

Drinkaware response to the Women's Health Inquiry Call for Evidence June 2021

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Introduction

The Drinkaware Trust is a registered charity with the mission to reduce alcohol harm and provide alcohol education in the UK.

Drinkaware's response is anchored in its remit of reducing alcohol harm by encouraging positive changes in drinking behaviours. Drinkaware aims to achieve this through public education concerning the facts and health implications of alcohol and supporting people to access help where they are regularly drinking more than the UK Chief Medical Officers' low risk guidance. The following evidence draws extensively upon the charity's insight and evidence of attitudes to alcohol and of drinking behaviours, with the objective of considering how to protect women's health from alcohol harm.

NB: Within this response we use the terms woman and women's health. However, it is important to acknowledge that it is not only people who identify as women for whom it is necessary to access women's health services in order to maintain their health and wellbeing. Delivery of care must therefore be appropriate, inclusive, and sensitive to the needs of those individuals whose gender identity does not align with the sex they were assigned at birth.

1. Women's Voices - Women's voices in health care; service design

- **Alcohol treatment services need to be sensitive to the particular needs of women and provide gender-specific support.**
- **Women should also be involved in treatment service design.**

In 2019, women comprised 38% of all alcohol-related hospital admissions (broad and narrow measure¹) in England,² and 40% of patients in alcohol only dependence treatment.³ In addition, women account for between 31% and 34% of all alcohol-specific deaths in the UK and have done so since the beginning of time series (in 2001).⁴

According to alcohol harm risk levels based on weekly unit consumption,⁵ in 2020, 15% of women drank at increasing or higher risk levels (i.e., more than 14 units in the last week)—of which, 3% drank at higher risk levels (over 35 units a week).⁶

Such proportions are significant. While the prevalence of alcohol-related conditions among women is lower than in men⁷ (largely attributable to drinking behaviours⁸), it should not divert attention away from the harm alcohol causes women and their unique needs when it comes diagnosis and support.

Women are physiologically more vulnerable to alcohol's harmful effects, and consequently tend to develop chronic alcohol-related diseases earlier in life, and at lower levels of consumption, than men.^{9,10,11} For example, the threshold for development of alcohol-related liver disease has been identified as substantially lower in women than men.^{12,13} Moreover, women demonstrate more rapid development of the disease and progression to liver cancer.¹⁴ Women are also more likely than men to experience comorbid psychiatric disorders, such as anxiety and depression,^{15,16} and there is evidence of accelerated progression from the first use of alcohol to the onset of Alcohol Use Disorder.^{17,18}

In addition, alcohol has been demonstrated to be a causal factor in the development of, at least, seven types of cancer, including cancer of the bowel, breast, larynx (voice box), liver, mouth, oesophagus (food pipe) and pharynx (upper throat). It is estimated that alcohol causes 3.3% of cancer cases in the UK; equivalent to 11,900 cases per year. While not a majority, breast cancer (in females) makes up the largest proportion of these alcohol-attributable cases (approximately 4,440).¹⁹ **There is a critical need for greater awareness-raising of the causal association between alcohol and cancer,²⁰ and specifically alcohol and breast cancer; and many health professionals are unaware of this causal link. There is a need to educate girls and young women about the lifelong risk of breast cancer from alcohol consumption across the life course.**

Alcohol use disorder (or alcohol dependence) has been historically viewed as a predominantly male psychiatric disorder, and as such, treatments were initially developed with men in mind. Yet, as with broader medical research, findings applicable to men cannot simply be assumed to apply equally to women—and alcohol research has been no exception to this gender bias. While there has been greater recognition of the need to consider sex and gender differences in alcohol research in the recent decades,^{21,22} **there remains a need to ensure sufficient numbers of women are included in research to enable powered analyses of sex differences/similarities—not only in relation to the development of alcohol use disorder, but also on the response to pharmacological, behavioural, and other treatments and support.**

Women experience different barriers to accessing treatment that need to be considered in service design and delivery. The stigma attached to addiction can be stronger for women—and mothers²³ in particular—than men.²⁴ Other common barriers include childcare responsibilities, lower wages/less income, substance abuse by a partner or other family members or fear of losing custody of children.^{25,26,27,28} As such, there is a need for greater gender-responsive support.²⁹

Studies also suggest that women are more likely than men to seek treatment via alternative means, such as through primary care or mental health settings.³⁰ Women are also more likely to have higher rates of co-occurring mental health conditions along with alcohol use disorder.³¹ **This highlights the importance of routine alcohol screening and training by health care professionals to identify alcohol misuse and to provide brief intervention to signpost to appropriate services.**

This is important, as on several measures of alcohol harm, the rate among women is rising at a higher rate than men. For example, there has been a 45% increase in the rate of admission episodes for alcohol-specific conditions among women since 2008/09, compared to a 36% increase in the rate among men. Similarly, the rate of admission episodes for alcohol-related liver disease (broad measure)³² among women is up 67% in 2018/19 compared to a decade earlier (2008/09), compared to a 58% increase in the rate among men.

Such gender considerations need also to extend to interventions. Recent evidence modelling the likely impact of pricing policies in England found that pricing policies were more likely to be effective in reducing consumption and harm among men than women due to gender differences in purchasing preferences.³³ Such findings highlight the importance of considering the gendered impact of policy interventions.

Need to consider minority ethnic groups in service provision.

There is a need for more focused research on the impact of alcohol in Black, Asian and Minority Ethnic (BAME) communities – and specifically the impact on women in these communities. Historically, certain minority ethnic groups report lower levels of drinking, and fewer minority ethnic individuals present to alcohol treatment services. Some research shows that drinking patterns in second-generation minority ethnic groups may start to resemble the drinking habits of the general population.³⁴ It is important to understand drinking patterns among minority ethnic groups (and from a gendered perspective); how they are represented in alcohol treatment services; the services on offer to these groups; how they have been developed, implemented, and evaluated; and their preferences for support and service provision, to develop accessible and culturally sensitive interventions.

2. Information and education on women's health

- **Approximately 55,000 women are diagnosed with breast cancer each year in the UK,³⁵ and 8% of these cases are caused by drinking alcohol—that is an estimated 4,440 cases attributable to alcohol each year.³⁶**
- **There is a need to educate girls and young women about the lifelong risk of breast cancer from alcohol consumption across the life course.**
- **Cancer screening can offer a “teachable moment” to engage women with lifestyle messaging,³⁷ but there is limited research into the feasibility of delivering this.**
- **Existing teachable moments across the life course need to be better utilised.**
- **Health interventions in non-clinical settings can reach new audiences, but further evaluation is needed.**

- **Need for greater awareness of role of alcohol in mental health.**
- **Need for greater awareness of role of alcohol in obesity.**

Women who drink alcohol are more likely than men to recognise certain health conditions are linked to consuming alcohol (such as liver disease, mental health problems, and cancer). However, overall awareness and understanding of the link between alcohol and health conditions remains low—particularly the link between alcohol and cancer³⁸—a finding echoed in academic research.³⁹ Indeed, just 47% of adults in England linked alcohol to cancer when prompted, and the level of awareness varies depending on the type of cancer. For example, while 80% of adults in England linked alcohol to liver cancer, just 18% linked alcohol to breast cancer.⁴⁰

There is an established evidence base demonstrating a causal relationship between alcohol and breast cancer.⁴¹ Yet awareness of this remains low^{42,43} and many health professionals are also unaware of this causal relationship.⁴⁴

Previous Drinkaware research has suggested that breast cancer risk is a motivating message for reducing alcohol consumption among women who drink at high-risk levels (according to AUDIT-C). Drinkaware has targeted this campaign message with 40-64-year-old women, but more research is needed to identify the lead time and the best age for conveying such risk communications.

At a Drinkaware expert roundtable (attended by invited independent participants, who brought expertise in communicating risk, policy, research, clinical practice, and public health), it was noted that the most vulnerable time for women in terms of breast cancer development is when women are approaching their 20s.⁴⁵ However, some noted that young people in the main are not concerned about illnesses they perceive as later life issues. Others noted that parents may be influenced by advice from their adult children. Healthy lifestyle messages play out differently at different ages,⁴⁶ but it was agreed that both young and older people misunderstand their risk of breast cancer. There is a need for more evidence on the impact of stopping alcohol use on breast cancer risk. Some commented that we do not yet know the time from any adverse exposure, in this case drinking alcohol, to the time when the risk of breast cancer will ‘play out’; in addition, the interplay between different causal factors remains poorly understood.

Alcohol intake during adolescence and early adult years increases the risk of breast cancer and proliferative benign breast disease—suggesting that breast cancer prevention efforts should begin early in life.⁴⁷ **There is a need to educate girls and young women about the lifelong risk of breast cancer from alcohol consumption across the life course.** Future studies will need to evaluate drinking patterns across the life course in relation to breast cancer risk, identify what components of lifestyles could modify the adverse effect of alcohol and characterise the biologic changes stimulated by alcohol in breast tissue.

Current opportunities for “teachable moments” need to be utilised – including screening.

Studies examining the fidelity of NHS health checks identify alcohol screening as regularly omitted from consultations.⁴⁸ This reduces teachable moments and opportunities for behaviour change. Removal of financial incentives for alcohol prevention in English primary care was associated with an immediate and sustained reduction in the rate of screening for alcohol use and brief advice provision.⁴⁹ Other barriers include GP time and training.⁵⁰

Cancer screening can offer a “teachable moment” to engage women with lifestyle messaging,⁵¹ but there is limited research into the feasibility of delivering this.⁵² An RCT assessing the impact of a lifestyle intervention in women invited to NHS breast screening suggests adding prevention interventions to screening and/or symptomatic clinics is acceptable to attendees.⁵³ The optimal approach for delivery needs careful consideration to minimise potential negative effects on screening attendance. Studies among health care professionals suggest there are reservations in raising and delivering advice on this issue, such as low levels of literacy around alcohol and breast cancer risk and need of training to improve confidence in providing advice to patients.⁵⁴

There should be a requirement for training for all patient-facing staff in identification and brief advice (IBA), and routine screening and IBA for anyone attending primary or secondary health care provision. While the value of education and training to contribute to professional practice is not disputed, there is insufficient evidence on what counts as IBA training, how training impacts on

practice (especially in non-health settings), and the role of training to influence organisational support for the incorporation of IBA delivery into work practices.⁵⁵

Health interventions in non-clinical settings can reach new audiences.

Drinkaware has sought to widen the use of alcohol IBA beyond clinical settings to where people are—specifically through digital and supermarket interventions⁵⁶—to help raise awareness of harmful drinking, as well as increase early identification and self-referral to reduce longer term risks to health. There is a need for further evaluation of the impact of IBA in non-clinical settings, and whether such interventions have greater opportunities to reach women.

Need for awareness of alcohol impact on other health conditions.

Alcohol is associated with more than 200 diseases and injury-related health conditions, with cardiovascular diseases, digestive diseases, and unintentional injuries as the leading contributors to alcohol-attributable deaths among women.⁵⁷ Higher levels of alcohol consumption by women are associated with increased menstrual symptoms, hypertension, and stroke. Alcohol can disrupt a woman's menstrual cycle; reduce chances of conceiving,⁵⁸ and trigger some symptoms of the menopause (such as hot flushes and night sweats⁵⁹). Post menopause, drinking heavily can also increase risk of osteoporosis.⁶⁰

Need for increased awareness of alcohol's role in mental health.

Awareness of the impact of alcohol on mental health needs to be improved (11% unprompted awareness⁶¹), as alcohol can be a risk factor and cause or effect of poor mental health. Women are more likely to experience common mental health conditions than men; one in five women compared to one in eight men; while rates remain relatively stable in men, prevalence is increasing in women.⁶² Young women are a particularly high-risk group, with over a quarter (26%) experiencing a common mental disorder, such as anxiety or depression – almost three times more than young men (9.1%).

The psychological effects of alcohol must be given parity of esteem with physical health harms. Alcohol can contribute to feelings of depression and anxiety and there is a strong association between drinking heavily (either chronic or acute alcohol misuse) and suicidal thoughts.⁶³ In addition, medications prescribed for depression should not be mixed with alcohol.⁶⁴ Some commonly prescribed anti-depressants tend to increase the risk of relapse to heavy drinking in people who are trying to cut down or abstain from alcohol.^{65,66,67}

Need for increased awareness of alcohol's role in obesity.

There is a significant obesity crisis, and more women are obese than men;⁶⁸ however, the 2018 Drinkaware Monitor found that just one in ten respondents spontaneously linked alcohol consumption to obesity risk.⁶⁹ Greater awareness and consumer information is needed in this area and Drinkaware would support calorie labelling on alcohol products. Drinkaware has witnessed increasing consumer interest in the calorie content of drinks, evidenced by online search data. For example, in 2018, there were more than 126,000 unique visits to its 'calories in alcohol' page and approximately 1.1 million users of the online unit and calorie calculator.

3. Women's health across the life course

- **There is a need to raise awareness of the risks of drinking during pregnancy and of Foetal Alcohol Spectrum Disorder (FASD), and as pregnancies may be unplanned, there is a need to communicate this advice pre-conception to all women of fertile age.**
- **Awareness of the adverse impact of alcohol on fertility should be increased.**
- **Alcohol education should be embedded in touchpoints across the life course of women's health from puberty to post-menopause.**

Alcohol and pregnancy

Foetal Alcohol Spectrum Disorders (FASDs) are lifelong disabilities caused by prenatal alcohol exposure.⁷⁰ Alcohol can affect any organ or system in the developing foetus, and as such, individuals with FASD may experience over 400 comorbid conditions. While the prevalence of FASD in the UK is unknown,^{71,72} it has been estimated at approximately 3.2%.⁷³

The UK has one of the highest rates of alcohol use during pregnancy.^{74,75} Indeed, it was only in 2016 that the UK's Chief Medical Officers revised the alcohol guidelines to recommend abstinence during pregnancy.⁷⁶

Awareness of FASD is vital pre-conception; as 45% pregnancies can be unplanned,⁷⁷ and the first trimester is identified as the period most sensitive to the effect of alcohol on the developing foetus.⁷⁸ FASD is also more prevalent in children from unplanned pregnancies.⁷⁹

The draft NICE guidance on FASD states that “many women are not aware of risks of alcohol consumption in pregnancy; information is often not provided; and when provided it can be ambiguous, inconsistent and incorrect.”⁸⁰ This highlights an urgent need for training in alcohol screening during pregnancy, and greater education on FASD to improve awareness and recognition by health professionals and women more generally.⁸¹ As there are ethical issues in terms of privacy, patient confidentiality and stigma in seeking support, training is essential to ensure health professional engage with women in ways that are non-stigmatising and supportive,⁸² while making clear the support available to children and families affected.

Health care professional recognition will be even more important following the Covid-19 pandemic, as evidence has demonstrated increased alcohol consumption among women—particularly during the first national lockdown beginning in March 2020.^{83,84} In addition to the pandemic's duration, and the risk of unintended pregnancies, the odds of increased rates of FASD in the future are likely to be high.⁸⁵

Alcohol & fertility

The Chief Medical Officers' low risk guidance does not have specific advice on the effects of alcohol on fertility, but they do have specific guidelines for those trying to conceive. It is recommended that women trying to conceive, or pregnant women, should not drink alcohol at all to keep health risks to the baby as low as possible. There is a link between drinking and fertility,⁸⁶ although exactly how alcohol makes women less fertile is not understood clearly. Studies have shown that even drinking lightly can have an effect, including a study which demonstrated drinking between one and five drinks a week can reduce a women's chances of conceiving, and 10 drinks or more decreases the likelihood of conception even further.⁸⁷

Touchpoints for alcohol education across the life course

Touchpoints for alcohol education should be embedded across the life course. Young people should be educated from an early age on the impact of alcohol on health and the importance of healthy lifestyle. As such, health services need to find ways to connect with women at an early age. The preconception period presents an opportunity for intervention, when women and men can adopt healthier behaviours, e.g., reducing alcohol consumption, in preparation for a successful pregnancy and positive health outcomes.⁸⁸ The impact of drinking on trying to conceive and risks of FASD should be mentioned in contraception and pre-conception conversations. Consideration should also be given to innovative ways to reach women where they are, e.g., community hubs with weekend and longer hours access to provide lifestyle advice in non-clinical settings; there is an opportunity to evaluate this as part of the NHS Long Term Plan and new Integrated Care Systems.

Alcohol and menopause

The **menopause can be a further touchpoint for lifestyle advice as alcohol can act as a trigger for some symptoms of the menopause**, such as hot flushes and night sweats. If mood and energy levels are already affected by alcohol, drinking too much could trigger or make depression, mood swings or anxiety worse. Menopausal stress and depression may trigger the onset of alcohol abuse or the worsening of established alcohol misuse.⁸⁹ In addition, post-menopause, alcohol can also increase the risk of osteoporosis.⁹⁰

Alcohol and dementia

Women represent nearly two-thirds of all people with dementia.⁹¹ Although the exact causes of dementia are unclear, research has concluded that exercise, mental stimulation and maintaining a healthy weight may help to protect people from dementia, whilst smoking and drinking can increase the risk.⁹²

4. Women's Health in the workplace

- **Alcohol education should be a core part of workplace wellbeing programmes.**
- **Employers have a crucial role to play in prevention and signposting but need support.**
- **Women's health should be embedded in workplace policies.**

Alcohol education should be a core part of workplace wellbeing programmes. Three quarters (75%) of the UK population aged between 16 and 64 years are in employment—the equivalent of approximately 32 million people—and the average weekly hours worked is approximately 30 hours.⁹³ As hazardous alcohol consumption (in excess of 14 units per week) is most common among women aged 45-64,⁹⁴ the workplace may be a unique setting for the prevention and early identification of alcohol harm. However, employers need to be supported with guidance, training, and appropriate signposting.

Women in employment have been disproportionately affected by the pandemic,⁹⁵ and Drinkaware's 2020 Monitor⁹⁶ (conducted in Aug/Sep 2020), demonstrated that 32% of women in employment (compared to 26% of men) stated that their job had become more stressful due to the pandemic. Women were significantly more likely than men to cite lack of childcare (12% vs 6%), difficulties related to home life (13% vs 8%), doing their job from home (26% vs 21%), and home-schooling (13 vs 9%) as reasons for increased stress. In addition, 21% of women in employment (compared to 13% of men) stated that their mental health has been negatively affected by the pandemic to a large or very large extent.

A common theme across all those who reported drinking more than usual prior to the pandemic has been being more likely to cite coping motivations for drinking alcohol than those who reported drinking the same or less. Employers have a crucial role to play in continuing to support those who struggled to balance work and family responsibilities in the pandemic and there is a need for flexible and family-friendly work cultures.

Furthermore, the challenges of common debilitating women's health issues – e.g., menstrual problems; endometriosis and the menopause – should be recognised in workplace policies, to support women to remain in the workforce.

5. Research, evidence and data

Alcohol research has been no exception to gender bias. While there has been greater recognition of this in recent decades,^{97,98} there remains a need to ensure sufficient numbers of women are included in clinical and medical research, and that women's perspectives and experiences are considered in diagnosis and treatment, as well as policy interventions. Moreover, it is important that research include women of all ages, ethnic and socio-economic backgrounds to ensure applicability and transferability of findings.

6. Impacts of COVID-19 on women's health, and service delivery.

- **The pandemic has shown a polarisation of change in drinking habits, masking significant changes among subgroups.**
- **Women report significant negative impacts to their mental health and wellbeing.**
- **Women were more likely than men to cite difficulties accessing remote health support, but there is a place for digital health.**

Drinkaware's research throughout the pandemic has identified a distinct polarisation of change in drinking habits—with similar proportions of UK adults reporting either drinking more than they would have usually prior to the pandemic or drinking less than they usually would. At the population level, this polarisation has the potential to mask significant changes within subgroups, as

those most likely to report drinking less than usual were already more likely to be drinking at low risk levels prior to the pandemic. In contrast, those who reported increases in their consumption were more likely to already be drinking at harmful levels pre-pandemic, and therefore, already more vulnerable to alcohol harm. Our latest research conducted April 2021 demonstrates this trend has continued, indicating such habits are becoming entrenched for some drinkers. As such, there is a need for systematic support targeting those who have increased their consumption.

Women were significantly more likely than men to report drinking more than they usually would during the first national lockdown (27% vs 25%),⁹⁹ a finding reiterated in academic research.^{100,101} However, many appeared to return to their usual levels by the summer when restrictions temporarily eased.

More specifically, working (full-time or part-time) women with children under the age of 18 were significantly more likely to report drinking more alcohol than usual than working women more generally (38% vs 33%). Just 23% of workers in this group did not have to juggle childcare and work—and this burden overwhelmingly fell on women—a finding already reported by the Office for National Statistics (ONS)¹⁰² and elsewhere.¹⁰³ Our Monitor 2020 data also support the widespread recognition of women bearing the brunt of childcare and home-schooling, with over half of women (54%) reporting sole responsibility compared to just 12% of men. Women in employment were more likely to report their job being more stressful due to the pandemic (32% compared to 26% of men) and were twice as likely than men to cite lack of childcare as among the reasons for this (12% vs 6% of men).

Women were also more likely to report negative impacts to their mental health and wellbeing. Almost one in five women (19%) reported that the pandemic had had either a large or very large negative impact on their mental health and wellbeing, compared to one in seven men (14%). Women were also more likely to report experiencing more anxiety (50% vs 34% of men), sleep problems (41% vs 32% of men), stress (50% vs 35% of men), and depression/low mood (45% vs 34% of men) during the pandemic.

In addition to impacts on mental health, women were also more likely than men to report other negative health behaviours. For example, women were more likely than men to report having gained weight (36% vs 25%), eaten less healthily (23% vs 15%), and smoke more (if they smoked at all) (34% vs 27%).

A common theme to emerge from our data is that the pandemic has had a substantial impact on the mental health of women—and that this may manifest in different coping mechanisms. Indeed, individuals who reported drinking more than they usually would have prior to the pandemic were far more likely to cite coping motivations for drinking alcohol (e.g., ‘to cheer up when in a bad mood’ etc.), as opposed to social, enhancement or conformity reasons, than those who reported drinking the same or less. Once these habits are formed, they can be difficult to break.

Rise in intimate partner violence

The Covid-19 pandemic has exposed this often-hidden alcohol-related harm. The substantial rise of calls to intimate partner violence helplines was widely reported at the beginning of the pandemic as abusers and their partners had to self-isolate together at home.^{104,105,106} In addition, suspected cases of domestic child abuse has also increased, with a reduction in referrals with the closure of schools, and increased calls to helplines.^{107,108,109} While alcohol is not always a factor in domestic and intimate partner violence, it is highly correlated.^{110,111} Women are more likely to have physical intimate partner violence perpetrated against them by a male partner who has been drinking than vice versa.¹¹²

As such, there is a need for adequate provision of safe accommodation for women and children impacted by alcohol in this way. In addition, training for medical staff about hidden prevalence of health harm from alcohol in women is critical, as this is more likely to be suspected in males.

Impacts to service delivery.

The pandemic necessitated innovation in service delivery with tele-consultation and online appointments. A Health Foundation report shows among both the public and NHS staff surveyed, those who said their experiences had made them feel more positive about using these technology-enabled approaches in future significantly outweighed those who said it had made them feel more negative. Approximately half (49%) of the public and 61% of NHS staff surveyed agreed that the NHS should be looking to build on developments during the Covid-19 pandemic and use technology more in the long term. By contrast, 36% of the public and 31% of NHS staff surveyed thought that greater use of technology made sense during the pandemic but was not something for the long term.¹¹³ Online consultations can provide greater flexibility, e.g., fit around schedules and this may encourage uptake. However, considering issues around digital exclusion or alternatives to ensure technologies are not creating or widening health inequalities will be particularly important.

Our 2020 Monitor data¹¹⁴ indicate that while almost half of women (45%) agreed that accessing health support remotely was a positive experience and agreed that they would continue to access support remotely in the future (49%)—a sizeable minority cited difficulties and were significantly more likely to do so than men (17% vs 14% of men). Yet, our Monitor data demonstrates that women are more likely than men to use websites or apps for health management (40% vs 29% of men), indicating that there is a role for digital technology in supporting women’s health.

¹ Broad definition: A measure of hospital admissions where either the main reason for admission, or one of the secondary (contributory) diagnoses, is an alcohol-related condition. Narrow definition: A measure of hospital admissions where the main reason for admission is an alcohol-related condition. More information on these definitions can be found [here](#).

² NHS Digital. (2020). [Statistics on Alcohol, England 2020](#).

³ Public Health England. (2020). [Adult substance misuse treatment statistics 2019 to 2020: report](#).

⁴ Office for National Statistics. (2019). [Alcohol-specific deaths in the UK: registered in 2018](#).

⁵ NICE. (2010). [Alcohol-use disorders: prevention. Glossary](#).

⁶ NHS Digital. (2020). [Health Survey for England 2019: Adults’ health-related behaviours](#).

⁷ Public Health England. (2021). [Local Alcohol Profiles for England](#).

Two exceptions are admission episodes for ‘Intentional self-poisoning’ due to alcohol and admission episodes for alcohol-specific conditions - Under 18s.

⁸ See [Health Survey for England](#), [Scottish Health Survey](#), [National Survey for Wales](#), and [Health Survey Northern Ireland](#).

⁹ Vatsalya, V., Liaquat, H. B., Ghosh, K., Mokshagundam, S. P., and McClain, C. J. (2017). A Review on the Sex Differences in Organ and System Pathology with Alcohol Drinking. *Current Drug Abuse Reviews*, 9(2), 87–92.

¹⁰ Maddur, H., & Shah, V. H. (2020). Alcohol and Liver Function in Women. *Alcohol Research: Current Reviews*, 40(2).

¹¹ McHugh, R. K., Votaw, V. R., Sugarman, D. E., & Greenfield, S. F. (2018). Sex and gender differences in substance use disorders. *Clinical Psychology Review*, 66, 12–23.

¹² Szabo, G. (2018). Women and alcoholic liver disease—Warning of a silent danger. *Nature Reviews Gastroenterology & Hepatology*, 15(5), 253–254.

¹³ Shimizu, I., Kamochi, M., Yoshikawa, H. and Nakayama, N. (2012). Gender difference in alcoholic liver disease. Trends in alcoholic liver disease research: clinical and scientific aspects. *Rijeka: InTech*, 23–40.

¹⁴ Guy, J. and Peters, M.G. (2013). Liver disease in women: the influence of gender on epidemiology, natural history, and patient outcomes. *Gastroenterology & Hepatology*, 9(10), 633.

¹⁵ Piano, M. R., Thur, L. A., Hwang, C.-L., & Phillips, S. A. (2020). Effects of Alcohol on the Cardiovascular System in Women. *Alcohol Research: Current Reviews*, 40(2).

¹⁶ Mogos, M. F., Salemi, J. L., Phillips, S. A., & Piano, M. R. (2019). Contemporary Appraisal of Sex Differences in Prevalence, Correlates, and Outcomes of Alcoholic Cardiomyopathy. *Alcohol and Alcoholism*, 54(4), 386–395.

¹⁷ Agabio, R., Pisanu, C., Gessa, G., & Franconi, F. (2016). Sex Differences in Alcohol Use Disorder. *Current Medicinal Chemistry*, 23.

¹⁸ Casanova Ferrer, F., Pascual, M., Hidalgo, M. R., Malmierca-Merlo, P., Guerri, C., & García-García, F. (2020). Unveiling Sex-Based Differences in the Effects of Alcohol Abuse: A Comprehensive Functional Meta-Analysis of Transcriptomic Studies. *Genes*, 11(9), 1106.

¹⁹ Brown, K. F., Rumgay, H., Dunlop, C., Ryan, M., Quartly, F., Cox, A., ... & Parkin, D. M. (2018). The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015. *British Journal of Cancer*, 118(8), 1130–1141.

²⁰ Gunstone, B., Piggott, L., Butler, B., Appleton, A. and Larsen, J. (2018). [Drinking behaviours and moderation among UK adults: Findings from Drinkaware Monitor 2018](#). London: YouGov and Drinkaware. p.46.

²¹ Erol, A. and Karpyak, V.M. (2015). Sex and gender-related differences in alcohol use and its consequences: Contemporary knowledge and future research considerations. *Drug and Alcohol Dependence*, 156, 1–13.

²² Agabio, R., & Sinclair, J. M. (2019). ‘Mother’s ruin’—Why sex and gender differences in the field of alcohol research need consideration. *Alcohol and Alcoholism*, 54(4), 342–344.

²³ Stringer, K. L., & Baker, E. H. (2018). Stigma as a barrier to substance abuse treatment among those with unmet need: an analysis of parenthood and marital status. *Journal of Family Issues*, 39(1), 3–27.

²⁴ Rolfe, A., Orford, J., & Dalton, S. (2009). Women, alcohol and femininity: a discourse analysis of women heavy drinkers’ accounts. *Journal of health psychology*, 14(2), 326–335.

²⁵ Neale, J., Tompkins, C. N., Marshall, A. D., Treloar, C., & Strang, J. (2018). Do women with complex alcohol and other drug use histories want women-only residential treatment? *Addiction*, 113(6), 989–997.

²⁶ Schamp, J., Simonis, S., Roets, G., Van Havere, T., Gremeaux, L., & Vanderplasschen, W. (2020). Women’s views on barriers and facilitators for seeking alcohol and drug treatment in Belgium. *Nordic Studies on Alcohol and Drugs*, 1455072520964612.

²⁷ Andersson, C., Wincup, E., Best, D., & Irving, J. (2020). Gender and recovery pathways in the UK. *Drugs: Education, Prevention and Policy*, 1–11.

- ²⁸ Brewer, M. K. (2006). The contextual factors that foster and hinder the process of recovery for alcohol dependent women. *Journal of Addictions Nursing*, 17(3), 175–180.
- ²⁹ Andersson, C., Wincup, E., Best, D., & Irving, J. (2020). Gender and recovery pathways in the UK. *Drugs: Education, Prevention and Policy*, 1-11.
- ³⁰ Green, C. A. (2006). Gender and use of substance abuse treatment services. *Alcohol Research & Health*, 29(1), 55.
- ³¹ Holzhauser, C. G., Cucciare, M., & Epstein, E. E. (2020). Sex and Gender Effects in Recovery from Alcohol Use Disorder. *Alcohol Research: Current Reviews*, 40(3).
- ³² Broad definition: A measure of hospital admissions where either the main reason for admission, or one of the secondary (contributory) diagnoses, is an alcohol-related condition. Narrow definition: A measure of hospital admissions where the main reason for admission is an alcohol-related condition. More information on these definitions can be found [here](#).
- ³³ Meier, P. S., Holmes, J., Brennan, A., & Angus, C. (2021). Alcohol policy and gender: a modelling study estimating gender-specific effects of alcohol pricing policies. *Addiction*.
- ³⁴ Hurcombe, R., Bayley, M., & Goodman, A. (2010). *Ethnicity and alcohol: A review of the UK literature*. Project Report. Joseph Rowntree Foundation, York.
- ³⁵ Breast Cancer Now. (2021). *Facts and Statistics 2021*.
- ³⁶ Brown, K. F., Rumgay, H., Dunlop, C., Ryan, M., Quartly, F., Cox, A., ... & Parkin, D. M. (2018). The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015. *British Journal of Cancer*, 118(8), 1130-1141.
- ³⁷ Chambers, S. E., Copson, E. R., Dutey-Magni, P. F., Priest, C., Anderson, A. S., & Sinclair, J. M. (2019). Alcohol use and breast cancer risk: A qualitative study of women's perspectives to inform the development of a preventative intervention in breast clinics. *European Journal of Cancer Care*, 28(4), e13075.
- ³⁸ Gunstone, B., Piggott, L., Butler, B., Appleton, A. and Larsen, J. (2018). *Drinking behaviours and moderation among UK adults: Findings from Drinkaware Monitor 2018*. London: YouGov and Drinkaware. p.46.
- ³⁹ Calvert, C., Toomey, T., & Jones-Webb, R. (2021). Are people aware of the link between alcohol and different types of Cancer? *BMC public health*, 21(1), 1-10.
- ⁴⁰ Buykx, P., Li, J., Gavens, L., Hooper, L., Lovatt, M., de Matos, E. G., ... & Holmes, J. (2016). Public awareness of the link between alcohol and cancer in England in 2015: a population-based survey. *BMC Public Health*, 16(1), 1-12.
- ⁴¹ Connor, J. (2017). Alcohol consumption as a cause of cancer. *Addiction*, 112(2), 222-228.
- ⁴² Sinclair, J., McCann, M., Sheldon, E., Gordon, I., Brierley-Jones, L., & Copson, E. (2019). The acceptability of addressing alcohol consumption as a modifiable risk factor for breast cancer: a mixed method study within breast screening services and symptomatic breast clinics. *BMJ open*, 9(6), e027371.
- ⁴³ Chambers, S. E., Copson, E. R., Dutey-Magni, P. F., Priest, C., Anderson, A. S., & Sinclair, J. M. (2019). Alcohol use and breast cancer risk: A qualitative study of women's perspectives to inform the development of a preventative intervention in breast clinics. *European Journal of Cancer Care*, 28(4), e13075.
- ⁴⁴ Sinclair, J., McCann, M., Sheldon, E., Gordon, I., Brierley-Jones, L., & Copson, E. (2019). The acceptability of addressing alcohol consumption as a modifiable risk factor for breast cancer: a mixed method study within breast screening services and symptomatic breast clinics. *BMJ open*, 9(6), e027371.
- ⁴⁵ Liu, Y., Nguyen, N., & Colditz, G. A. (2015). Links between alcohol consumption and breast cancer: a look at the evidence. *Women's health*, 11(1), 65-77.
- ⁴⁶ Shamaskin, A. M., Mikels, J. A., & Reed, A. E. (2010). Getting the message across: Age differences in the positive and negative framing of health care messages. *Psychology and aging*, 25(3), 746.
- ⁴⁷ Liu, Y., Nguyen, N., & Colditz, G. A. (2015). Links between alcohol consumption and breast cancer: a look at the evidence. *Women's health*, 11(1), 65-77.
- ⁴⁸ Paxton, B., Mills, K., & Usher-Smith, J. A. (2020). Fidelity of the delivery of NHS Health Checks in general practice: an observational study. *BJGP open*, 4(4).
- ⁴⁹ O'Donnell, A., Angus, C., Hanratty, B., Hamilton, F. L., Petersen, I., & Kaner, E. (2020). Impact of the introduction and withdrawal of financial incentives on the delivery of alcohol screening and brief advice in English primary health care: an interrupted time-series analysis. *Addiction*, 115(1), 49-60.
- ⁵⁰ Holloway, A., & Donaghy, E. (2017). *Practices and attitudes of General Practitioners in the delivery of Alcohol Brief Interventions in Scotland*. Scottish Health Action on Alcohol Problems (SHAAP).
- ⁵¹ Chambers, S. E., Copson, E. R., Dutey-Magni, P. F., Priest, C., Anderson, A. S., & Sinclair, J. M. (2019). Alcohol use and breast cancer risk: A qualitative study of women's perspectives to inform the development of a preventative intervention in breast clinics. *European Journal of Cancer Care*, 28(4), e13075.
- ⁵² Stevens, C., Vrinten, C., Smith, S. G., Waller, J., & Beeken, R. J. (2019). Acceptability of receiving lifestyle advice at cervical, breast and bowel cancer screening. *Preventive Medicine*, 120, 19-25.
- ⁵³ Anderson, A. S., Craigie, A. M., Gallant, S., McAdam, C., Macaskill, E. J., Mutrie, N., ... & Treweek, S. (2018). Randomised controlled trial to assess the impact of a lifestyle intervention (ActWELL) in women invited to NHS breast screening. *BMJ open*, 8(11), e024136.
- ⁵⁴ Sinclair, J., McCann, M., Sheldon, E., Gordon, I., Brierley-Jones, L., & Copson, E. (2019). The acceptability of addressing alcohol consumption as a modifiable risk factor for breast cancer: a mixed method study within breast screening services and symptomatic breast clinics. *BMJ open*, 9(6), e027371.
- ⁵⁵ Thom, B., Herring, R., & Bayley, M. (2016). The role of training in IBA implementation beyond primary health care settings in the UK. *Drugs: Education, Prevention and Policy*, 23(5), 374-381.
- ⁵⁶ Hall, N., Mooney, J. D., Sattar, Z., & Ling, J. (2019). Extending alcohol brief advice into non-clinical community settings: a qualitative study of experiences and perceptions of delivery staff. *BMC health services research*, 19(1), 1-12.
- ⁵⁷ World Health Organization. (2019). *Global status report on alcohol and health 2018*. World Health Organization.
- ⁵⁸ Jensen, T. K., Hjollund, N. H. I., Henriksen, T. B., Scheike, T., Kolstad, H., Giwercman, A., ... & Skakkebaek, N. E. (1998). Does moderate alcohol consumption affect fertility? Follow up study among couples planning first pregnancy. *Bmj*, 317(7157), 505-510.
- ⁵⁹ Ziv-Gal, A., & Flaws, J. A. (2010). Factors that may influence the experience of hot flushes by healthy middle-aged women. *Journal of Women's Health*, 19(10), 1905-1914.
- ⁶⁰ Mikosch, P. (2014). Alcohol and bone. *Wiener Medizinische Wochenschrift*, 164(1), 15-24.
- ⁶¹ Gunstone, B., Piggott, L., Butler, B., Appleton, A. and Larsen, J. (2018). *Drinking behaviours and moderation among UK adults: Findings from Drinkaware Monitor 2018*. London: YouGov and Drinkaware.
- ⁶² McManus, S., Bebbington, P. E., Jenkins, R., & Brugha, T. (2016). *Mental Health and Wellbeing in England: the Adult Psychiatric Morbidity Survey 2014*. NHS digital.
- ⁶³ Sullivan, L. E., Fiellin, D. A., & O'Connor, P. G. (2005). The prevalence and impact of alcohol problems in major depression: a systematic review. *The American Journal of Medicine*, 118(4), 330-341.
- ⁶⁴ British National Formulary, Section 4.3 BMJ Group and RPS Publishing.
- ⁶⁵ Charney, D.A., Heath, L.M., Zikos, E., Palacio-Boix, J. and Gill, K.J. (2015). Poorer Drinking Outcomes with Citalopram Treatment for Alcohol Dependence: A Randomized, Double-Blind, Placebo-Controlled Trial. *Alcoholism: Clinical and Experimental Research*, 39(9), pp.1756-1765.
- ⁶⁶ Kranzler, H.R., Burleson, J.A., Korner, P., Del Boca, F.K., Bohn, M.J., Brown, J. and Liebowitz, N. (1995). Placebo-controlled trial of fluoxetine as an adjunct to relapse prevention in alcoholics. *The American Journal of Psychiatry*, 152(3), 391-397.
- ⁶⁷ Chick, J. (2019). Unhelpful prescribing in alcohol use disorder: risk and averting risk. *Alcohol and Alcoholism*, 54(1), 1-4.
- ⁶⁸ Office for National Statistics. (2020, May 5). *Statistics on Obesity, Physical Activity and Diet, England, 2020*.

- ⁶⁹ Gunstone, B., Piggott, L., Butler, B., Appleton, A. and Larsen, J. (2018). [Drinking behaviours and moderation among UK adults: Findings from Drinkaware Monitor 2018](#). London: YouGov and Drinkaware.
- ⁷⁰ Schölin, L., Mukherjee, R. A., Aiton, N., Blackburn, C., Brown, S., Flemming, K. M., ... & Cook, P. A. (2021). Fetal alcohol spectrum disorders: an overview of current evidence and activities in the UK. *Archives of disease in childhood*.
- ⁷¹ NICE. (2020). [Fetal alcohol spectrum disorder](#). [In development].
- ⁷² Lange, S., Probst, C., Gmel, G., Rehm, J., & Burd, L. (2017). Global Prevalence of Fetal Alcohol Spectrum Disorder Among Children and Youth: A Systematic Review and 265 Meta-analysis. *JAMA Pediatrics*, 171(10), 948-56.
- ⁷³ Popova, S., Lange, S., Probst, C., Gmel, G., & Rehm, J. (2017). Estimation of national, regional, and global prevalence of alcohol use during pregnancy and fetal alcohol syndrome: a systematic review and meta-analysis. *The Lancet Global Health*, 5(3), e290-e299.
- ⁷⁴ Popova, S., Lange, S., Probst, C., Gmel, G., & Rehm, J. (2017). Estimation of national, regional, and global prevalence of alcohol use during pregnancy and fetal alcohol syndrome: a systematic review and meta-analysis. *The Lancet Global Health*, 5(3), e290-e299.
- ⁷⁵ O'Keeffe, L. M., Kearney, P. M., McCarthy, F. P., Khashan, A. S., Greene, R. A., North, R. A., ... & Kenny, L. C. (2015). Prevalence and predictors of alcohol use during pregnancy: findings from international multicentre cohort studies. *BMJ open*, 5(7).
- ⁷⁶ Department of Health. (2016). [UK chief medical officers' low risk drinking guidelines](#).
- ⁷⁷ Public Health England. (2018, June). [Health matters: reproductive health and pregnancy planning](#).
- ⁷⁸ Nykjaer, C., Alwan, N. A., Greenwood, D. C., Simpson, N. A., Hay, A. W., White, K. L., & Cade, J. E. (2014). Maternal alcohol intake prior to and during pregnancy and risk of adverse birth outcomes: evidence from a British cohort. *Journal of Epidemiology and Community Health*, 68(6), 542-549.
- ⁷⁹ McQuire, C., Mukherjee, R., Hurt, L., Higgins, A., Greene, G., Farewell, D., ... & Paranjthy, S. (2019). Screening prevalence of fetal alcohol spectrum disorders in a region of the United Kingdom: a population-based birth-cohort study. *Preventive Medicine*, 118, 344-351.
- ⁸⁰ NICE. (2020). [Fetal alcohol spectrum disorder](#). [In development].
- ⁸¹ Howlett, H., Mackenzie, S., Strehle, E. M., Rankin, J., & Gray, W. K. (2019). A survey of health care professionals' knowledge and experience of Foetal Alcohol Spectrum Disorder and alcohol use in pregnancy. *Clinical Medicine Insights: Reproductive Health*, 13.
- ⁸² Edwards, A., Kelsey, B., Pierce-Bulger, M., Rawlins, S., Ruhl, C., Ryan, S., & King, D. K. (2020). Applying Ethical Principles When Discussing Alcohol Use During Pregnancy. *Journal of Midwifery & Women's Health*.
- ⁸³ Garnett, C., Jackson, S., Oldham, M., Brown, J., Steptoe, A., & Fancourt, D. (2021). Factors associated with drinking behaviour during COVID-19 social distancing and lockdown among adults in the UK. *Drug and Alcohol Dependence*, 219, 108461.
- ⁸⁴ Sallie, S. N., Ritou, V., Bowden-Jones, H., & Voon, V. (2020). Assessing international alcohol consumption patterns during isolation from the COVID-19 pandemic using an online survey: highlighting negative emotionality mechanisms. *BMJ open*, 10(11), e044276.
- ⁸⁵ Sher, J. (2020). Fetal alcohol spectrum disorders: preventing collateral damage from COVID-19. *The Lancet Public Health*, 5(8), e424.
- ⁸⁶ Anderson, K., Nisenblatt, V., & Norman, R. (2010). Lifestyle factors in people seeking infertility treatment—a review. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 50(1), 8-20.
- ⁸⁷ Anderson, K., Nisenblatt, V., & Norman, R. (2010). Lifestyle factors in people seeking infertility treatment—a review. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 50(1), 8-20.
- ⁸⁸ Public Health England. (2018, June). [Health matters: reproductive health and pregnancy planning](#).
- ⁸⁹ Milic, J., Glisic, M., Voortman, T., Borba, L. P., Asllanaj, E., Rojas, L. Z., ... & Franco, O. H. (2018). Menopause, ageing, and alcohol use disorders in women. *Maturitas*, 111, 100-109.
- ⁹⁰ Mikosch, P. (2014). Alcohol and bone. *Wiener Medizinische Wochenschrift*, 164(1), 15-24.
- ⁹¹ Prince, M., Knapp, M., Guerchet, M., McCrone, P., Prina, M., Comas-Herrera, A., ... & Salimkumar, D. (2014). Dementia UK Update. Alzheimer's Society. *European Journal of Clinical Pharmacology* (2019), 75, 1583-1591.
- ⁹² Alzheimer's Society. [Understanding risk factors for dementia](#).
- ⁹³ Office for National Statistics. (2021, March). [Employment in the UK: March 2021](#).
- ⁹⁴ NHS Digital. (2020). [Health Survey for England 2019: Adults' health-related behaviours](#).
- ⁹⁵ European Commission. (2021). [2021 report on gender equality in the EU](#).
- ⁹⁶ Gunstone, B., Samra, S., & Newbold, P. (2020). [Monitor 2020](#). Drinkaware and YouGov.
- ⁹⁷ Erol, A. and Karpyak, V.M. (2015). Sex and gender-related differences in alcohol use and its consequences: Contemporary knowledge and future research considerations. *Drug and Alcohol Dependence*, 156, 1-13.
- ⁹⁸ Agabio, R., & Sinclair, J. M. (2019). 'Mother's ruin'—Why sex and gender differences in the field of alcohol research need consideration. *Alcohol and Alcoholism*, 54(4), 342-344.
- ⁹⁹ Gunstone, B., Samra, S., & Newbold, P. (2020). [Monitor 2020](#). Drinkaware and YouGov.
- ¹⁰⁰ Garnett, C., Jackson, S., Oldham, M., Brown, J., Steptoe, A., & Fancourt, D. (2021). Factors associated with drinking behaviour during COVID-19 social distancing and lockdown among adults in the UK. *Drug and Alcohol Dependence*, 219, 108461.
- ¹⁰¹ Sallie, S. N., Ritou, V., Bowden-Jones, H., & Voon, V. (2020). Assessing international alcohol consumption patterns during isolation from the COVID-19 pandemic using an online survey: highlighting negative emotionality mechanisms. *BMJ open*, 10(11), e044276.
- ¹⁰² Office for National Statistics. (2021, March). [Coronavirus \(COVID-19\) and the different effects on men and women in the UK, March 2020 to February 2021](#).
- ¹⁰³ Adams, R. (2020, July 30). [Women 'put careers on hold' to home school during UK Covid-19 lockdown](#). The Guardian.
- ¹⁰⁴ BBC News. (2020, April 22). [UK lockdown: Calls to domestic abuse helpline jump by half](#). BBC News.
- ¹⁰⁵ Kelly, J., & Graham, S. (2020, July 23). [Coronavirus: Domestic abuse helpline sees lockdown surge](#). BBC News.
- ¹⁰⁶ Grierson, J. (2020, April 9). [UK domestic abuse helplines report surge in calls during lockdown](#).
- ¹⁰⁷ BBC News. (2021, January 16). [Covid-19: Rise in suspected child abuse cases after lockdown](#). BBC News.
- ¹⁰⁸ Pollock, I. (2020, December 18). [Covid: Child abuse referrals up nearly 80%, says NSPCC](#). BBC News.
- ¹⁰⁹ Weale, S. (2020, December 1). [Pandemic has left legacy of child abuse and neglect, Ofsted warns](#). The Guardian.
- ¹¹⁰ Eckhardt, C.I., Parrott, D.J. and Sprunger, J.G. (2015). Mechanisms of alcohol-facilitated intimate partner violence. *Violence Against Women*, 21(8), 939-957.
- ¹¹¹ McKinney, C.M., Caetano, R., Rodriguez, L.A. and Okoro, N., (2010). Does alcohol involvement increase the severity of intimate partner violence? *Alcoholism: Clinical and Experimental Research*, 34(4), 655-658.
- ¹¹² Jones, M. L., Grey, M. H., Butler, M. N., Quigg, Z., Sumnall, H., & Gilchrist, G. (2019). [Rapid Evidence Review: The role of alcohol in contributing to violence in intimate partner relationships](#).
- ¹¹³ The Health Foundation. (2021, March 16). [Securing a positive health care technology legacy from COVID-19](#).
- ¹¹⁴ Gunstone, B., Samra, S., & Newbold, P. (2020). [Monitor 2020](#). Drinkaware and YouGov.