We all know that alcohol is linked to health problems; however, the range and scale of those harms is far wider than many of us think. In particular, drinking very heavily brings with it a number of serious physical risks. This special supplement, which Alcohol Research UK is proud to be sponsoring, provides a clear and detailed overview of those risks, as well as advice for people likely to encounter such problems in their day-to-day work.

As this supplement shows, heavy drinking can cause more than liver damage. Its impact on mental health, hypertension, and cancer risk are only now becoming widely recognised. The revised ‘low risk’ guidelines of 14 units per week for men and women reflect this growing awareness and are based on a comprehensive analysis of the full range of conditions associated with alcohol consumption. Of course, many people reading this supplement will be dealing with individuals drinking at far higher levels than those set out in the guidelines, and here the risks become very significant. However, the signs of harm are not always obvious, which is why a guide such as this is so important.

Understanding and awareness are key. Non-specialists can’t be expected to provide detailed diagnoses, which is why one of the most important messages from this supplement is to get people to check in with their GP. However, knowing what some of the symptoms look like, and having a sense of what kinds of questions to ask, is invaluable. As with all things, early intervention is essential to preventing potentially tragic consequences down the line. Therefore, the advice contained here will be of enormous help to anyone working with individuals facing health risks from their drinking and, of course, to those individuals themselves.

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Supported by

Alcohol Research UK and Alcohol Concern merged in April 2017 to form a major independent national charity, working to reduce the harms caused by alcohol. For more information visit: www.alcoholresearchuk.org and www.alcoholconcern.org.uk
Alcohol has been consumed by humans for thousands of years, and many people use it responsibly and without significant adverse effects. However, it is also an addictive psychoactive substance. According to the World Health Organization (WHO), alcohol consumption is a ‘causal factor in more than 200 disease and injury conditions’.

The UK government’s revised guidelines for alcohol consumption, published in January 2016, state that ‘drinking any level of alcohol increases the risk of a range of cancers’ and recommend that men and women consume no more than 14 units of alcohol per week. A major international study published in The Lancet in April 2018 found the ‘minimum mortality risk’ to be around or above 100g of alcohol per week, or 12.5 UK units.

According to the latest figures from the Office for National Statistics (ONS) there were 7,327 ‘alcohol-specific’ deaths in the UK in 2016, and while the death rate has remained unchanged for around three years it is still higher than 15 years ago. Using a ‘broad measure’ for alcohol-related hospital admissions – where an alcohol-related disease, injury or condition was either the primary reason for admission or a secondary diagnosis – there were an estimated 1.1m admissions in 2015-16.

In addition to the potentially serious acute effects of drinking a large quantity of alcohol on a single occasion, such as accidents, injury or alcohol poisoning, prolonged alcohol consumption can lead to a wide range of physical and mental ill health conditions, and can seriously damage many of the body’s organs.

**LIVER AND PANCREAS**

As the human body metabolises most alcohol in the liver, this is the organ that is particularly at risk from alcohol consumption. Heavy drinking can lead to alcoholic fatty liver and liver inflammation, the scarring from which can cause cirrhosis and stop the organ from functioning properly. As the liver is a resilient organ, however, often no symptoms will manifest until the damage is at an advanced stage. Most cases of liver cancer are also associated with cirrhosis.

Heavy drinking can also cause the pancreas to become inflamed, a condition known as pancreatitis. Drinking too much alcohol can be a cause of both acute – short-term – and chronic pancreatitis, which is usually caused by years of excess alcohol consumption.

**HYPERTENSION**

Drinking too much alcohol is a cause of hypertension (high blood pressure), which is a risk factor for heart attacks, heart disease and heart failure, stroke, aneurysms, kidney disease and other conditions.

**CANCER**

Alcohol is also a risk factor for a range of cancers – as well as cancer of the liver these include cancers of the bowel, breast, larynx, mouth, oesophagus and throat. The body converts alcohol into acetaldehyde, which damages DNA and inhibits the ability of cells to repair themselves. Alcohol also increases the body’s levels of hormones such as oestrogen – which have an effect on cell division – and makes it easier for the mouth and throat to absorb the carcinogenic chemicals in cigarettes.

**MENTAL HEALTH**

Alcohol is a depressant, which means that in the short term it can help to relieve stress and relax inhibitions, the latter making it appealing to some people with social anxiety issues. Regular drinking, however, can increase both anxiety and depression, meaning that people who drink as a form of self-medication can become trapped in a vicious circle. ‘Alcohol affects the chemistry of the brain, increasing the risk of depression,’ says the Royal College of Psychiatrists, while the anxiety that can accompany the physical symptoms of an alcohol hangover can lead people to drink more to feel ‘normal’ again – and so risk developing both mental health problems and alcohol dependency. Heavy drinking also increases the risk of self-harm or suicide, while dependent drinkers can be more prone to psychosis.

**OLDER DRINKERS**

While issues such as loneliness, retirement and bereavement mean older people may be more likely to drink at unhealthy levels, physiological changes also mean that alcohol can have a more detrimental effect.

The UK has an aging population and much has been written about the habits of members of the ‘baby boomer’ generations, many of whom have grown up in a culture of heavy drinking. People aged 55-64 are currently the most likely to be drinking at ‘higher’ or ‘increasing’ risk levels, and are likely to continue these habits into older age. Of the ‘alcohol-specific’ deaths in the UK in 2016, most male deaths were in the 60-64 age range and most female deaths in the 55-59 age range. The alcohol-related death rate among men aged 70-74, meanwhile, has increased by around 50 per cent since 2001.

Retirement, boredom, bereavement, isolation and loneliness can all mean that older people may be likely to develop problematic drinking habits, but as people get older their bodies also start to process alcohol more slowly. This means that the effects can be more pronounced, and overall tolerance will be lower. As people age, the ratio of body water to fat decreases meaning there is less water to dilute the alcohol consumed, as well as decreased flow of blood to the liver and decreased liver enzyme efficiency. Slower reactions mean that older people are also at more risk of injuring themselves in alcohol-related falls or other accidents.
OVERWEIGHT AND OBESITY
One gram of alcohol contains seven calories, which means that a single UK unit contains 56 calories – as alcohol has no nutritional value these are known as ‘empty calories’. While many alcoholic drinks are highly calorific, public awareness remains low, which is why some health organisations have been campaigning for compulsory calorie information on alcohol labelling – one pint of 4 per cent ABV beer or a 250ml glass of wine contain 180 calories each. People are also more likely to eat unhealthy, highly calorific foods while under the influence of alcohol, further increasing the likelihood of weight gain.

BRAIN DAMAGE AND DEMENTIA
Regular heavy drinking above recommended levels – particularly in the form of binge drinking – increases the risk of developing Alzheimer’s disease and other common forms of dementia, such as vascular dementia. Long-term drinking at harmful levels, meanwhile, can lead to a deficiency in vitamin B1 (thiamine) which the body uses to build blood vessels in the brain – deficiency causes the vessels to leak and damage surrounding brain tissue. Alcohol-related brain damage is an umbrella term that covers a number of conditions, including ‘alcoholic dementia’ and Wernicke-Korsakoff’s syndrome – while these are not technically types of dementia, they share symptoms such as impaired memory or thinking.

DIGESTIVE PROBLEMS
Alcohol acts as an irritant to the digestive system and increases the stomach’s production of acid, which can cause inflammation of the stomach lining known as gastritis, while heavy drinking can be a cause of acid reflux and, over a prolonged period, peptic ulcers. Chronic alcohol consumption also alters the composition of bacteria in the gastrointestinal tract, reducing the number of beneficial bacteria and allowing an increase in unhealthy bacteria.

MALNUTRITION AND VITAMIN DEFICIENCY
Alcohol also reduces the pancreas’s production of the digestive enzymes that help to break down carbohydrates and fat, making it harder for the body to absorb vital nutrients such as proteins and vitamins.

OSTEOPOROSIS
Alcohol’s effect on the pancreas also inhibits the body’s ability to absorb calcium and vitamin D, both essential for bone health. This makes heavy drinking a risk factor for osteoporosis, a condition that weakens bones and makes them more likely to break.

INFECTIONOUS DISEASES
Alongside its potential damage to the liver and other organs, alcohol can also have an impact on the immune system, affecting the number, function and survival of the body’s immune cells. This can put people at increased risk of contracting viral and bacterial infections – according to WHO there is a ‘causal relationship’ between harmful drinking and ‘incidence of infectious diseases such as tuberculosis as well as the course of HIV/AIDS’. Alcohol-related liver damage also increases the body’s susceptibility to bacterial infection.

ALCOHOL POISONING
Alcohol poisoning is a potentially fatal condition that occurs when a person drinks a dangerous quantity of alcohol, usually over a short period such as in binge drinking episodes. In severe cases people can choke on, or inhale, their vomit, or have seizures or heart attacks.

OTHER ISSUES
To this wide range of physical and mental health conditions can be added acute incidents such as alcohol-related injuries and accidents, including those caused by drink driving. Alcohol is also a significant contributory factor to domestic violence and violent crime generally – the Annual Crime Survey for England and Wales records that almost half of the victims of violent incidents perceived the offenders to be under the influence of alcohol.

REACTIONS WITH OTHER DRUGS
Mixing drug use and alcohol consumption is common, but alcohol can react with other substances – legal or illegal – in unpredictable and potentially harmful ways.

CANNABIS
Combining cannabis use with alcohol can magnify the effects of THC, the drug’s main psychoactive ingredient, causing lethargy, dizziness, impaired coordination and anxiety.

HEROIN
Using alcohol with heroin increases the respiratory depression effects of the latter, which places the user at greater risk of overdose or respiratory failure. Many fatal heroin overdoses also involve alcohol.

COCAINE AND AMPHETAMINES
Cocaine use offsets the depressive effects of alcohol, which allows people to stay awake and alert for longer while drinking. They are therefore more likely to drink larger amounts and lose track of their consumption. Combining cocaine and alcohol also causes the liver to produce a toxic substance called cocaethynol, which takes longer to process than alcohol alone and is more harmful than either substance in isolation. Drinking and taking cocaine at the same time can cause arrhythmias – irregular heartbeat – and other heart problems, as well as stroke, seizures, anxiety, paranoia and aggressive behaviour.

As with cocaine, amphetamines increase the amount of alcohol needed to feel its effects, meaning people are likely to drink larger amounts over longer periods. With both cocaine and amphetamine, the severe ‘come down’ mixed with an alcohol hangover can cause depression and anxiety, while a lengthy drinking session fuelled by either drug increases the risk of alcohol poisoning, blackouts and accidents.

BENZODIAZEPINES AND OTHER SEDATIVES
Alcohol and sedatives both act as a central nervous system depressant, slowing brain activity. Using them together can cause confusion and impaired judgement, dizziness, severe drowsiness and lethargy, as well as problems with coordination and memory.

GHB/GBL
These drugs again combine with alcohol as an extreme central nervous system depressant, impairing coordination and reactions.

MDMA
Alcohol and MDMA both increase dehydration, a factor in most MDMA-related deaths. Combining the two can also put extra strain on the kidneys and liver.

NEW PSYCHOACTIVE SUBSTANCES (NPS)
NPS is a broad term used to cover a range of substances – the best known of which are synthetic cannabinoids such as ‘spice’ or cathinone stimulants like mephedrone – that were previously known as ‘legal highs’. Little is known of the potential long-term effects – and, in some cases, even the ingredients – of many NPS, so combining them with alcohol increases the risk of unpredictable and potentially dangerous outcomes.
SYMPTOMS OF ALCOHOL-RELATED CONDITIONS
If a client reports – or you notice – symptoms of any of these conditions, you should urge them to visit a GP immediately.

ALCOHOLIC LIVER DISEASE
Alcohol-related liver disease often will not show any symptoms – even with cirrhosis – until the very late stages when the liver has already undergone severe damage. At this point the symptoms can include a yellowing of the skin and eyes (jaundice), weight loss, nausea, loss of appetite, feeling tired and weak, bruising easily, itchy skin, swollen ankles, blood in stools or vomiting blood.

CHRONIC PANCREATITIS
The most common symptom is recurrent stomach pain or burning sensation. In later stages, the pain may become constant, and people may also experience nausea, loss of appetite, weight loss and jaundice. Damage to the pancreas can also lead to diabetes, symptoms of which include excessive thirst, tiredness and urinating more frequently.

HYPERTENSION AND CORONARY HEART DISEASE
Hypertension (high blood pressure) itself rarely causes any noticeable symptoms. However, it is a risk factor for a range of other conditions, including coronary heart disease (CHD), the main symptom of which is angina, or chest pain. This can range from mild discomfort to a painful feeling of extreme tightness, while other symptoms of CHD include breathlessness and heart palpitations.

FOR WIDER HEALTH PROFESSIONALS
WHEN TO REFER PEOPLE TO SPECIALIST ALCOHOL TREATMENT

The World Health Organization has produced an alcohol use disorders identification test (AUDIT) for use by health professionals to assess a client’s risk level for alcohol harm. This has been adopted by Public Health England for use in the UK. The AUDIT – which is available to download along with guidance notes – consists of ten questions with a scoring system of zero to four points for each. It recommends that those scoring between eight and 19 be given brief advice to encourage lower consumption, while professionals should consider referring anyone scoring 20 or above to specialist harm assessment. There is also a shorter version called AUDIT-C, available for use in primary care, emergency departments and other settings.

Many guidance documents stress the importance of promoting self-belief and the idea that change is possible as a way of motivating people to access help. The Alcohol Concern Blue Light Project Manual contains a specific section on how to build motivation and develop self-belief, as well as a quick guide to identifying possible symptoms of more serious conditions. Many dependent and higher-risk drinkers will also experience mental health problems, and both NICE and Public Health England have produced useful guides to dual diagnosis care frameworks.
CANCERS
The main symptoms of alcohol-related cancers are:

BOWEL CANCER
Rectal bleeding or blood in stools; changes in bowel habits; unexpected weight loss; abdominal pain.

BREAST CANCER
A lump in the breast; changes in the size, shape or feel of the breast; changes in the skin on the breast.

LARYNGEAL CANCER
Hoarseness that lasts more than three weeks; difficulty swallowing; weight loss.

MOUTH CANCER
Pain in the mouth, or an ulcer that won’t heal; unusual white or red patches in the mouth; difficulty swallowing.

OSTEOPHAGEAL CANCER
Persistent indigestion or heartburn; difficulty swallowing; persistent cough; pain in the throat; weight loss.

ALCOHOL-RELATED BRAIN DAMAGE/ WERNICKE-KORSAKOFF’S SYNDROME
Symptoms include memory loss, erratic behaviour, poor judgement and difficulties with familiar tasks or processing new information. The symptoms can often be mistaken for intoxication.

With Wernicke-Korsakoff’s syndrome the symptoms are similar but usually appear much more quickly and with more severity. Wernicke-Korsakoff’s syndrome is made up of Wernicke’s Encephalopathy and Korsakoff’s Psychosis – symptoms of the former include confusion and disorientation, blurred vision, poor balance and numbness in the hands and feet. Again, people will often appear drunk even if they haven’t been drinking. Symptoms of Korsakoff’s Psychosis include memory loss, confusion and apathy.

STOMACH ULCERS
The symptoms of peptic ulcers include persistent indigestion, heartburn, abdominal pain and bloating.

MALNUTRITION
Symptoms include unintended weight loss, weakness and lethargy, lack of appetite, depression and wounds taking a long time to heal.

INFECTIOUS DISEASES
Symptoms of tuberculosis (TB) include fever, night sweats, weight loss and fatigue. If the infection is in the lungs (pulmonary TB) symptoms will include breathlessness and a persistent cough, which may be bloody.

ALCOHOL POISONING
Signs of alcohol poisoning can include stupor, fits, loss of consciousness and inability to wake up, confusion, slow or irregular breathing, pale or blue-tinted skin and hypothermia.

FOR STAFF IN ALCOHOL SERVICES

WHEN TO REFER YOUR CLIENTS TO A GP

What to look out for, and when to urge people to seek help

Generally, any clients in specialist substance misuse treatment should be strongly encouraged to visit a GP – and dentist – for check-ups. Not only can this help in the early identification of any health issues but it can also act as a motivator for behaviour change, although some clients may need support in attending these appointments.

However, alcohol treatment staff are likely to see many of their clients far more frequently than these clients see a GP, and there are questions that staff without formal medical qualifications can ask to help identify key signs of common problems experienced by heavy drinkers. They can also help raise awareness of these issues among clients and encourage them to be on the lookout for potential symptoms. It is often a good idea to begin with an open-ended enquiry such as ‘Have you had any health problems recently?’ before asking specific questions.

Some general questions that might identify potentially serious health issues include asking if clients ever have sensations of numbness or pins and needles in their hands and feet, if they ever have fits or seizures, or if they feel unsteady or experience double vision, confusion or problems with short-term memory. Staff could also ask if they have difficulty swallowing solid food, have a mouth ulcer that won’t heal or if their stools have become looser than normal or contain blood.

Staff could also enquire if their clients have experienced severe stomach pains, or hoarseness or voice changes that have lasted more than three weeks. Finally, clients could be asked if they have irregular heartbeats or feel their hearts race or skip beats to the extent that it makes them feel unwell. Anyone answering yes to any of these questions should be advised to see a GP as a matter of urgency.

More generally, very heavy drinkers should also be encouraged to have blood pressure checks at least once a year and a fibroscan (ultrasound) liver test every two years – this can reveal liver damage that won’t be identified by blood tests alone. Female clients over 50 should also be encouraged to attend breast screening and to regularly perform self-checks for signs of breast cancer.

There are, however, certain circumstances in which staff should either call an ambulance or take a client immediately to A&E. These are when a client collapses, has fits or becomes unconscious, or if they show signs of agitation, severe confusion, hallucinations or fever consistent with alcohol withdrawal. The same applies if the whites of their eyes or skin turn yellow – which may indicate liver failure – or if they experience potential heart attack symptoms such as painful heaviness or tightness in the chest or arms, neck, jaw, back or stomach.

Overall, however, the golden rule is that clients should be encouraged to visit their GP for check-ups as a matter of course so that they can be seen by a qualified medical professional.
The referral chain for alcohol-related harm encompasses a wide range of healthcare and other bodies. Within health services it can include primary and emergency care settings, as well as hospital wards, outpatient departments, ambulance services, sexual health clinics, dentist surgeries, occupational health, pharmacies and antenatal clinics. Key non-health partners, meanwhile, include social services and social care, criminal justice and probation services, higher education, housing and voluntary sector organisations.

According to NICE guidelines, NHS professionals should be carrying out alcohol screening as a routine part of their practice — such as during new patient registrations, medicine reviews or screening for other conditions — with particular focus placed on groups at increased risk of alcohol-related harm. These include anyone presenting with relevant physical or mental conditions such as liver problems, high blood pressure, anxiety or depression.

Professionals should also focus on people who frequently present with injuries or regularly attend sexual health clinics, while non-NHS staff — such as those in social services, the voluntary sector or criminal justice — should also focus on people at risk of assault or self-harm.

The NICE guidelines stress the importance of not simply offering brief advice when someone seems to be alcohol-dependent. Anyone showing signs of moderate or severe dependence should be referred to specialist treatment, along with anyone displaying signs of severe alcohol-related impairment or who has alcohol-related mental health issues or liver disease. The guidelines also advise using professional judgement to potentially revise down AUDIT scores in the case of certain groups, such as older people, teenagers or women who are planning to become pregnant, stressing that offering an intervention is ‘less likely to cause harm than failing to act where there are concerns’.

Attending alcohol treatment may also be a conditional requirement of some community sentences in the criminal justice system, while clients can also be referred via housing bodies, particularly in the ‘Housing First’ model. This originated in the US but has been increasingly adopted in the UK, and uses provision of independent, ‘condition-free’ housing as a key means of moving people with complex needs away from homelessness and towards recovery from conditions including alcohol dependence.

NHS professionals should be carrying out alcohol screening as a routine part of their practice.

One common, and significant, barrier to referral is reluctance on the part of the client — an understandable response, as many alcohol-dependent people will be in denial about the extent of their problem and find it a difficult thing to face up to, particularly considering the levels of stigma that still exist. Fear and confusion around what alcohol treatment may entail will deter many, alongside workers in social services, the voluntary sector or criminal justice — should also focus on people at risk of assault or self-harm.
Concern about potential employment implications and reluctance to be labelled an ‘addict’ or ‘alcoholic’. Some studies have also identified peer influence as a barrier to accessing help – ‘lots of my friends drink as much or more than me, so how can I have a problem?’

Mark came to Phoenix after completing treatment at one of their rehabs. A drinker for many years, he had a history of homelessness and was living in a hostel before engaging with treatment. Initially he found the transition to abstinence living difficult and experienced lapses.

His support worker met with him to talk about the pros and cons of continuing to drink, drew up an agreement and action plan, and used long-standing partnerships to link him into additional support. This included fast-track referral to aftercare provision, involving one-to-ones and group work. In addition to daily check-ins with his key worker, focusing on triggers and coping strategies, Mark benefited from living with others at various stages of their recovery journey and discussing ways of keeping on track.

Mark agreed to more rigorous monitoring in the form of regular and random breathalysing, and was supported to make use of volunteering opportunities. While he did lapse a couple of times, by using an asset-based approach focused on increasing recovery capital he gradually reduced his drinking episodes, and after a 12-month period of abstinence is now working part time to support others in recovery. He will be moving into his own accommodation in the next few months.

Empathy and encouragement from professionals is key in these situations, and NICE recommends an extended brief intervention as a useful next step, in the form of a 20-30 minute motivational session with follow-up sessions if necessary.

Guidelines also advise using professional judgement to potentially revise down AUDIT scores in the case of certain groups.

Other common barriers to an effective pathway can include poor joint working or ‘buck passing’ between agencies, discriminatory attitudes on the part of wider health professionals – possibly as a result of bad experiences with a small number of patients – and lack of family support or ‘recovery capital’ for clients. Ongoing budget constraints, meanwhile, can mean lack of suitable local support or long waiting lists where it does exist.

While NICE stresses that health services and local authorities should prioritise alcohol as an ‘invest to save’ measure and that commissioners ensure that ‘at least one in seven dependent drinkers can get treatment locally’, decreasing funds and competing priorities mean that alcohol treatment will often lose out at local level. Last year, widely reported analysis by The King’s Fund found that public health spending by local councils in 2017-18 would be 5 per cent below the 2013-14 level, representing an £85m cut for services such as alcohol, drugs and sexual health, and with ongoing reductions planned until at least the end of the decade.

When it comes to dual diagnosis – clients with co-existing alcohol and mental health issues – one common barrier to effective joint working is people being refused access to mental health services unless they’ve been abstinent for a set period. This is often coupled with a distrust of services on the part of clients, frequently the result of being passed between multiple agencies without receiving appropriate support, all of which can put dual diagnosis clients at higher risk of relapse.

Across all pathways, clarity and consistency – for example, standardised assessments – are vital, along with active engagement and encouragement from well-trained, non-judgmental staff.

Case study 3

An innovative form of outreach can provide the bridge to stability for those turning to alcohol to cope

The Arch integrated treatment system offers support to those living in Hillingdon, London. It is led by CNWL NHS Foundation Trust in partnership with Blenheim, WDP and Build on Belief.

The team’s Emerald Pathway is designed to work with older individuals, often with restricted mobility, who are using alcohol problematically. The pathway is designed to specifically target service users who might otherwise not access treatment at building-based services, and prevent potentially harmful and escalating alcohol use.

The pathway was developed in response to the need to reach out to people who weren’t accessing Arch’s services, but who had been recognised – particularly via A&E admissions – as needing an intervention around their alcohol use.

The experience of a recent service user demonstrates the pathway’s impact. Martin’s drinking had increased after his wife died, and he was struggling to cope. He was referred via Arch’s alcohol liaison worker, based in A&E, after his excessive alcohol consumption had led to several hazardous falls at home, leaving his daughter concerned for his wellbeing.

On receiving the referral, the outreach team went to visit Martin at home and talk further about his drinking and his goals. He was given a drinks diary and information about the impact of his drinking on his health. The team engaged with his family and offered them some carers’ support, as well as looking for community services that he could access as a way of addressing the loneliness he felt.

Martin was seen for four sessions at home and was able to gradually reduce his drinking, replacing his evening wine with a non-alcoholic supplement. He now only drinks alcohol on occasion, and is incredibly proud of the progress he has achieved. He was positively discharged from Arch, and has subsequently taken his recovery journey one step further by joining a community group coffee morning for those over the age of 50.
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