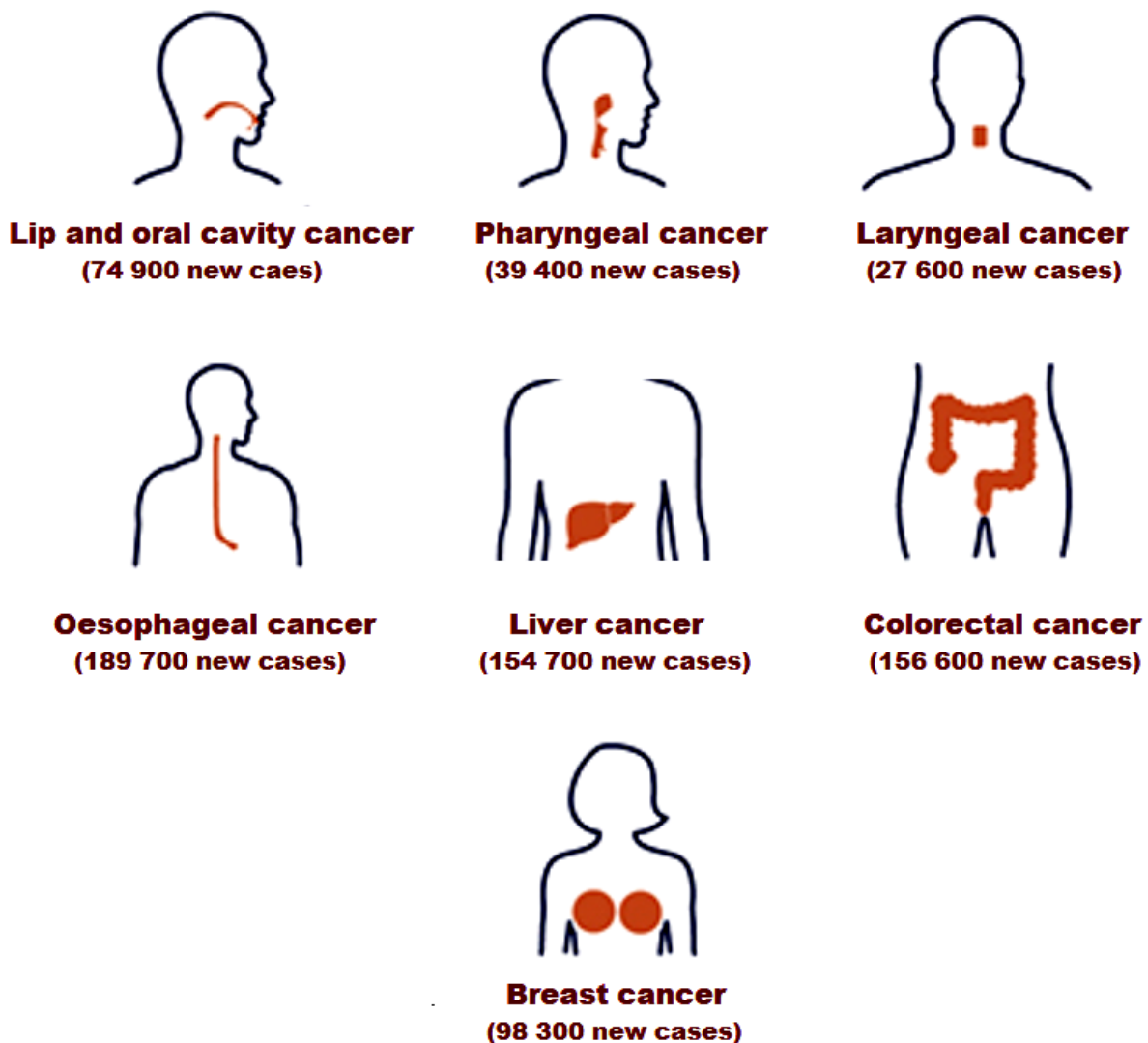
In Hong Kong, in the Population Health Survey 2020-22 conducted by the Department of Health (DH), 15.7% of persons aged 15 or above responded "don't know" to the statement "Alcohol consumption can cause cancer" and another 11.2% disagreed with this statement⁷.



Alcohol Drinking and Cancer Risks

- **There is strong evidence that alcohol drinking increases the risk of some types of cancers**, including cancers of the oral cavity (mouth), pharynx (throat), larynx (voice box), oesophagus, liver, colorectum, and female breast^{1, 8}. In 2020, an estimated 189 700 new oesophageal cancer cases, 156 600 new colorectal cancer cases, 154 700 new liver cancer cases and 98 300 new female breast cancer cases across the globe were attributable to alcohol drinking (Figure 1)³. Of note, evidence is accumulating that heavy alcohol consumption is also associated with increased risk of other cancers (such as prostate cancer, stomach cancer and pancreatic cancer)⁸⁻¹⁰.

Figure 1: Alcohol-related cancers (global number of new cases attributable to alcohol drinking in 2020)



- **All types of alcoholic beverages** (including beer, wine, rice wine and liquor) **can increase the risk of cancer** and there is no safe level of alcohol drinking – **the risk of cancer starts to increase even with low levels of alcohol consumption**¹¹.
- A comprehensive systematic review and meta-analysis¹², which investigated the associations between different levels of alcohol consumption and risk of several cancer types, revealed a dose-response relationship (i.e. **the higher the level of alcohol consumption, the greater the risk of alcohol-associated cancers**).
 - Light drinking (0.01–12.4 grams per day) was significantly associated with higher risks of oesophageal, colorectal and female breast cancers¹².
 - For light to moderate drinking (12.5–24.9 grams per day), increased risks were also evident for these three cancers, as well as laryngeal cancer¹².
 - As the level of alcohol consumption increased to heavy drinking (50.0 grams or more per day), it was found to contribute to the risk of more cancer types, including stomach cancer, liver cancer, pancreatic cancer and prostate cancer¹².
- A 10-year prospective study of 0.5 million adults in Mainland China also showed that male current regular drinkers had increased risks of alcohol-associated cancer development, including cancers of the mouth and throat, oesophagus, liver and colorectum. The study also indicated that **certain drinking patterns (e.g. drinking daily or drinking without meals) would further exacerbate the risks**¹³.

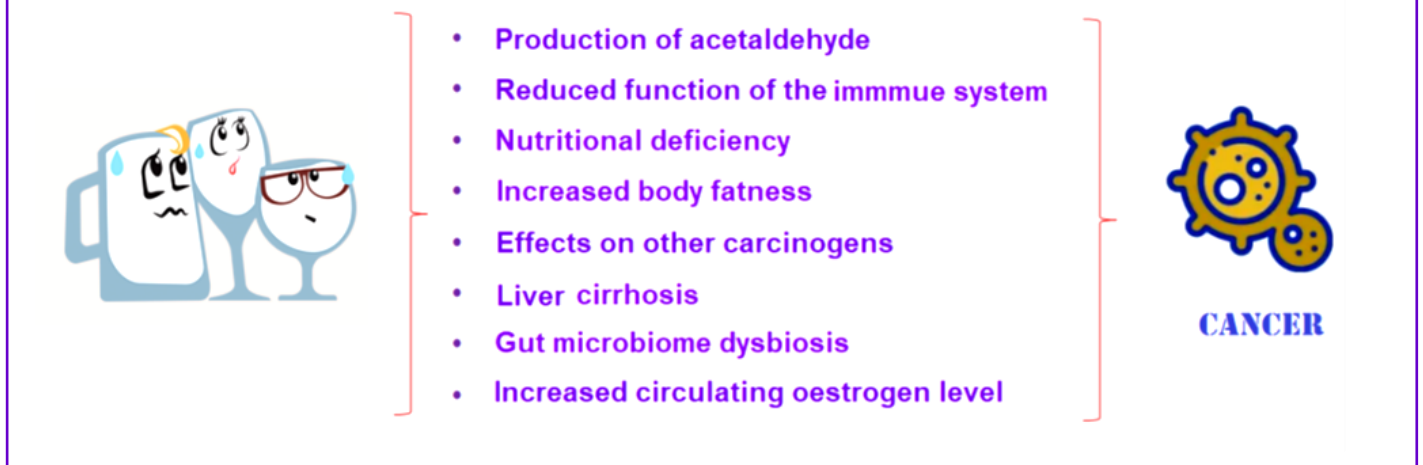
The more alcohol a person drinks, the higher his or her risk of developing an alcohol-associated cancer



How Alcohol Acts on the Body and Causes Cancer

As shown in Figure 2, alcohol increases the risk of cancer development via a number of plausible biological mechanisms.

Figure 2: Plausible biological mechanisms of alcohol drinking on increased cancer risk



- Alcoholic beverages contain ethanol. When ingested, ethanol is metabolised in the liver and oxidised into acetaldehyde (a highly toxic metabolite) which can cause irreversible damages to deoxyribonucleic acid (DNA) and give rise to cancer^{9, 10}.
- Alcohol can act as a solvent, enhancing the penetration of external carcinogens (in particular tobacco smoke) and initiating cancer development^{9, 10, 14}. For oral cancer, pharyngeal cancer, laryngeal cancer or oesophageal cancer, the risks associated with using both alcohol and tobacco are multiplicative¹⁵⁻¹⁷.
- Alcohol can modulate the body's immune responses to inhibit cancer development, such as suppressing immune cells to recognise and destroy potentially cancerous cells¹⁰.

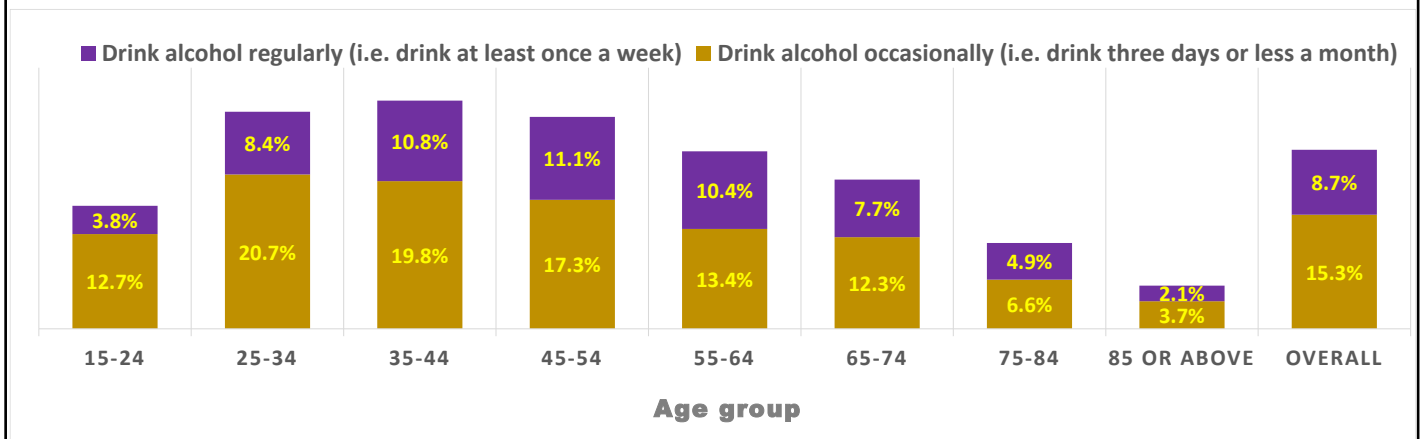
- Chronic alcohol consumption can lead to nutrient deficiencies by impairing the body's ability to break down and absorb essential nutrients (in particular folate, carotenoids and other vitamins that normally play a role in protecting against cancer), making body tissues more vulnerable to cancer development and progression^{9, 10, 14}.
- Too much alcohol can add extra calories to the diet, which can contribute to weight gain in some people¹⁸. Being overweight or obese is known to increase the risk of many cancers (including cancers of the mouth, pharynx, larynx, oesophagus, stomach, pancreas, liver, colorectum, breast in post-menopausal women and prostate)^{18, 19}.
- Chronic alcohol consumption can lead to thinning of the mucous membranes of the upper aerodigestive tract and gastrointestinal tract, allowing carcinogens to pass through, penetrate and damage the underlying tissues more easily¹⁴.
- Heavy or prolonged alcohol drinking promotes the development of liver cirrhosis (inflammation and scarring), a condition known to increase the risk of developing liver cancer^{10, 14}.
- Chronic and excessive alcohol consumption would cause gut microbiome dysbiosis (i.e. upsetting the balance of bacterial colonies in the gut) and weaken gut barrier function, increasing the risk of colorectal cancer^{9, 10}.
- Alcohol can increase circulating oestrogen level, which is an established risk factor for breast cancer^{9, 10, 14}.

Patterns of Alcohol Consumption among the Local Population

Alcohol Drinking Habit

- ◆ Among persons aged 15 or above, the PHS 2020-22⁷ showed that 15.3% (18.3% for males; 12.6% for females) drank alcohol occasionally and 8.7% (14.1% for males; 4.0% for females) drank regularly. The proportions of occasional and regular drinkers were relatively higher among young and middle-aged adults (Figure 3).

Figure 3: Alcohol drinking habit among persons aged 15 or above in the 12 months preceding the survey by age group



Binge Drinking

- ◆ Binge drinking (also known as ‘heavy episodic drinking’) is defined as drinking at least 5 cans of beers, 5 glasses of table wine or 5 pegs of spirits on a single occasion. The PHS 2020-22 revealed that 2.0% (3.3% for males; 0.8% for females) of persons aged 15 or above reported binge drinking at least once per month in the 12 months preceding the survey⁷.

Types and Amount of Alcohol Consumed

- ◆ Among persons who had drunk alcoholic beverages in the 12 months preceding the survey, most persons drank beer (69.3%), followed by table wines (47.1%) and spirits (11.4%). The average amount of alcohol consumed by the drinkers in a typical drinking day for beer, table wines and spirits was 3.4, 2.9, and 3.9 alcohol units (each unit is equivalent to 10 grams of pure alcohol), respectively⁷.

Reduction or Cessation of Alcohol Consumption to Reduce Cancer Risk

- When it comes to cancer risks, no amount of alcohol consumption is safe and thus **it is best not to drink at all.**
- A review and evaluation of the available evidence on reduction or cessation of alcohol consumption and cancer risk shows that **alcohol cessation can reverse some alcohol-related carcinogenic mechanisms** (such as leading to a rapid decrease and elimination of alcohol-related acetaldehyde in the upper aerodigestive tract and colon; decrease in DNA damage; reversal of alcohol-related increased intestinal permeability and microbial translocation)²⁰. There is sufficient evidence that quitting alcohol — or even drinking less — reduces cancer risks of oral cavity and oesophagus²⁰.
- The DH urges drinkers to take a look at their own drinking habits by using the electronic alcohol screening and brief intervention tool (e-SBI), recognise the cancer risks and other harms associated with alcohol consumption and appreciate the health benefits of reducing or even stopping alcohol consumption.



(accessible at www.change4health.gov.hk/en/alcohol_aware/questionnaire/index.html)

- To prevent health problems related to alcohol drinking, the DH has produced toolkits including a self-help booklet for drinkers to change their drinking habits for better health. To access the self-help booklet and other health educational materials pertaining to alcohol and health, please visit the Change for Health website of the DH at www.change4health.gov.hk/en/alcohol_aware/index.html.



- The DH has launched a two-year Pilot Alcohol Cessation Counselling Service (Pilot Programme) since April 2024 by subventing the Tung Wah Group of Hospitals (TWGHs) to provide free counselling service for Hong Kong residents identified to have probable alcohol dependence, defined by scoring 20 or above at the Alcohol Use Disorders Identification Test (AUDIT).
- Eligible persons who are interested to join the Pilot Programme can call the enquiry hotline of the TWGHs or visit their website (as shown on the poster) for more details on enrolment method and service centre.

東華三院
Tung Wah Group of Hospitals

Government-funded programme
Department of Health

*This programme is supported and subvented by the Department of Health

PILOT ALCOHOL CESSATION COUNSELLING SERVICE

Programme Content:
To provide professional assessments and individual alcohol cessation counselling service for people with probable alcohol dependence free of charge.
(The Pilot Programme will last for 2 years, and service commences from 8 April 2024)

For enquiry or enrollment to the service, please call:
2884 9876
or visit the website : <http://atp.tungwahcsd.org/>

Service Target:
Hong Kong residents identified to have probable alcohol dependence

Hotline Service Hours:
Monday to Friday: 10:00–22:00
Saturday: 09:00–13:00
(Outside service hours, during public holidays, or if the line is busy, voicemail service is provided.)

Service Centre Operating Hours:
Monday & Wednesday: 10:00–18:00
Tuesday & Friday: 14:00–18:00
(Except public holidays)

Service Centre Address:
Room 1601, Tung Chiu Commercial Centre, 193–197 Lockhart Road, Wanchai, Hong Kong

Enrollment Methods:

- 1) Hotline
- 2) Website
- 3) Visit service centre
- 4) Referrals from professionals

Scan or Click to Registration

Scan or Click to Referrals

- The Pilot Programme also accepts medical and social service units in the community to refer cases in need to the counselling service.
- The DH will continue to work with other government bureaux and departments, professional associations as well as community partners to enhance public education, build public awareness on the health effects of alcohol and promote early identification of at-risk drinkers for intervention to reduce alcohol-related harm.

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【CHP launches Instagram official account】

The Centre for Health Protection (CHP) has launched its official Instagram account to disseminate public health information and health tips.

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News In Brief

Walking Together in Healthy Bay Area – “Celebrating the 75th National Day 10 000 Steps a Day Challenge 2024” Kick-off Ceremony

The Health Bureau and the Department of Health held the “Celebrating the 75th National Day 10 000 steps a Day Walking Challenge 2024” Kick-off Ceremony on 1 November to promote the health benefits of walking. On the occasion of the 75th anniversary of the founding of the People’s Republic of China, Hong Kong for the first time partnered with the Greater Bay Area Mainland cities to jointly organise walking activities at the same time under the common theme of “Walking Together in Healthy Bay Area” to mark the celebration.

The Walking Challenge was held in November 2024. In addition to individual Walking Challenge, it also included a Workplace Organisation Walking Challenge, aiming to raise public awareness of the physical and mental health benefits of walking, encourage friends and colleagues to support each other and walk 10 000 steps daily. Adults are recommended to gradually increase their daily step goal to 10 000 based on an individual’s own physical condition, abilities, pace and circumstances. Any amount of walking is better than sitting, even if the goal cannot be reached yet. For more details about the Walking Challenge in Hong Kong, please visit the event website (www.10000stepsaday.hk/en).



Photo — The Secretary for Health, Professor LO Chung-mau (fourth left); the Under Secretary for Health, Dr Libby LEE (second left); the Director of Health, Dr Ronald LAM (fourth right); the Controller of the Centre for Health Protection of the Department of Health, Dr Edwin TSUI (second right), and other officiating guests at the Kick-off Ceremony.



Photo — The Secretary for Health, Professor LO Chung-mau (third left); the Under Secretary for Health, Dr Libby LEE (first left); the Director of Health, Dr Ronald LAM (third right); the Controller of the Centre for Health Protection of the Department of Health, Dr Edwin TSUI (first right), and other guests at the finishing line after walking 1 949 steps.

Non-Communicable Diseases (NCD) WATCH is dedicated to promote public’s awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

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