

Liver disease

Summary

- Liver disease is one of the few major causes of avoidable premature death that is increasing in England, whereas it is decreasing in our European neighbours. It has been prioritised for action by the Chief Medical Officer for England.
- Most liver disease is caused by harmful alcohol consumption, obesity or infection with hepatitis— all of which are preventable.
- We do not know how many people in Hampshire (or England) have liver disease as these data are not collected routinely.
- The death rate from preventable liver disease in Hampshire was 7 per 100,000 population during the three year period from 2009 to 2011, lower than the national average of 12 per 100,000. This equates to 304 deaths.
- Gosport was the only part of Hampshire where the death rate was higher than the national average at 14 deaths per 100,000 population (34 deaths).
- The trend in deaths from preventable liver disease in Hampshire was relatively static during the five year period from 2006/08 to 2009/11, which is better than the national picture where the trend is increasing. This is probably because there are historically low rates of hepatitis infection in Hampshire with generally lower than UK average rates of obesity and harmful drinking.
- Obesity and harmful drinking rates are increasing in Hampshire as they are across England.
- Under 18 alcohol admissions to hospital per 100,000 population are lower than the national average.
- Hampshire is in the bottom fifth of areas in England in terms of Hepatitis B vaccination and Hepatitis C test uptake for injecting drug users and amongst prisoners.
- Hampshire is in the second highest quintile in England for rate of cholecystectomies.
- Hampshire is in the highest spending fifth in England for spend on hepatobiliary disorders, and while outcomes may be good, we may not be getting best value.

Recommendations

- We need better information on the number of people with liver disease in Hampshire.
- We need to continue preventative support to assist people from developing liver disease through decreasing levels of obesity, preventing infection with hepatitis (and ensuring early detection and treatment when someone does become infected), and reducing the number of people who are drinking alcohol at harmful levels.
- Review spend on hepatobiliary disorders to ensure maximum value for money from commissioned services.

Liver disease

1. Introduction

Liver disease is one of the few major causes of premature death that is increasing in England. There are over 100 types of liver disease, which together affect at least 2 million people in the UK. Some of the most common types of liver disease include:

- alcoholic liver disease, where the liver is damaged after years of alcohol misuse, which can lead to cirrhosis (permanent scarring of the liver);
- non-alcoholic fatty liver disease, which is a build-up of fat within liver cells, usually seen in people who are overweight or obese;
- hepatitis, which is inflammation (swelling) of the liver caused by infection, other disorders or exposure to harmful substances such as alcohol;
- haemochromatosis, which causes iron to build up in the body and be deposited in vital organs including the liver; and
- primary biliary cirrhosis, which is a rare, long-lasting type of liver disease caused by the immune system that damages the bile ducts.¹

The four main factors increasing liver disease in England (alcohol, obesity and chronic hepatitis B and C infection) are preventable.

The Chief Medical Officer for England's annual report for 2011 showed that England is one of the few countries in the EU where liver disease is on the increase. Between 2000 and 2009, deaths from chronic liver disease and cirrhosis in the under 65s increased by around 20% while they fell by the same amount in most EU countries.² The Chief Medical Officer highlighted liver disease as one of her three priority areas for the country, and has recommended that action on preventing, identifying and treating liver disease be included in all local health and wellbeing strategies.

The National End of Life Care Intelligence Network, which analyses death rates and costs of care, looked at statistics for deaths from liver disease across England between 2001 and 2009. They found most liver deaths were in people under 70, while one in 10 deaths of all people in their 40s were from liver conditions.

2. Level of need in the population

There are no local or national data routinely collected that count the total number of people living with liver disease.

Hepatitis-related estimates of liver disease

The World Health Organisation estimates that 0.3% of the UK adult population is infected with hepatitis B. Applying this prevalence to the Hampshire adult population suggests approximately 3,000 adults age 20+ are infected with hepatitis B.

¹ <http://www.nhs.uk/conditions/liver-disease/pages/introduction.aspx>

² Chief Medical Officer for England. Annual Report
http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_134787.pdf

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Alcohol

It is estimated that there are 257,000 people drinking at 'increasing or higher risk' and hazardous levels in Hampshire, and further 40,000 classified as 'high risk drinkers' or dependent on alcohol. See the JSNA chapter on substance misuse for more information.

Fatty liver

An estimate for fatty liver disease prevalence is not available. Studies show that 90% of the UK obese population have some degree of fatty liver disease. Applying this estimate to the Hampshire population where 23.7% of adults are obese³, suggests that 21.3% of adults in Hampshire have fatty liver disease.⁴ This equates to approximately 211,350 adults (over the age of 20).

2.1 Preventable deaths from liver disease in Hampshire

- Preventable deaths are defined as those that occur in people under the age of 75.
- There were 304 preventable deaths from liver disease in Hampshire during the three year period from 2009 to 2011. This equates to a rate of 7 deaths per 100,000 population, which is lower than the England average of 12 deaths per 100,000 (figure 1 and table 1).
- There was variation within Hampshire (figures 1 and 2). The highest death rate was seen in Gosport, where there were 34 deaths from preventable liver disease during 2009/11. This equates to a death rate of 14 per 100,000 population which is higher than the national rate of 12 deaths per 100,000 but not significantly so.
- There is a strong link between preventable liver disease deaths and increasing deprivation (figure 3). The lower rate of death seen in the most deprived quintile in Hampshire is a result of very small numbers.
- The overall trend in deaths in Hampshire is relatively static (figure 4). Within Hampshire, the trend varies between areas. Caution is needed when interpreting these data as they described small numbers of deaths each year which fluctuate and can give a false impression of changing trend. There appeared to be a downwards trend in deaths in North East Hampshire and Farnham CCG. In North Hampshire, the death rate appeared to be increasing amongst women but decreasing in men, giving an overall static trend in death rates.

³ Hampshire health profile 2012

http://www.apho.org.uk/default.aspx?QN=HP_METADATA&AreaID=50244

⁴ NHS Liver Care. Liver Disease Summary Statistics. <http://www.liver.nhs.uk/publications/>

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Figure 1: deaths from preventable liver disease in Hampshire, 2009/11

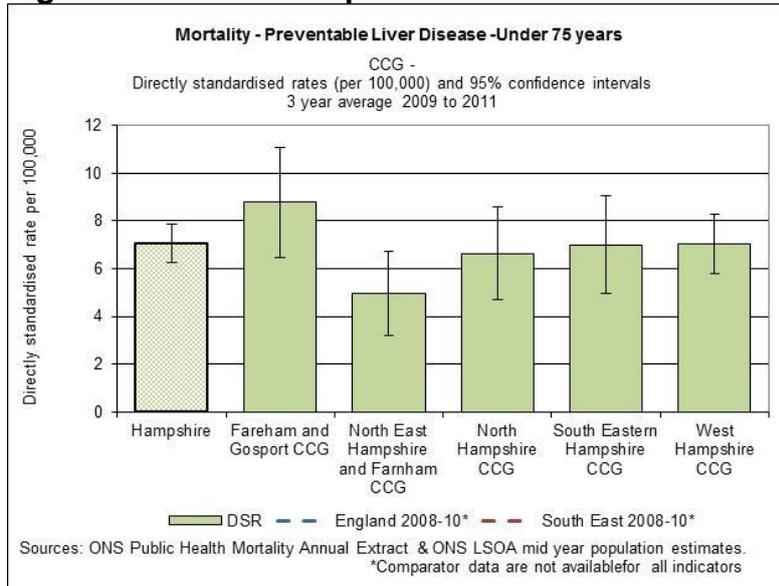
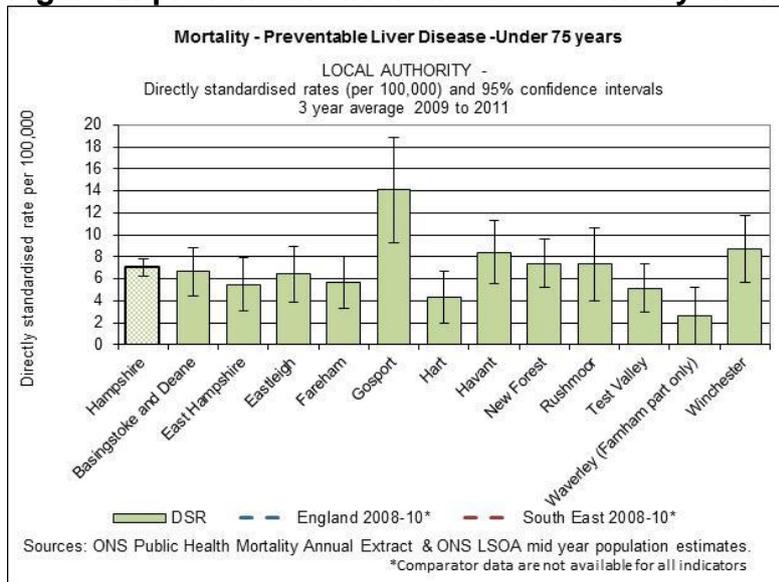


Figure 2: preventable liver disease deaths by district in Hampshire, 2009/11



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Figure 3: preventable liver disease deaths by deprivation quintile in Hampshire, 2009/11

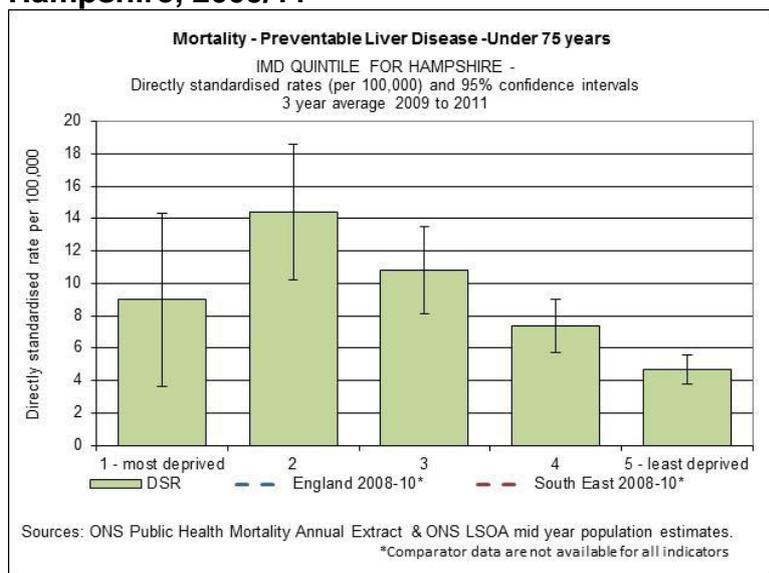
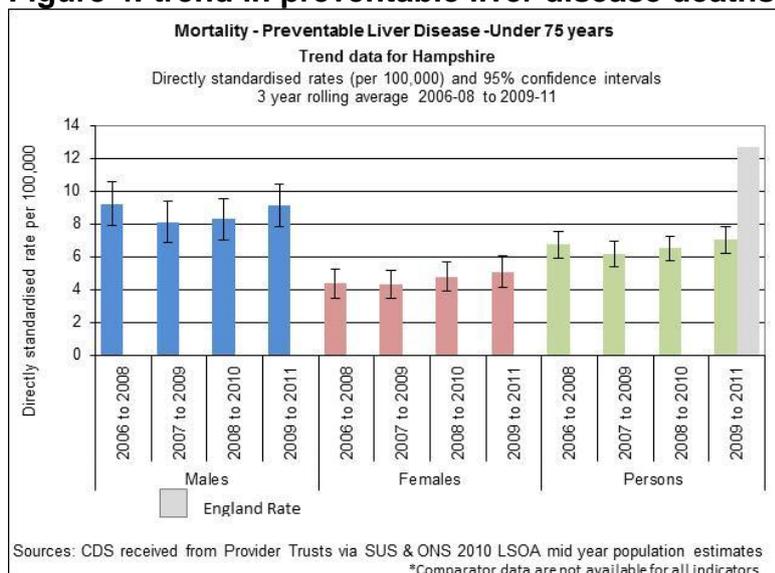


Figure 4: trend in preventable liver disease deaths in Hampshire, 2009/11



3. Projected service use and outcome in 3-5 years and 5-10 years

Work is ongoing to estimate the need for services over the next 10 years. The Chief Medical Officer's annual report in 2011 highlighted the increase in liver disease in England over the last 10 years, and we know that obesity rates and levels of harmful drinking are increasing, so it is reasonable to assume that levels of liver disease are going to continue to rise.

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Table 1: number and rate of preventable liver disease deaths in Hampshire, 2009/11

	Males				Females				Persons			
	Number	DSR	95% CI		Number	DSR	95% CI		Number	DSR	95% CI	
			LL	UL			LL	UL			LL	UL
Hampshire	192	9	8	10	112	5	4	6	304	7	6	8
Fareham and Gosport CCG	36	11	8	15	21	6	4	9	57	9	6	11
North East Hampshire and Farnham CCG	21	7	4	10	10	3	1	5	31	5	3	7
North Hampshire CCG	26	8	5	11	19	5	3	8	45	7	5	9
South Eastern Hampshire CCG	31	9	6	13	17	5	2	7	48	7	5	9
West Hampshire CCG	82	9	7	11	45	5	3	6	127	7	6	8

4. Current services in relation to need

The NHS Atlas of Variation for liver disease provides indicators of liver disease by primary care trust areas,⁵ graded by quintiles. Table 2 shows each of these indicators for Hampshire's population with comparison across all other primary care trusts in England.

For most indicators, the people of Hampshire are in the best or second best quintiles. However, there are a few indicators (indicated in red within the table) where the experience of the people of Hampshire is not so good. Areas where we could do better include:

- Under 18 alcohol admissions to hospital per 100,000 population.
- The indicators associated with Hepatitis B and C test uptake and vaccination for injecting drug users and amongst prisoners: Hampshire is in the bottom fifth of England.
- Cholecystectomy rate: Hampshire is in the second highest quintile in England.
- Spend on hepatobiliary disorders: Hampshire is in the highest spending fifth in England, and while outcomes may be good, we may not be getting best value.

⁵ <http://www.sepho.org.uk/extras/maps/NHSAtlasLiver/atlas.html>

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Table 2: NHS Atlas of Variation for liver disease, Hampshire data

Indicator	Time period	Value (range)	National quintile
% of liver disease admissions that are emergency admissions	2010/11	35.9 (23.5 to 66.2)	Second lowest
Chronic Liver Disease years of life lost < 75 years		11.5 (8.4 to 77.4)	Lowest
Chronic Liver Disease mortality rate including cirrhosis < 75 years per 100,000 population	2008-2010	5.84 (4.1 to 31.4)	Lowest
Hospital admissions for cirrhosis per 100,000 population	2006/07-2010/11	64.6 (53.7 to 207.9)	Lowest
Liver cancer mortality rate < 75 years per 100,000 population	2006 - 2010	1 (0.53 to 5.3)	Lowest
Liver transplant rate from all donors per 1,000,000 population	2006/7 -2010/11	10.9 (4.5 to 28.5)	Middle
Alcohol related admissions per 100,000 population	2010/11	1.5 (1.1 to 3,084)	Lowest
Alcohol specific admissions < 18 years per 100,000 population	2008/9-2010/11	43.5 (16.9 to 138.3)	Second lowest
Alcohol specific admissions in males per 100,000 population	2010/11	297 (176 to 1,164)	Lowest
Prescription rate for thiamine per 1,000 population	2011/12	1.9 (1.1 to 9.9)	Lowest
Prescription rate for Spironolactone per 1,000 population	2011/12	0.3 (0.2 to 0.7)	Middle
Prescription rate for acamprosate or disulfiram per 1,0000 population	2011/12	0.2 (0.1 to 3.1)	Lowest
Hepatitis B vaccination coverage % in new prison receptions ≥ 18 years	2011/12	24.2 (12.4 to 100)	Lowest
Hepatitis B vaccination rates in infants % born to mothers with persistent hepatitis B infection	2011/12	Missing data	Missing

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Indicator	Time period	Value (range)	National quintile
Hepatitis C test uptake % amongst people who inject drugs receiving drug treatment	2011/12	36.8 (15.8 to 87.4)	Lowest
Hepatitis C test uptake % amongst new adult prison receptions	2011/12	0.6 (0.6 to 27.5)	Lowest
Hospital admission rate for hepatitis C related end-stage liver disease per 100,000 population	2008/09-2010/11	1.5 (0.39 to 15.2)	Lowest
% children in school reception year classified as overweight or obese	2010/11	19.1 (17.5 to 28.6)	Lowest
% children in year 6 classified as overweight or obese	2010/11	29.4 (24.6 to 41.8)	Lowest
% estimated adult obesity (BMI \geq 30 kg/m ²)	2006 - 2008	23.7 (14 to 30.7)	Second lowest
Cholecystectomy rate per 100,000 population	2010/11	124.4 (40.8 to 198.7)	Second highest
% elective adult day case cholecystectomy per all elective cholecystectomies	2010/11	41.4 (4.9 to 69)	Second highest
ERCP (endoscopic retrograde cholangiopancreatography) rate per 100,000 population	2010/11	52 (37.2 to 105.4)	Second lowest
% ERCP performed as day case	2010/11	51 (3.2 to 89.6)	Middle
Pancreatic cancer mortality rate (<75 years) per 100,000 population	2008 - 2010	5.7 (3.7 to 10.7)	Middle
Paracetamol overdose admissions rate	2010/11	104.6 (34.6 to 251.3)	Middle
Spend on hepatobiliary disorders per 1,000 population		15,715 (6,765 to 23,327)	Highest quintile
ALT tests ordered by GPs per 1,000 practice population	2012	293.7 (83 to 468.9)	Middle

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5. User and provider views

User and provider views on substance misuse and obesity services are included in the substance misuse and healthy weight chapters of the JSNA.

6. Evidence of what works

Liver disease does not usually have obvious symptoms until a relatively late stage. NICE have published evidence of what works in preventing and treating obesity, harmful drinking, and hepatitis B and C. This evidence includes:

Obesity (including physical activity)

- Obesity: working with local communities (PH42)⁶
- Obesity: Guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children (CG43)⁷
- Weight management before, during and after pregnancy (PH27)⁸
- Physical activity and the environment (PH8)⁹
- Physical activity: brief advice for adults in primary care (PH44)¹⁰

Alcohol

- School-based interventions on alcohol (PH7)¹¹
- Alcohol-use disorders - preventing harmful drinking (PH24)¹²
- Alcohol-use disorders: physical complications (CG100)¹³

Hepatitis B and C

- Hepatitis B and C: ways to promote and offer testing to people at increased risk of infection (PH43)¹⁴

7. Recommendations

- We need better information on the number of people with liver disease in Hampshire.
- We need to continue preventative support to assist people from developing liver disease through decreasing levels of obesity, preventing infection with hepatitis (and ensuring early detection and treatment when someone does become infected), and reducing the number of people who are drinking alcohol at harmful levels.
- Review spend on hepatobiliary disorders to ensure maximum value for money from commissioned services.

⁶ <http://publications.nice.org.uk/obesity-working-with-local-communities-ph42>

⁷ <http://publications.nice.org.uk/obesity-cg43>

⁸ <http://publications.nice.org.uk/weight-management-before-during-and-after-pregnancy-ph27>

⁹ <http://publications.nice.org.uk/physical-activity-and-the-environment-ph8>

¹⁰ <http://publications.nice.org.uk/physical-activity-brief-advice-for-adults-in-primary-care-ph44>

¹¹ <http://guidance.nice.org.uk/PH7>

¹² <http://guidance.nice.org.uk/PH24>

¹³ <http://www.nice.org.uk/guidance/index.jsp?action=byID&o=12995>

¹⁴ <http://publications.nice.org.uk/hepatitis-b-and-c-ways-to-promote-and-offer-testing-to-people-at-increased-risk-of-infection-ph43>