

Factsheet

Alcohol Concern's information and statistical digest

The impact of alcohol on health

Alcohol misuse is a major cause of illness, injury and death. The World Health Organisation has identified alcohol as the third largest risk factor to health in developed countries¹.

The number of alcohol-related deaths in the United Kingdom has consistently increased since the early 1990s, rising from the lowest figure of 4,023 (6.7 per 100,000) in 1992 to the highest of 9,031 (13.6 per 100,000) in 2008. Although figures in recent years suggested that the trend was levelling out, alcohol-related deaths in males increased further in 2008. Female rates have remained stable². See Figure 1.

In England, the latest statistics suggest that the total number of deaths directly related to alcohol consumption has increased since 2001, rising by 24% between 2001 and 2008. The main contributor to this increase is deaths from alcoholic liver disease which has risen by 36% over this period³.

In 2008, 6,769 deaths in England were directly related to alcohol (Note: currently 'alcohol-related deaths' are only recorded where the cause is specifically related to alcohol consumption and where it is also the underlying or main cause of death). A broader count of alcohol-related deaths (calculated by estimating the number of deaths that could be attributed in some way to alcohol) would provide a wider picture of the real burden of alcohol-

related disease. The North West Public Health Observatory, for example, has estimated that if an attributable fractions methodology was applied to 2005 deaths data, nearly 15,000 deaths would be attributable to alcohol consumption⁴.

Alcohol-related illness or injury accounts for over 945,000 hospital admissions per year. This is 825 alcohol-related admissions a day more than five years ago⁵.

Burden on the NHS:

The cost of treating the chronic and acute effects of alcohol misuse is placing a huge burden on the health service, estimated to be £2.7 billion per year⁶. In addition to these costs, a recent Alcohol Concern report estimated that the cost to health and ambulance services due to underage alcohol consumption is in the region of £19 million per annum⁷.

Consumption:

A large majority of the adult population consumes alcohol – estimated to be 90% in England⁸. Consumption has risen markedly since the 1950s – to a peak of 9.5 litres per capita in 2004. Despite a recent decline in per capita consumption (down to 8.9 litres in 2008), consumption in the UK has remained consistently above seven litres of pure alcohol, per head, per year since 1980. The UK is among the heaviest alcohol consuming countries in Europe. (It is important to note that per capita alcohol consumption data and survey results require some qualification. Some UK adults do not drink, while others drink both within and beyond the UK. Consumption statistics therefore need to be interpreted in the light of other available evidence about drinking patterns before the true level of alcohol consumption in the UK can be estimated). See Alcohol Concern's report, *Off measure: how we underestimate the amount we drink*, for more information⁹.

Whilst it is true that many people enjoy alcohol in moderation, increasing numbers are drinking in a way that may adversely affect their health and well-being. For example, 38% of men and 29% of women report drinking above the daily recommended sensible drinking guidelines and 24% of adults are classified as hazardous drinkers (a pattern of drinking which brings about the risk of physical or psychological harm)¹⁰. There are now an estimated 1.6m people dependent on alcohol in England¹¹.

Figure 1: Alcohol-related death rates, United Kingdom, 1991-2008

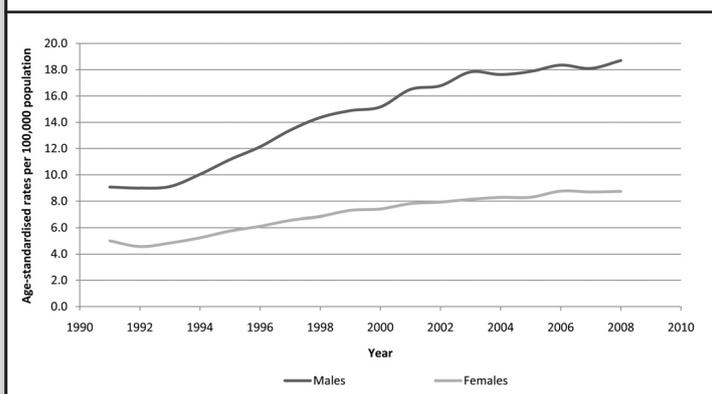


Table 1: Key statistics

67% of adults in England admit to drinking more than the daily recommended guidelines on a least one day in the past week, including 37% reporting binge-drinking (drinking more than double the recommended daily amount)

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Alcohol-related illness or injury accounts for over 945,000 hospital admissions per year in England

The cost of treating the chronic and acute effects of alcohol misuse is estimated to be £2.7 billion per year

Drinking alcohol above recommended levels has been linked to a large number of negative health problems – and in most cases the risk of harm increases in line with consumption.

Health impact of alcohol:

Alcohol harms health through three mechanisms:

- acute intoxicating effects, occurring after a binge
- chronic toxic effects, following prolonged periods of drinking at harmful levels
- propensity for addiction leading to physical and psychological dependency¹².

The immediate intoxicating effects of alcohol - reduced inhibitions, impaired judgement, slurred speech, and nausea/vomiting, for example - are often easily identifiable; however the longer-term health consequences of excessive drinking, despite their serious and potentially deadly nature, may remain undetected. Studies show that alcohol is linked to more than 60 different medical conditions¹³, including liver disease, cancer, osteoporosis, stomach ulcers, raised blood pressure, stroke and dementia.

This factsheet explores some of these major alcohol-related health effects in more detail.

1) Liver disease

Liver disease is the fifth biggest killer in England and Wales, after heart disease, cancer, stroke and

respiratory disease. It is the only major cause of death still increasing year-on-year¹⁴.

UK deaths from liver cirrhosis increased more than five-fold between 1970 and 2006¹⁶. In contrast, in France, Italy and Spain the number of deaths decreased by at least 50% and are now lower than those in the UK¹⁷.

Moreover, as people are able to survive with 70% liver damage, there is a substantial burden of morbidity, significantly and adversely affecting their quality of life. Recent research also indicates that a combination of obesity and alcohol further increase the risk of liver disease¹⁸.

The liver has numerous functions, most of which are essential for living. These include:

- processing and removing toxins in the blood
- making proteins that are essential for the blood to clot
- regulating cholesterol levels in the blood
- helping to fight infection and disease.

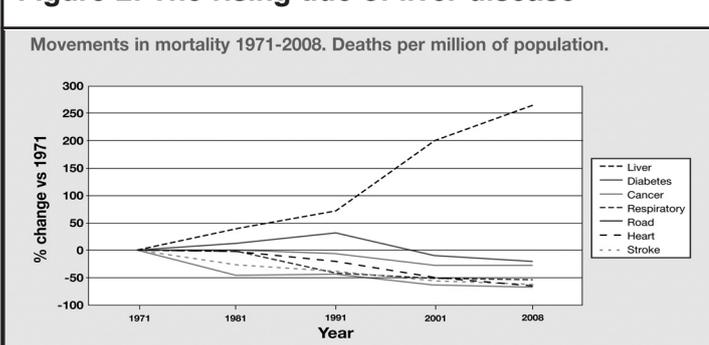
When an individual consumes alcohol, it is absorbed into the bloodstream from the stomach and intestines. This blood first passes through the liver before circulating the rest of the body. Liver cells process the alcohol, breaking it down into other chemicals which are then in turn broken down into water and carbon dioxide, before being passed out in the urine and from the lungs. However, if the liver has to break down too much alcohol, its other functions are adversely affected and the organ can become damaged.

Drinking too much alcohol can lead to three main stages of damage: fatty liver, alcoholic hepatitis and alcoholic cirrhosis¹⁹.

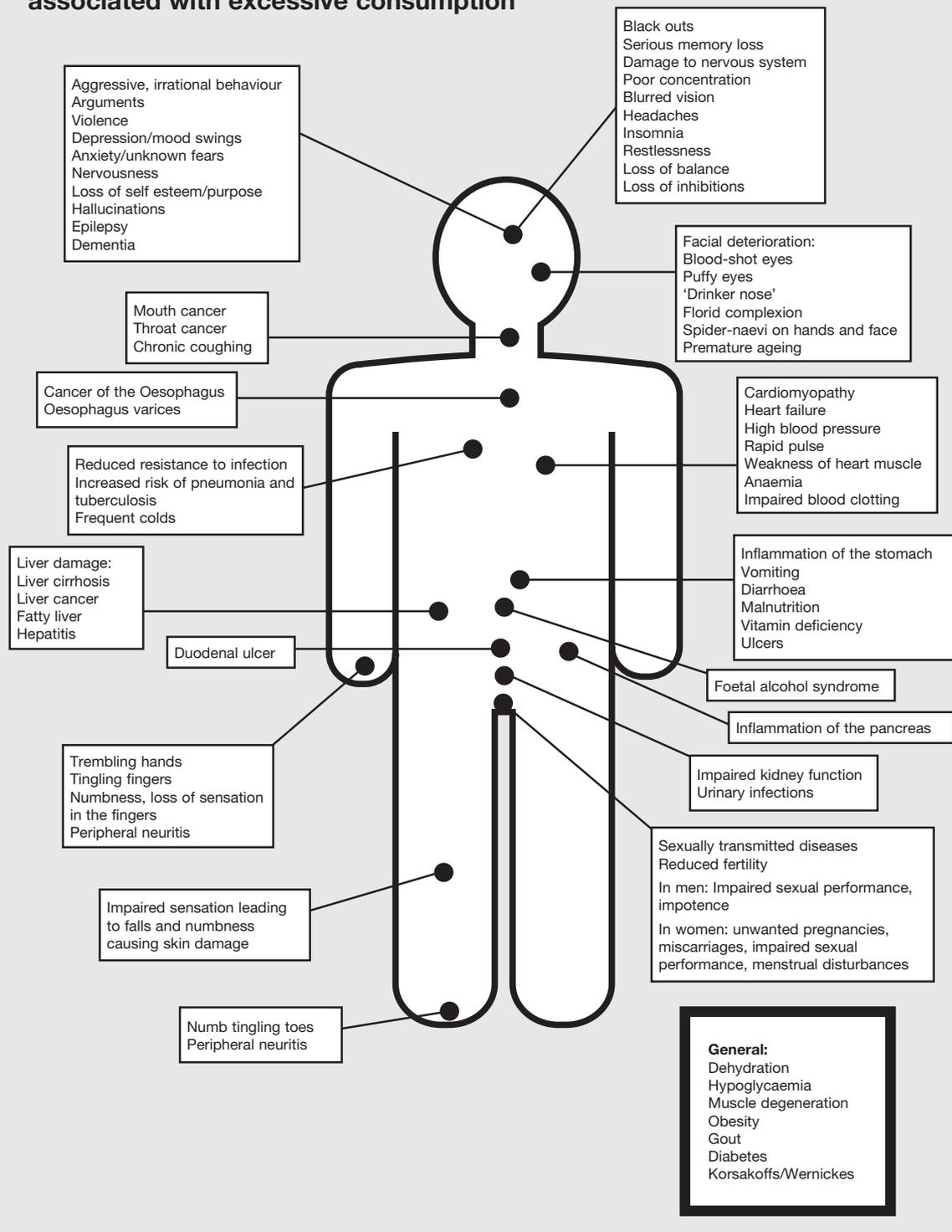
● Fatty liver

A build-up of fat occurs within liver cells of most heavy drinkers, but may also be found in those drinking just above recommended limits. Fatty liver may not

Figure 2: The rising tide of liver disease¹⁵



Potential negative health effects of and behaviours associated with excessive consumption



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progress to more severe damage and can be reversed by the cessation of drinking. However, it is an indicator that more permanent damage may occur in the future.

- *Alcoholic hepatitis (inflammation)*

About a third of people with fatty liver will develop alcoholic hepatitis²⁰. Mild hepatitis may not cause any symptoms; more severe cases tend to cause symptoms such as loss of appetite, vomiting, abdominal pain and jaundice (yellowing of the skin). At its severest, alcoholic hepatitis can quickly lead to liver failure and death. Acute alcoholic hepatitis has a mortality rate of 35%, progressing to cirrhosis in over 25% of cases²¹.

- *Alcoholic cirrhosis*

Cirrhosis is the result of continuous liver damage. Normally when the liver is damaged it can regenerate itself. In cirrhosis, the process of healing fails and scar tissue develops, preventing the liver from being able to carry out its normal functions.

Cirrhosis is found in about 20% of heavy drinkers²². In some instances cirrhosis has no obvious symptoms, but where symptoms are visible, they usually include general ill health, lack of appetite, itching, feeling sick, vomiting of blood, muscle cramps and abdominal swelling²³. There is no cure for cirrhosis, but sufferers who stop drinking completely have a much stronger chance of survival.

If people “regularly drink more than the NHS advises, they are more likely to suffer cirrhosis or liver cancer than non-drinkers. Men who are increased risk drinkers have around twice the risk of cirrhosis and 1.3 times more risk of liver cancer. Women have around 1.7 times the risk of liver cirrhosis and 1.2 times the risk of liver cancer. Higher risk drinkers of both sexes can be three to ten (or more) times more likely to suffer cirrhosis. Their risks of liver cancer also increase²⁴”.

2) The digestive system

The damaging effects of alcohol consumption are not limited to the liver; a high alcohol intake can also have negative effects on the rest of the digestive system:

- *Stomach*

Gastritis is the inflammation of the stomach lining. There are two forms of gastritis - acute and chronic - both of which are common amongst heavy drinkers. Acute gastritis may be characterised by nausea, cramps, fever and vomiting (which may include blood where there is also ulceration). Chronic gastritis persists over a prolonged period and may have no obvious symptoms. Where they occur, symptoms of chronic gastritis may include: abdominal pain, heartburn, loss of appetite, loss of weight, nausea and vomiting. Both forms of alcoholic gastritis can be cleared up quickly by avoiding alcohol. If it is left untreated, however, gastritis can be fatal.

The other major problem associated with the stomach is that of stomach ulcers. Alcohol can aggravate an

existing ulcer and inhibit the healing process²⁵.

- *Oesophagus (food pipe)*

Excessive alcohol consumption can cause reflux, a process whereby digestive juices from the stomach are forced up into the oesophagus. As the oesophagus lacks the protective lining of the stomach, reflux causes a burning sensation, often referred to as heartburn. Reflux can cause oesophagitis (an inflammation of the lining of the oesophagus) and lead to ulceration at the junction of the stomach and oesophagus.

- *Pancreas*

The pancreas is responsible for the production of the enzymes required for digestion, and of insulin - which is needed to control blood sugar levels. Pancreatitis is the inflammation of the pancreas. Alcohol is responsible for approximately 80% of acute pancreatitis cases, an extremely painful condition; and about half of chronic pancreatitis cases, which is very difficult to treat and can cause fatal complications²⁶.

3) Cancer

There is a clear link between alcohol and many types of cancer. The Oxford Textbook of Medicine estimates that 6% of cancer deaths in the UK are caused by alcohol²⁷.

- *Mouth, larynx (voice box), pharynx (upper throat) and oesophagus cancer*

Alcohol has consistently been related to the risk of cancer of the mouth (lip, tongue), pharynx, larynx, hypopharynx, and oesophagus²⁸. Alcohol and tobacco, together, are thought to account for about three-quarters of oral cancer cases in Europe²⁹.

- *Breast cancer*

Recent research evidence indicates that even moderate alcohol consumption can cause female breast cancer. One study indicates that the consumption of 10g of pure alcohol (one unit = 8g) per day increases the risk of breast cancer by 9%, and consumption of 30g-60g (3.75-7.5 units) per day is associated with an increased risk of 41%³⁰. An ongoing study involving 1.3 million women across the UK suggests that breast cancer risk increases by 12% with each daily drink. This would translate into 11 extra breast cancers per 1,000 women up to the age of 75³¹. It is estimated that up to 20% of breast cancer cases in the UK can be attributed to alcohol³².

- *Other cancers*

Excessive alcohol consumption is associated with cancer of the liver (discussed above) and bowel cancer, and a number of other cancers. An ongoing study of 500,000 people in ten European countries has found that for every two units of alcohol consumed a day, the risk of bowel cancer increases by 8%³³.

"People are more likely to develop cancer if they drink a lot of alcohol, no matter whether they save it up and drink it in one go, or drink it steadily over a week."

Cancer Research UK³⁴

4) The heart and circulatory system

Recent research suggests that those drinking about one unit a day have a lower risk of heart attack, chronic heart trouble and sudden coronary death than those heavier drinkers or who do not drink at all. This, however, only applies to those already at risk of heart disease, i.e. men over 40 and women past the menopause. Drinking more than one to two units a day does not offer extra protection – on the contrary, this may raise blood pressure and cause extra health problems³⁵.

"While drinking in moderation has been shown to offer some protection against heart disease, this should not be seen as a green light to start drinking. There are better ways to protect yourself from heart disease. The evidence is clear: regularly drinking above the recommended daily limits harms the heart..."

Dr Mike Knapton, British Heart Foundation³⁶

In addition, binge-drinking has been linked significantly to raised blood pressure (hypertension),³⁷ which is the single biggest risk factor for stroke.

5) The bones, muscles and skin

Heavy drinking can contribute to osteoporosis, a disease of the bones which makes the bones thin, soft and liable to collapse, especially in the lower spine, pelvis and thigh. It affects both women, and increasingly, middle-aged and young men³⁸. Further, gout (swelling of joints) can be exacerbated by heavy drinking.

Alcohol-induced muscle disease is the most prevalent skeletal muscle disorder in the western hemisphere³⁹. It can take two forms: muscle degeneration and alcoholic myopathy, an acute form of muscle weakness with pain that can occur after a heavy bout of drinking.

Studies have shown that alcohol can also have a particularly damaging effect on the skin. Drinking alcohol can often result in a 'rosy glow', a result of dilation of blood vessels in the skin. Usually only a temporary flush, this redness can lead to a permanent red hue to the skin, especially around the nose. Heavy drinking can lead to psoriasis - an accumulation of skin cells on the surface of the skin, in the form of a psoriatic plaque - especially in men⁴⁰. Alcohol also inhibits the body's absorption of Vitamin C making it more susceptible to bruising and can cause dark circles to appear under the eyes. It also dehydrates the skin which can lead to premature ageing and wrinkles.

6) The brain and nervous system

Alcohol is a central nervous system depressant. The immediate effects of alcohol consumption can include slurred speech, loss of self-control and blackouts. Over a long period of time, however, problem drinkers and heavy social drinkers may

develop various types of brain damage. Studies have shown that there can be reversible brain shrinkage due to drinking, with drinkers showing intellectual impairments compared to a control group. Indications would appear to show that the level of impairment is proportional to the amount of alcohol consumed, with those drinking more suffering more impairment⁴¹.

Wernicke's encephalopathy is a brain disorder caused by a lack of thiamine (Vitamin B1). Lack of thiamine is a common condition amongst heavy drinkers due to poor diet and/or frequent vomiting, both of which deplete vitamin stores. If Wernicke's encephalopathy is left untreated, Korsakoff's psychosis can develop (although Korsakoff's psychosis can also develop without Wernicke's encephalopathy). It is signified by profound memory loss, affecting both the ability to recall events and to form new memories. Those affected tend to be men between the ages of 45 and 65 with a long history of alcohol misuse, though it is possible to have the syndrome at an older or a younger age. Women can also be affected⁴².

7) Mental health problems

Extensive research has shown that people who drink heavily are particularly vulnerable to developing mental health problems⁴³. Alcohol has a role in a number of mental health conditions:

- *Anxiety and depression*

Alcohol is a depressant drug and prolonged drinking can lead to profound and long-lasting mood swings. In many cases anxiety is a consequence of heavy drinking rather than a cause. Whilst low doses of alcohol appear to cheer people up, higher doses may increase psychological distress.

- *Mental illness, including psychosis*

Alcohol misuse may accelerate or uncover a predisposition to psychiatric disorder. In addition, some patterns of alcohol misuse can give rise to alcohol-induced psychosis (where a person's ability to distinguish between imagination and reality is affected)⁴⁴.

- *Suicide*

There is a clear link between suicide and excessive drinking. The WHO has estimated the risk of suicide when a person is abusing alcohol is eight times greater than if they were not⁴⁵. A report from the Mental Health Foundation states that as many as 65% of suicides could be related to excessive drinking and identifies alcohol as one of the highest risk factors for suicide⁴⁶.

8) Sexual problems/sexually transmitted diseases

Temporary impotence - or 'brewers' droop' - after a bout of drinking is a common problem experienced by men. Long-term heavy drinking in men may lead to loss of libido and potency, shrinking of the testes, reduction in the size of the penis, reduced sperm formation, loss of pubic and body hair, and, as a complication of cirrhosis, enlargement of the breasts⁴⁷. Long-term heavy alcohol-misuse in women may result in the failure to ovulate and general



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menstrual problems, the shrinking of the breasts and sexual organs, and body fat being redistributed into a male pattern⁴⁸.

Studies have shown that the consumption of alcohol is a contributory factor in risk-taking behaviour. Alcohol lowers inhibitions, meaning people often take greater risks, including having unprotected sex when they otherwise may not. Such behaviour can lead to the contraction of sexually transmitted infections, such as HIV, gonorrhoea and syphilis. Rates of sexually transmitted diseases among young women in particular are increasing: for example, during 1998 to 2007, at genito-urinary clinics across the UK, new diagnoses of girls under 16 showed an increase of 31% in gonorrhoea and 162% in chlamydia; the age range between 16 and 19 showed an increase of 37% in gonorrhoea and 141% in chlamydia⁴⁹.

9) Development of the foetus in pregnant women

The UK's Chief Medical Officers advise that pregnant women or women trying to conceive should avoid drinking alcohol (or if they choose to drink, to minimise the risk to the baby they should drink no more than one or two units a week). This is because, during pregnancy, alcohol from the mother's bloodstream crosses the placenta and is taken up by the baby. This can then affect the baby's development in the womb, which may lead to problems, for example with the heart, at birth.

Foetal alcohol syndrome disorder (FASD) represents a spectrum of disorders including birth defects, brain damage, delays in growth and development, social and behavioural problems. Foetal alcohol syndrome (FAS) is directly a consequence of heavy drinking. Symptoms include growth deficiencies, central nervous system defects, lowered IQ and facial malformations⁵⁰. 6,000 babies are born with FAS in the UK each year⁵¹. Early diagnosis and referral to specialist help for FAS is essential.

Conclusion

Whilst it is true that many people enjoy alcohol in moderation, increasing numbers are regularly drinking above recommended guidelines. The potential health implications of doing so may not be immediately apparent to an individual, but there is overwhelming scientific evidence that excessive consumption significantly increases risk to long-term health. Indeed there is no such thing as guaranteed safe levels of drinking, and the more alcohol consumed, the greater the risk of alcohol-related disease or damage.

Alcohol Concern believes that alcohol misuse is a public health issue as important and urgent as smoking, obesity and drugs misuse. We believe that governments (national, devolved and local) need to make tougher, clearer choices around alcohol policy to improve the nation's health and make communities safer.

Find out about what Alcohol Concern is doing to campaign for effective alcohol policy and improved

services for people whose lives are affected by alcohol-related problems by visiting the Alcohol Concern website: www.alcoholconcern.org.uk.

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