Health inequalities stocktake – liver disease

Version 4, 9 March 2022

Contents

Preface

This report has been written by Sarah Morgan, Public Health Registrar, with oversight from Angeline Walker, Public Health Consultant, as part of their role providing Public Health expertise to the national Hepatobiliary & Pancreas Clinical Reference Group (CRG).

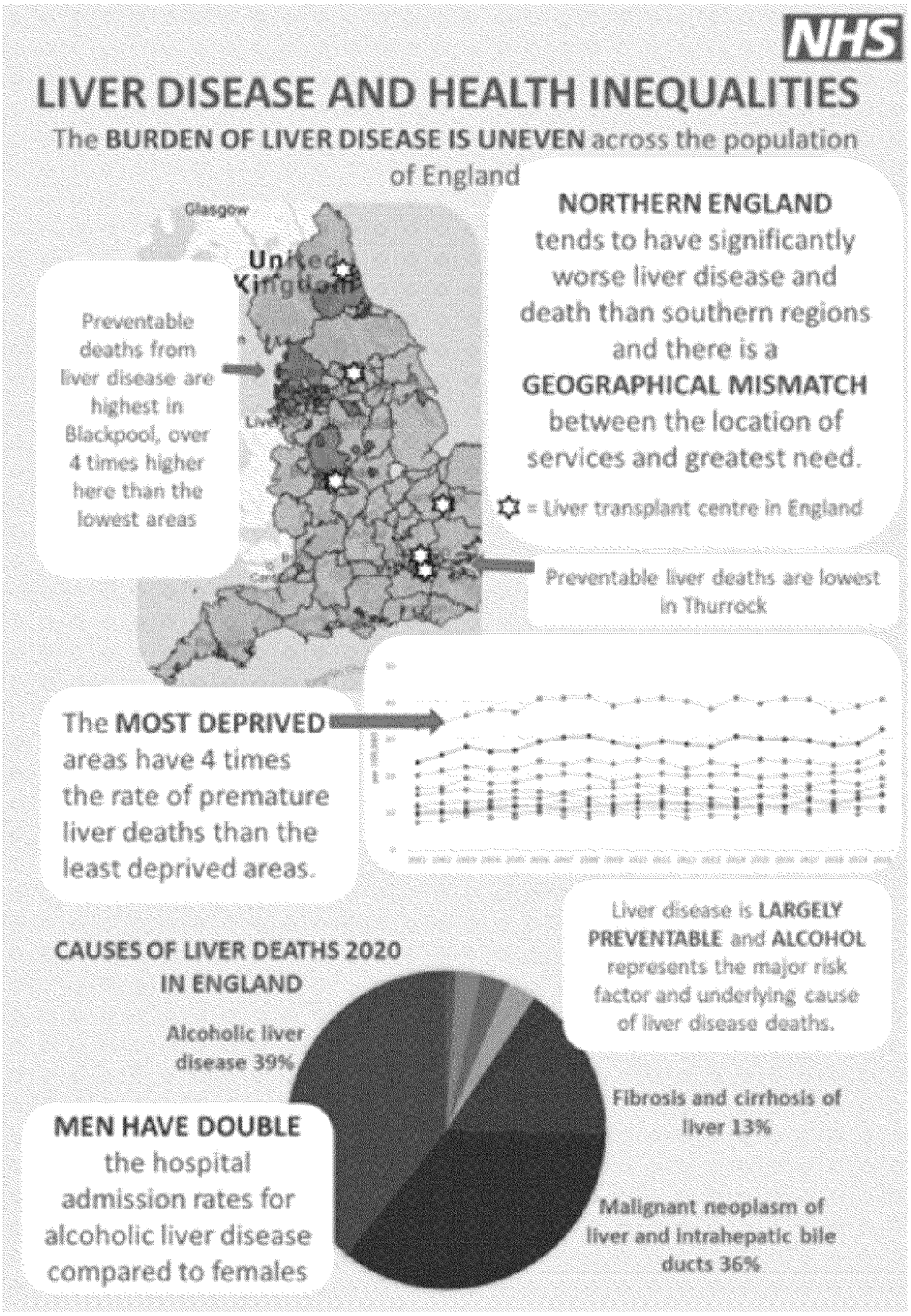
The report is intended to provide the CRG with an overview of sub-populations adversely impacted by liver disease and where consideration could be given to modify services to address inequalities. It does not represent an official policy position of the CRG.

Any enquiries regarding this publication should be sent to: **TBC**

Key Messages

- The burden of liver disease in England is increasing
    - Overall, liver disease mortality and morbidity are increasing
    - Several risk factors for liver disease are showing harmful trends
- The burden of liver disease is uneven across the population of England
    - There are inequalities in risk factors, morbidity, and mortality from liver disease
    - There are specific groups within the population who face this greater burden
        - Those who live in more deprived areas are particularly affected. However, deprivation doesn't fully explain the greatest burden seen across the population, particularly for certain conditions such as non-alcoholic fatty liver disease (NAFLD) and viral hepatitis. Local areas should look at their data and populations to understand local patterns. Implementation of the NHS England and NHS Improvement 'Core20PLUS5' approach to support the reduction of health inequalities could be beneficial in this respect.
        - Men experience worse premature mortality, but not in all local areas and some risk factors such as obesity are higher in women
        - There are inequalities in certain geographical areas including the north of England and coastal populations
        - There are inequalities in certain vulnerable groups, including people who inject drugs (PWID)
- Services may not equitably match the burden of liver disease or it's risk factors
    - This includes a geographical mismatch between the location of services and greatest need
    - It also includes considerations around other factors that hinder access beyond geographical location
        - Many people with liver disease may have multiple health, social and economic issues and therefore find accessing services in general difficult.

- Tailoring services to known vulnerable populations, such as seen in Hepatitis C services, may help address wider access issues.



Introduction

Health inequalities are unjust differences in health and wellbeing between different communities which are systematic and avoidable. Healthcare is only one of many factors that influences health. The social and economic environment may have a bigger impact. The NHS Long Term Plan[1] calls for stronger NHS action on health inequalities, for reasons of fairness and to improve outcomes. As the Long Term Plan states 'While we cannot treat our way out of inequalities, the NHS can ensure that action to drive down health inequalities is central to everything we do'[2].

This report presents the findings of a health inequalities stocktake in relation to liver disease for the national Hepatobiliary & Pancreas Clinical Reference Group (CRG). It aims to help the CRG better understand which sub-populations are adversely impacted by liver disease across the whole of the pathway, and where consideration could be given to modify services to address inequalities. There are over 100 diseases of the liver, affecting at least 2 million people in the UK. Some diseases of the liver progress to need specialised services for liver, biliary and pancreatic medicine and surgery, such as acute liver failure, complicated chronic liver disease, complicated viral hepatitis or cancers of the liver, pancreas, and biliary tree. Liver conditions that progress to need specialised services typically start with a common set of risk factors and a common pathway of liver damage.

Liver disease often develops silently with no signs or symptoms until serious complications of develop. Liver blood tests have been the mainstay of liver disease identification and are checked in both primary and secondary care to exclude liver disease. However, depending on the specific liver condition, these may not be a reliable marker of the present or severity of liver disease with the result that many patients with liver disease are not identified until they have developed significant liver damage. British Society of Gastroenterology (BSG) have developed guidelines to help guide investigation and referral in symptomatic and asymptomatic patients following blood tests or a clinical concern[3]. It is unclear if national guidelines diagnostic tests, and exemplar pathways have become normalized and part of

[1] The NHS Long Term Plan 2019

[2] The NHS Long Term Plan 2019 Quote P41 paragraph 2.27

[3] Newsome PN et al (2018). Guidelines on the management of abnormal liver blood tests.Gut;67:6-19. and Appendix

general practice in liver disease management across the UK[4]. This health inequalities stocktake necessarily considers determinates such as disease risk factors and the role of other services.

There are many ways to define health inequalities. This stocktake has used the PHE Health Equity Assessment Tool framework[5] and considered:

- the nine protected characteristics of the Equality Act 2010,
- socio-economic differences,
- geographic factors
- and being part of a vulnerable or Inclusion Health group[6].

Health inequalities may be driven by:

- Different experiences and impacts of the wider determinants of health or structural factors. For example, the environment, community life, income, and housing.
- Different exposure to social, economic, and environmental stressors and adversities.
- Differences in health behaviours or other risk factors between groups, for example smoking, alcohol consumption, diet, and physical activity levels have different social distributions. Health behaviours may be influenced by wider determinants of health, like income.
- Unequal access to, or experience of, health and other services between social groups.

NHS England and NHS Improvement launched the 'Core20PLUS5'[7] approach in 2021 to support the reduction of health inequalities at both national and local

[4] Jarvis H et al (2021). Engagement with community liver disease management across the UK: a cross-sectional survey. BJGP Open
[5] PHE 2020. Health Equity Assessment Tool (HEAT)
[6] Inclusion health groups include: ethnic minority communities, coastal communities, people with multi-morbidities, protected characteristic groups, people experiencing homelessness, drug and alcohol dependence, vulnerable migrants, Gypsy, Roma and Traveller communities, sex workers, people in contact with the justice system, victims of modern slavery and other socially excluded groups.
[7] NHS England and NHS Improvement. Core20PLUS5 – An approach to reducing health inequalities.

system levels. Although liver disease is not one of the '5' focus clinical areas requiring accelerated improvement, the approach defines a target population cohort – the 'Core20PLUS'. The 'Core20' is the most deprived 20% of the national population as identified by the national Index of Multiple Deprivation (IMD). The 'PLUS' are the population groups experiencing poorer than average health access, experience and/or outcomes, but not captured in the 'Core20' alone. This stocktake can help outline these 'Core20Plus' populations in relation to liver disease.

A secondary aim of this stocktake has been to develop an approach to assessing and identifying health inequalities relating to a particular disease or condition which could be adopted by other CRGs within the Internal Medicine National Programmes of Care.

Methodology

The stocktake has used the PHE's Health Equity Assessment Tool (HEAT) as a framework[8].

Available data and evidence on liver disease and risk factors were mapped with the help of NHS and OHID (formerly PHE) colleagues, to identify and obtain the most relevant information.

A review of CRG service specifications was undertaken to identify health inequalities which had already been established and action underway to address health inequalities.

Following the data mapping and document review, the questions that the HEAT tool poses were answered, which forms the basis of this report. The questions considered were:

1. Which populations face the biggest health inequalities?
    a. Socio-economic status or geographic deprivation
    b. Inclusion health and vulnerable groups
    c. Experience related to protected characteristics

[8] PHE 2020. Health Equity Assessment Tool (HEAT)

2. Causes of inequalities
    a. What are the potential drivers for these inequalities?
    b. Which wider determinants are influential?
    c. Which health behaviours play a role?
    d. Role of service quality, access and take up
3. Our ability to address inequalities
    a. Which of these can we directly control?
    b. Which can we influence?
    c. Which are out of our control?
4. Potential effects of specialist liver services on health inequalities? (positively or negatively)

Scope

This health inequalities stocktake has taken a population health focus on liver disease as a whole, rather than focussing specifically on specialist liver services. It considers how wider determinants, risk factors and the health service affect liver disease within the population. As a public health approach has been used, data on activity or cost of services for people with liver disease has not been included, unless reported within public health datasets and publications.

Distribution of health

An increasing burden

Main findings from the Liver Disease Profile Updates November 2021 and January 2022

Premature mortality from all major causes of liver disease increased in 2020. The 2020 single-year rate for males was 26.4 per 100,000 population aged under 75, for females it was 15.1 per 100,000 population aged under 75.

Deprivation remains an influential factor on liver disease mortality and hospital admissions for liver disease, with those living in the most deprived areas being more adversely affected.

There are highly significant geographical differences in all cause liver disease mortality with, in general, but not exclusively, rates being higher in the North of England

Rates of premature liver disease deaths across local authority areas are generally much higher in males than females, however, in 7 local authority areas the rate experienced by females is higher than males.

91% of the additional deaths from liver disease (as underlying cause) were alcohol related.

Rates of admission to hospital where the primary diagnosis was liver disease significantly decreased from 143.6 per 100,000 population in the financial year ending 2020 to 124.7 per 100,000 population in the financial year ending 2021 (the first full year of the COVID-19 pandemic)

At a regional level, overall rates of liver disease admissions to hospital remain highest in the north of England with the North East having the highest rate

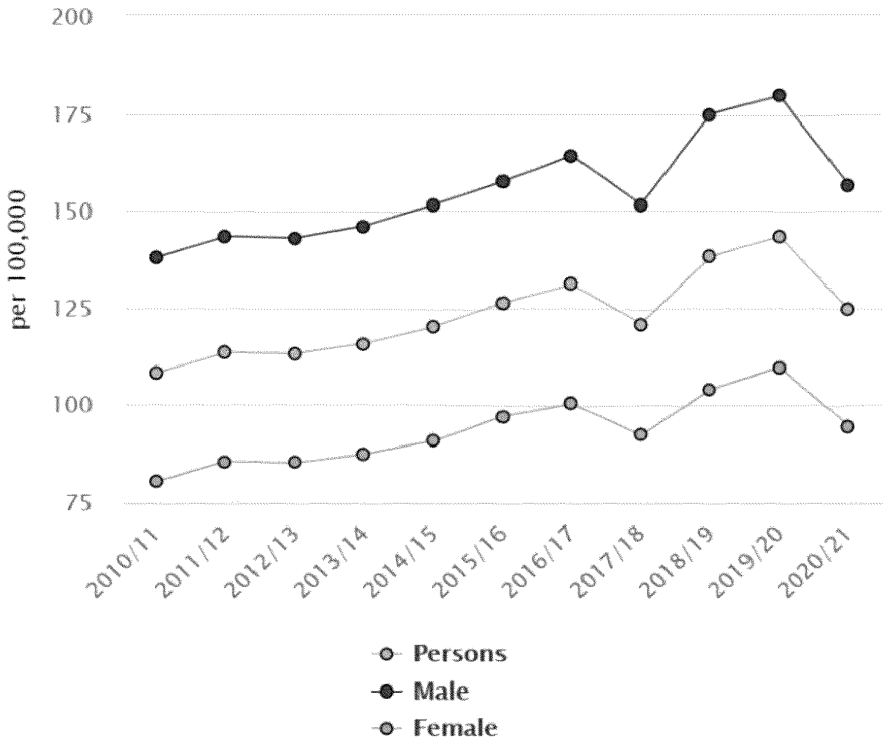
Across the county and unitary authority (UA) areas (sometimes referred to as upper tier local authorities (UTLA)) there is a 4-fold difference between the rate of admissions for liver disease for the financial year ending 2021.

Rates of admission to hospital for alcohol-related liver disease (alcoholic liver disease) in the financial year ending 2021 were the highest in a decade (45.5 per 100,000 population, a count of 24,516 admissions)

Liver disease continues to claim more lives each year. Chronic liver disease is one of the main causes of premature death for men and women aged under 75 years. It ranks in the top 5 causes of death for males aged 20 to 64 and females aged 35 to 64.[9] As many people with liver disease die in working-age, liver disease impacts beyond the individual and family to the wider economy.

The burden of liver disease on health services has grown over the last decade, despite a fall in the rate of overall admission of liver disease in the most recent year of data, 2021 (Figure 1).

Figure 1: Hospital admission rates for liver disease, per 100,000 population, England, 2010/11 to 2020/21[10]

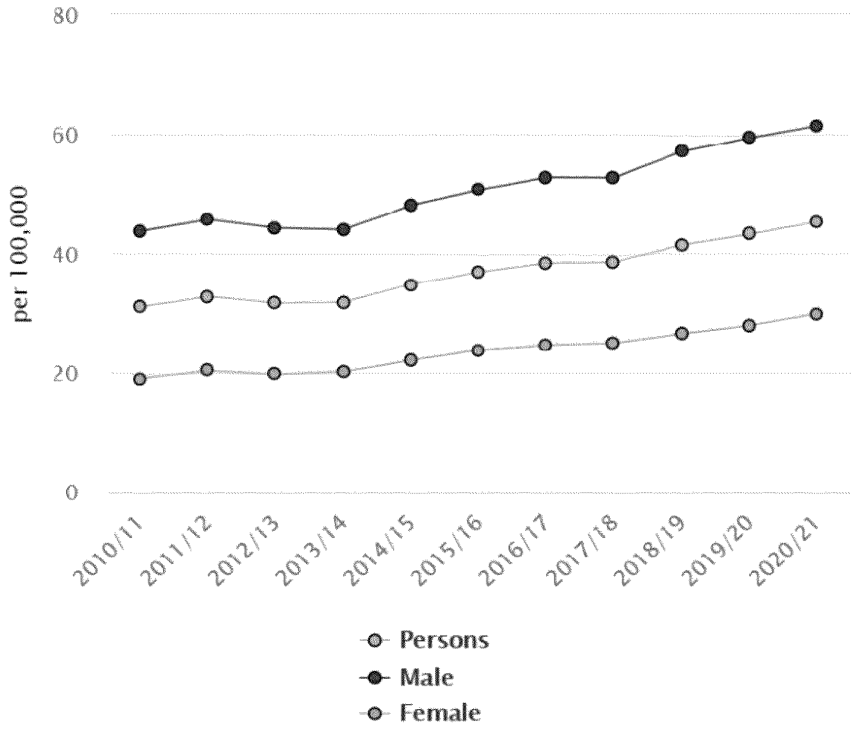


Rates of hospital admission for alcohol-related liver disease continued to climb in 2021, being significantly higher than they were in the financial year ending 2020 and the highest for a decade (Figure 2).

[9] Health Profile for England: 2021

[10] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles

Figure 2: Hospital admission rates for alcoholic liver disease[11], per 100,000 population, England, 2010/11 to 2020/21[12]



Chronic liver disease is largely preventable. Whilst the preventable under 75 mortality rates for cancer and cardiovascular disease have fallen over the past decade, the under 75 preventable mortality rate[13] from liver disease has stayed flat, suggesting more could be done to tackle preventable deaths from liver disease.

Underlying risk factors and their trends

Liver disease is almost entirely preventable with the major risk factors: alcohol, obesity and Hepatitis B and C accounting for up to 90% of cases. These risk factors can contribute to multiple different causes of liver deaths. Alcohol stands out,

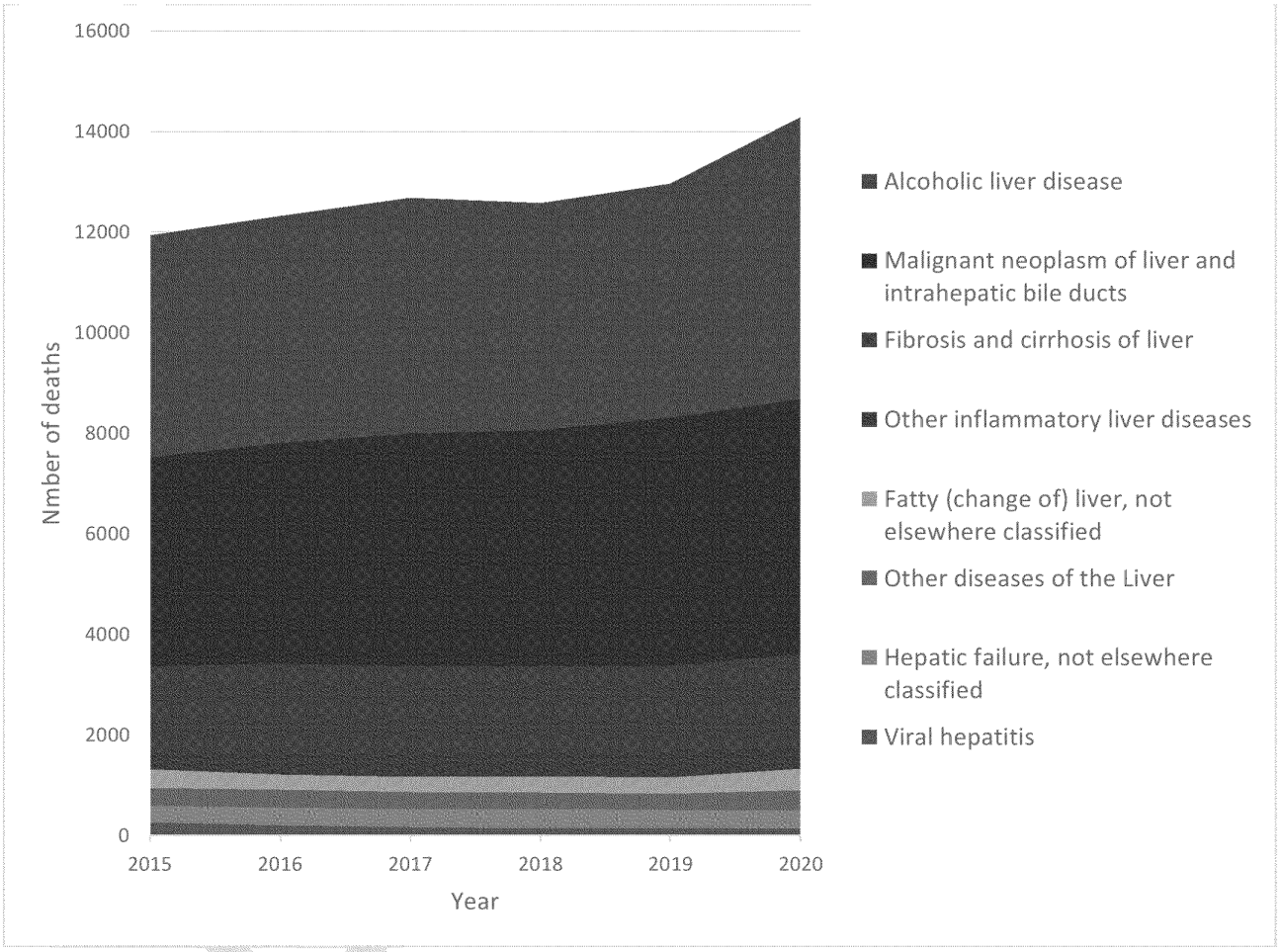
[11] Data and figures taken directly from the Fingertips liver disease profile have replicated their use of the term 'alcoholic liver disease' (consistent with ICD10 code K70), rather than the term alcohol-related liver disease

[12] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles

[13] Deaths are considered preventable if, in the light of the understanding of the determinants of health at the time of death, all or most deaths from the underlying cause (subject to age limits if appropriate) could mainly be avoided through effective public health and primary prevention interventions. Office for Health Improvement and Disparities Fingertips Public Health Profiles

however, as deaths coded as alcoholic liver disease represented the largest share of all liver deaths in 2020 (Figure 3).

Figure 3: Causes of liver deaths in England 2015 - 2020, based on ONS data[14]



- Alcohol.

The prevalence of 'increasing and higher risk' drinkers has increased in 2020/2021 above pre-pandemic levels. Alcohol-specific mortality increased by around 20% in 2020, which was an acceleration of the already increasing trend, driven mainly by increases in liver disease mortality. The increase in alcohol-related liver disease mortality during 2020 has been linked to increased alcohol consumption among heavy drinkers who were already at risk of liver failure[15]. Internationally, among

[14] ONS data for all age deaths in England coded as K70-K77 diseases of liver and B15-19, C22, I81, I85 (these being the codes used by OHID for number of deaths from liver disease in Fingertips liver disease profiles). T86.4 omitted as unavailable. Extracted from Nomis (a service provided by the Office for National Statistics)

[15] Health Profile for England: 2021

nine other developed countries,[16] England had the highest rate of male morbidity for alcohol use in 2019.

- Obesity

England has high rates of adult obesity when compared with many other high income countries[17] and the long-term trend is increasing; it is estimated to have increased from 24.8% in 2011 to 28.0% in 2019[18]. The proportion is consistently slightly higher in females than males (29.1% compared with 27.0% in 2019)[19]. Childhood obesity is also increasing. The National Child Measurement Programme[20] reports obesity prevalence in children aged 4 -5 (reception year) has increased from 9.9% in 2019/20 to 14.4% in 2020/21. Among children aged 10 and 11, obesity prevalence has increased from 21.0% in 2019/20 to 25.5% in 2020/21. Boys have a higher obesity prevalence than girls for both age groups.

- Viral Hepatitis B and C

The incidence of acute Hepatitis B is low in England, but the contribution of Hepatitis B infection to the burden of liver disease is increasing. Globally the prevalence of Hepatitis B is higher in a number of countries and in most impacted region, the African region, there is up to 10% prevalence of hepatitis B infection among the general population[21]. Country of birth and ethnicity are relevant factors to consider when considering health inequalities and liver disease in relation to Hepatitis B in the UK therefore (see table on protected characteristics for more detail.) The incidence rate of Hepatitis C can reflect local disease burden or testing practice.

Around one-quarter of all liver disease cases in the UK are due to hepatitis infections. During 2020, the rate of premature mortality from Hepatitis B related end-stage liver disease/hepatocellular carcinoma increased (though not significantly) compared to 2019. In 2020 there were 82 deaths, a rate of 0.16 per 100,000 population aged under 75. This compares to 2019 where there were 67

[16] The G7 (USA, Canada, Japan, France, Italy, Germany, UK) and the 2 other European Union nations with a population greater than 35 million - Spain and Poland. Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019

[17] Health Profile for England: 2021

[18] Health Profile for England: 2021

[19] Health Profile for England: 2021

[20] NHS Digital. National Child Measurement Programme, England 2020/21 School Year.

[21] WHO 2021 Global progress report on HIV, viral hepatitis and sexually transmitted infections.

deaths, a rate of 0.13 per 100,000 population aged under 75 in 2019. During 2020, rates of premature deaths from Hepatitis C related end-stage liver disease or liver cancer decreased (though not significantly) compared to 2019. In 2020 there were 237 deaths, a rate of 0.46 per 100,000 population aged under 75. This compares to 2019 where there were 243 deaths, a rate of 0.47 per 100,000 population aged under 75. Since 2016 the count of deaths (336) have reduced by 29%[22].

Hepatitis B vaccination coverage decreased in the financial year beginning 2020 with 32 local authorities with 100% coverage compared to 48 in 2019/20.

The impact of COVID-19

Due to the timing of updates to public health data sets, information and trends reported in this stocktake may not fully reflect the impact of COVID-19 on liver disease and its risk factors. The Wider Impacts of COVID-19 on Health (WICH) monitoring tool[23] provides detailed data on access to Hepatitis C testing and treatment and alcohol consumption, admissions, and mortality at various points since the start of the pandemic. In general, access to Hepatitis C testing and treatment was lower during the pandemic and alcohol indicators have worsened.

Which populations face the greatest health inequalities?

A wealth of data shows certain segments of the population face a higher burden of liver disease and risk factors for liver disease.

Socio-economic status

A strong relationship is seen between deprivation, risk factors for liver disease and the morbidity and mortality from liver disease.

Risk factors

The Health Survey for England 2019 reported drinking over 14 units of alcohol weekly (increased risk level of consumption) increased with household income. Among men, the highest proportion of those drinking at this level was in highest income households (44%) compared with 22% in the lowest income households.

[22] Office for Health Improvement and Disparities. Liver Disease Profiles update November 2021
[23] Office for Health Improvement and Disparities. Wider Impacts of COVID-19 on Health (WICH) monitoring tool.

Similarly, among women, the highest proportion of those drinking alcohol at increased or higher level was in the highest income households (25%) compared with 9% in the lowest income households[24]. Despite this, rates of hospital admissions for alcohol-related conditions are higher in the most deprived areas compared to the least deprived areas.

This inverse relationship between consumption and harms has also been seen internationally and is often referred to as the 'alcohol harm paradox'[25]. Attempts to understand this have suggested interactions with other behaviours such as smoking, poor diet and exercise, are among the reasons why alcohol-related harms are greater in more deprived areas. Alcohol use and related poor health can be both a result from and a cause of deprivation[26].

Obesity prevalence is lowest in the least deprived areas and highest in the most deprived areas, although there is a clearer relationship between worsening deprivation and higher levels of obesity for females than males[27]. Adult overweight and obesity is higher in those who socioeconomic class is categorised as intermediate, routine and manual or never worked/long term unemployed, compared to those in managerial and professional occupations[28]. By education level, overweight and obesity is highest in those with no qualifications and levels decrease with increasing formal qualifications[29]. There are wide inequalities in childhood obesity with children in the most deprived areas twice as likely as children in the least deprived areas to be obese[30].

Amongst those who become chronically infected with Hepatitis B, around a fifth will eventually develop liver cirrhosis and a tenth of these will develop liver cancer. Rates of premature mortality from Hepatitis B related end-stage liver disease/hepatocellular carcinoma are highest amongst the most deprived areas.

A course of four doses of Hepatitis B vaccine are given to babies born to mothers who are known to have chronic Hepatitis B infection as a preventative measure. In 2020/21 the median proportion of children aged 24 months who received all 4

[24] NHS Digital. Health Survey for England 2019 Adults' health-related behaviours.
[25] Bellis et al (2016). The alcohol harm paradox: using a national survey to explore how alcohol may disproportionately impact health in deprived individuals. BMC Public Health. Feb 18; 16:111.
[26] Bellis (2016). The alcohol harm paradox, harms caused to others and life course effects.
[27] Health Profile for England: 2021
[28] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles
[29] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles
[30] NHS Digital. National Child Measurement Programme, England 2020/21 School Year.

doses of the vaccine was 83%. The most deprived decile had vaccination rates much lower than the least deprived decile, 62.2% and 86.1% respectively[31]. There is evidence that uptake of Hepatitis B vaccine among some higher risk groups, namely people who inject drugs (PWID), has plateaued over the decade (see inclusion health section).

In the UK, PWID are at the greatest risk of Hepatitis C infection. There is a complex relationship between deprivation, drug use and other socioeconomic challenges such as homelessness and time in prison.

The pattern of deprivation and eligible people in drug misuse treatment who have been offered a Hepatitis C test does not follow a clear pattern of poorer access as deprivation increases, counter to the relationship seen with many other indicators.[32] Drug services and testing initiatives are able to positively impact on inequalities.

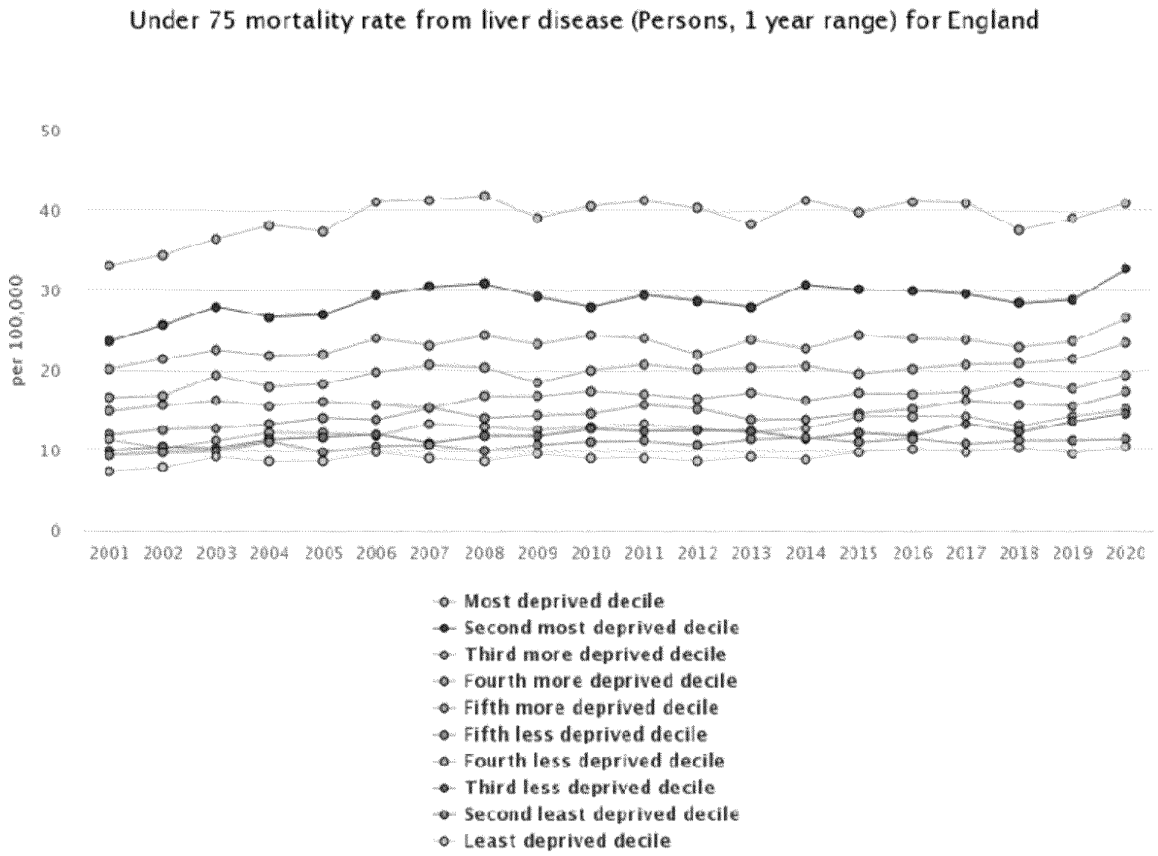
Morbidity, mortality, and deprivation

Areas experiencing greater levels of deprivation have much higher rates of premature death from liver disease. Those in the most deprived areas have a rate that is almost 4 times higher than the least deprived areas. This gap is not narrowing over time (Figure 4).

Premature mortality from alcohol-related liver disease follows a similar pattern, worsening with deprivation[33] as do most indicators for premature death from Hepatitis B and C related cancer.[34]

[31] Office for Health Improvement and Disparities. Liver Disease Profiles update November 2021
[32] Office for Health Improvement and Disparities Fingertips. Public Health Profiles
[33] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles
[34] Note the one year 2020 relationship for premature Hepatitis B cancer deathsdoes not show same clear pattern worsening with deprivation, but the 3 year trends for HepatitisB and C premature cancer deaths do.

Figure 4: Mortality rate due to liver disease, per 100,000 population aged under 75, by lower super output area deprivation decile 2019, England, 2001 to 2020[35]



Whilst the magnitude varies, hospital admission rates for liver disease, alcohol-related liver disease, and alcohol specific conditions show a clear pattern of worsening as deprivation increases.

The relationship between deprivation and NAFLD hospital admissions is not so clear on the 1 year data (Figure 5), but is clearer when looking at the 3-year data at smaller geographical breakdowns (lower super output areas) (Figure 6).

[35] Office for Health Improvement and Disparities. Liver Disease Profiles update November 2021

Figure 5: Hospital admission rates for non-alcoholic fatty liver disease, per 100,000 population aged under 75, by IMD 2019 lower super output area deciles in England. (1 year range, 2020/21)[36]

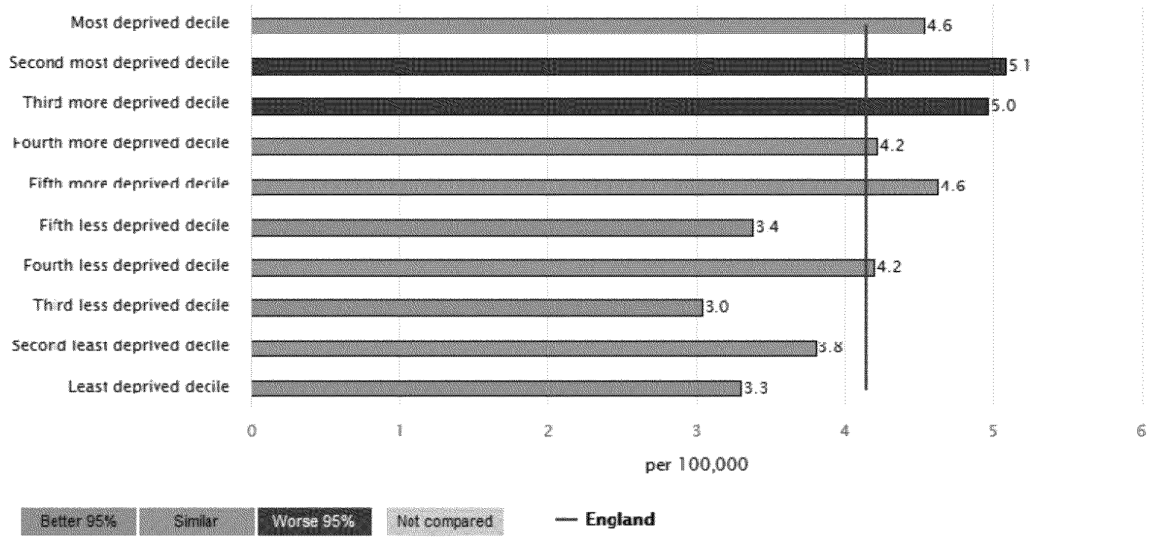
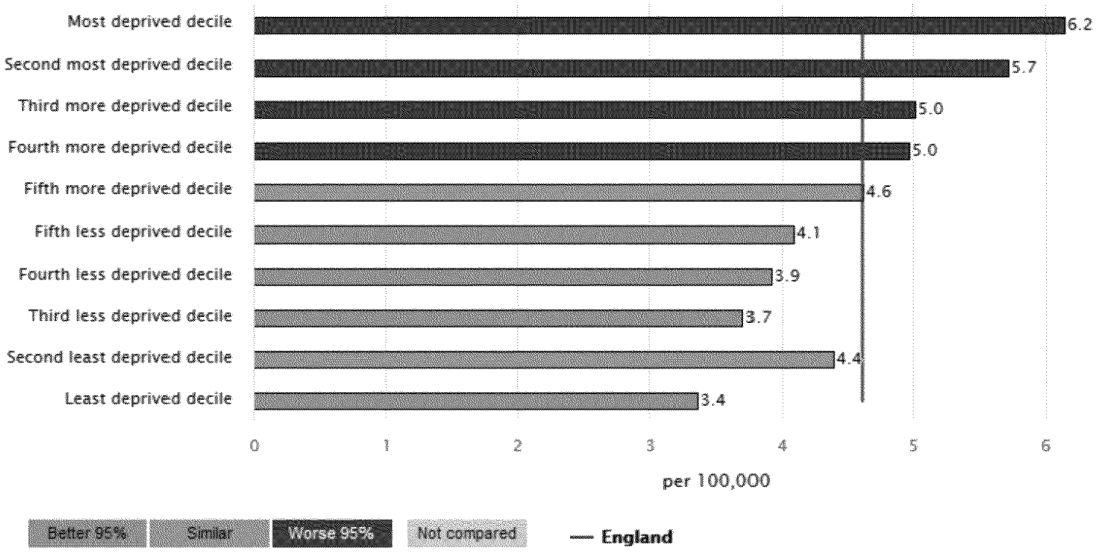


Figure 6: Hospital admission rates for non-alcoholic fatty liver disease, per 100,000 population aged under 75, by IMD 2019 lower super output area deciles in England. (3 year range, 2017/18 to 2019/20)[37]



[36] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles.
[37] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles

Whilst the overall picture is that deprivation has a large impact on mortality and morbidity from liver disease, any variation in this relationship between different conditions should be borne in mind to tackle inequalities in health for all.

Geographic

There are clear regional differences in the burden of preventable deaths from liver disease. This points to inequalities faced by populations in the underlying determinants of health, risk factors and access to prevention and treatment in respect to liver disease and, importantly, that more could be done to prevent this variation.

Figure 7 shows, pre pandemic, the North West, North East, Yorkshire and Humber and West Midlands all had significantly higher levels of preventable mortality from liver disease than the England average.

Figure 7: Under 75 mortality rate from liver disease considered preventable, by region, benchmarked to England[38]

Under 75 mortality rate from liver disease considered preventable (2019 definition) (Persons, 3 year range) 2017 - 19

Directly standardised rate - per 100,000

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	-	24,174	16.7	16.4	16.9
North East region	-	1,715	23.7	22.5	24.8
North West region	-	4,361	22.7	22.0	23.3
West Midlands region	-	2,838	18.8	18.1	19.5
Yorkshire and the Humber region	-	2,537	17.7	17.0	18.4
East Midlands region	-	2,072	16.0	15.3	16.7
South West region	-	2,328	14.7	14.1	15.3
London region	-	2,635	14.2	13.7	14.8
South East region	-	3,434	14.1	13.6	14.5
East of England region	-	2,254	13.5	13.0	14.1

Risk factors

In 2019, 'increasing or higher risk' drinking was highest in the North East, at a prevalence of 28.7%, followed by the North West (26.9%). The East Midlands had the lowest level of 'increasing or higher risk' drinking (18.7%)[39].

Obesity prevalence was highest in the North East (34.0%) and lowest in London (23.4%) [40].

[38]Office for Health Improvement and Disparities Fingertips. Mortality Profile
[39]Health Profile for England: 2021
[40]Health Profile for England: 2021

Overall, the London region has the highest rate of premature mortality from Hepatitis B[41] and the North West region and London regions have the highest rates of premature mortality from Hepatitis C[42].

Morbidity and mortality across the regions

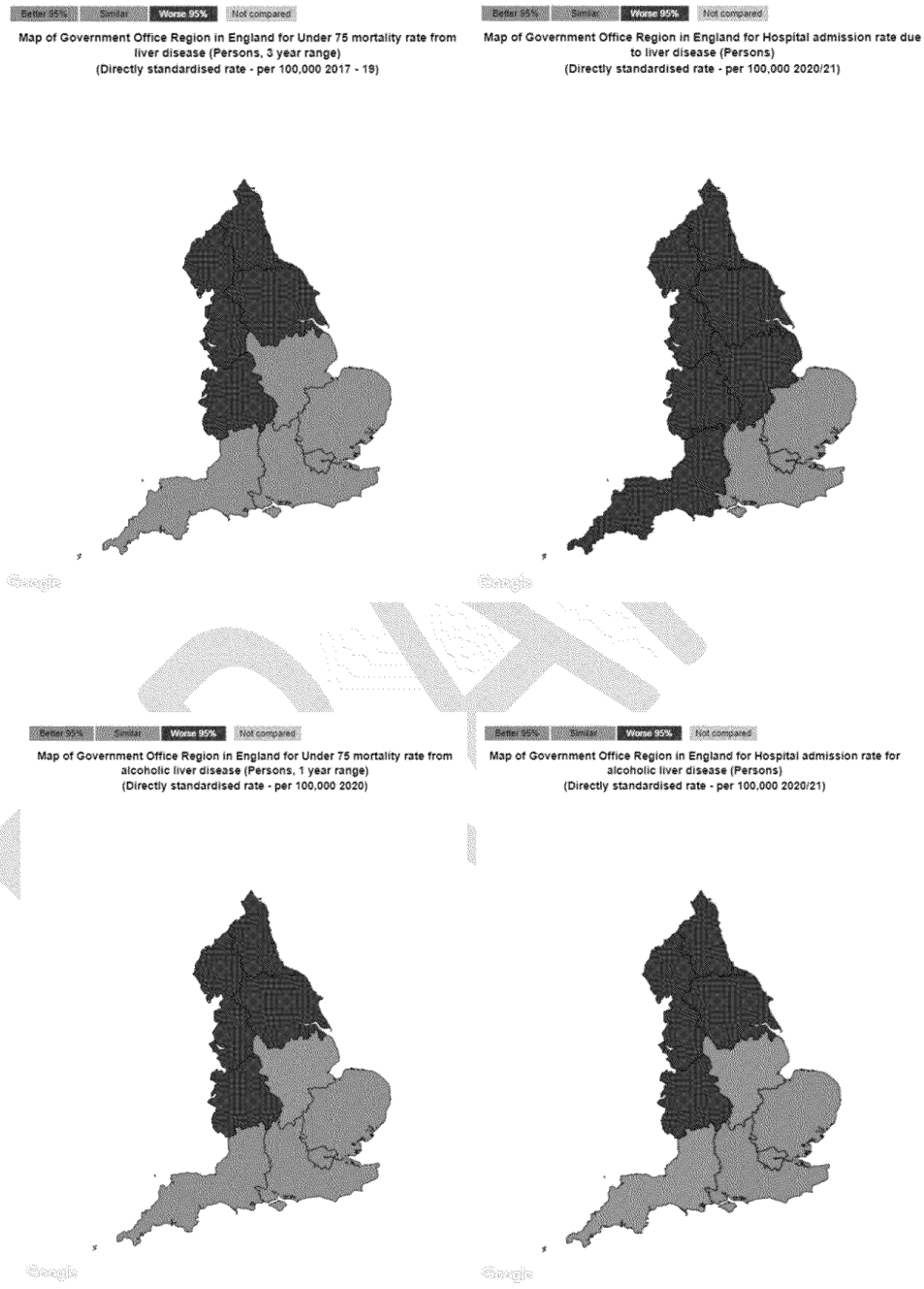
In 2020, Blackpool local authority had the highest premature death rates for liver disease in the country (44.9 per 100,000 population aged under 75). The lowest rate in 2020 was South Norfolk (7.4 per 100,000 population aged under 75). This is a sixfold difference.

Birmingham had the largest count of premature deaths from liver disease with 549 deaths in 2017 to 2019. It also had the largest number of deaths in the single year of 2020 at 194 (a rate of 24.9 per 100,000 population aged under 75). The median rate across English local authorities was 19.4 per 100,000 population aged under 75[43].

The liver disease profile mapping tool gives a snapshot of geographic variation in the burden of liver disease. In general terms, across key indicators, the burden is highest in the North of England (Figure 8).

[41] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles
[42] Office for Health Improvement and Disparities. Liver Disease Profiles update November 2021 and Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles
[43] Office for Health Improvement and Disparities. Liver Disease Profiles update November 2021

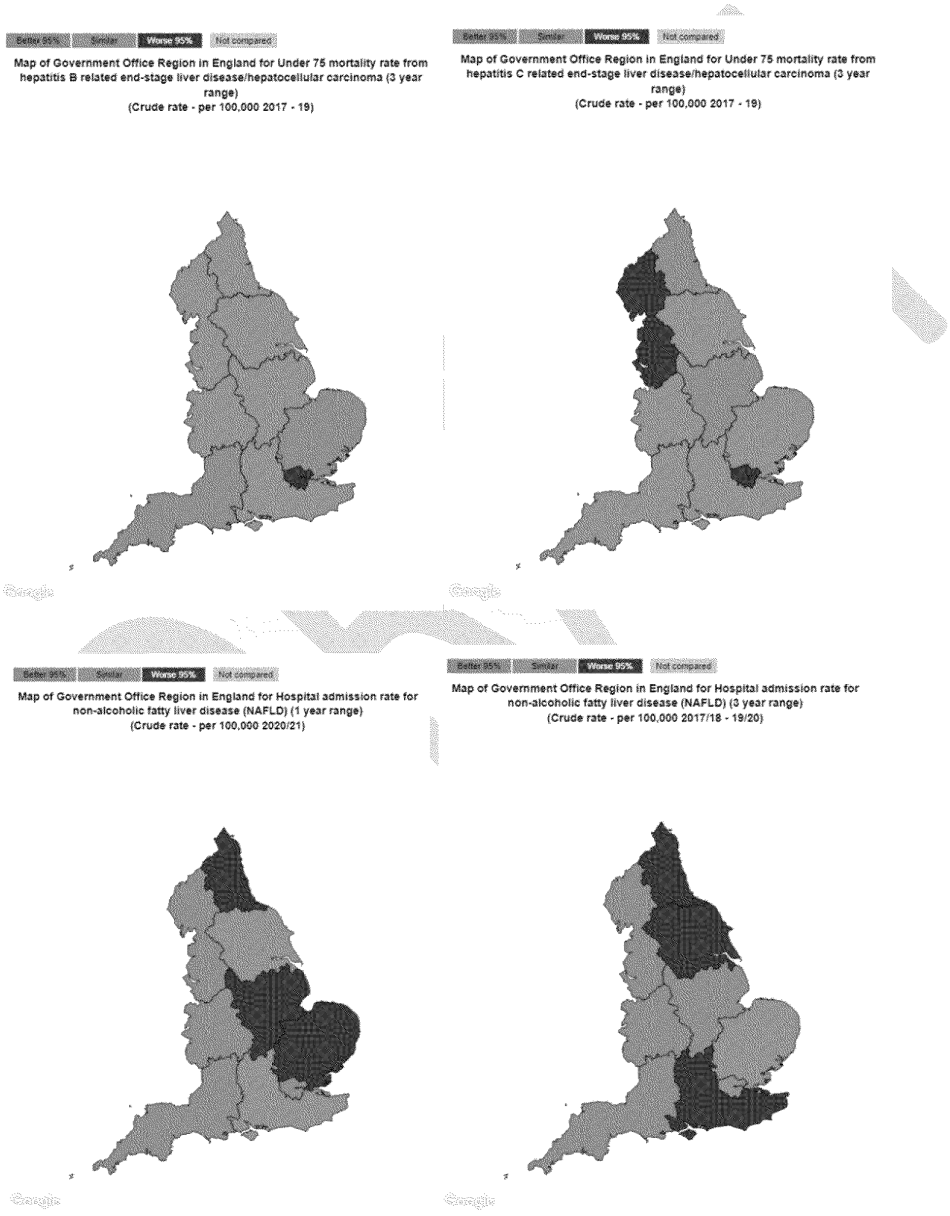
Figure 8: Liver Disease and Alcoholic Liver Disease - premature (under 75) mortality and hospital admission rates by region, against benchmark of England average[44]



[44]Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles. Data view – maps.

There are exceptions to the pattern of highest burden in the north, for example 1 year NAFLD admissions were highest in the East of England, 3 year NAFLD admissions are also high in the South East and premature Hepatitis B and C deaths high in London (Figure 9).

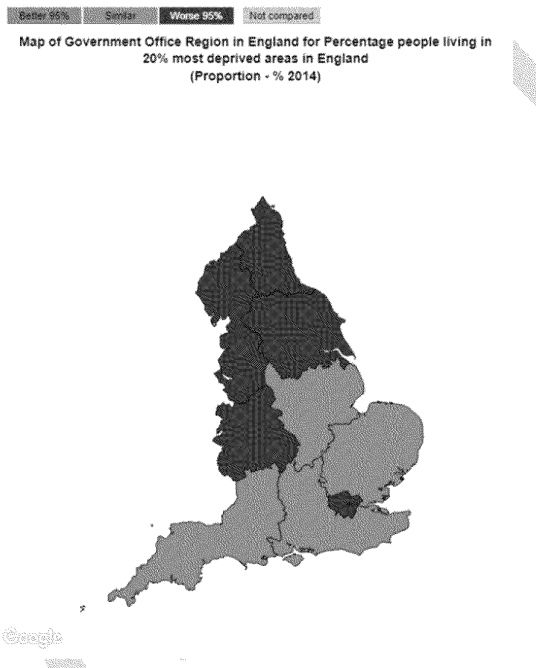
Figure 9: Premature (under 75) mortality from Hepatitis B and C related cancer and hospital NAFLD admission rates by region, against benchmark of England average[45]



[45]Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles. Data view – maps.

When comparing levels of deprivation and burden across regions there is not exact alignment (Figure 10). This suggests regions have specific combinations of risk factors, incidence and prevalence which must be considered locally, alongside service configuration, service quality and the wider determents of health. It will be important to use the 'Core20PLUS5' approach to conduct Integrated Care System (ICS) level analysis to determine population groups experiencing poorer than average health access, experience and/or outcomes for liver disease.

Figure 10: Percentage of people living in 20% most deprived areas by region against benchmark of England[46]



Coastal Populations

A particular geographic group, highlighted in the 2021 Chief Medical Officer's (CMO) report[47], are coastal populations. High levels of deprivation are important reasons for the poor health outcomes in coastal communities. The clear links between deprivation and risk factors for liver disease and morbidity and mortality related to liver disease have been shown above. ONS analysis for the CMO 2021 report found that deprivation was higher in coastal communities compared to non-coastal communities, with smaller seaside towns and large coastal (non-seaside) towns with ports and/or industrial heritage being especially deprived.

[46]Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles. Data view – maps.
[47] Chief Medical Officer's Annual Report 2021. Health in Coastal Communities

Excess alcohol use is commonly raised as an issue by coastal Directors of Public Health. ONS analysis of alcohol-specific mortality rates found a mixed picture. Large urban areas appeared to have a higher alcohol-specific mortality rate. There is a statistically significant higher alcohol-specific mortality rate in males in large towns (both coastal and non-coastal) compared to smaller non-coastal towns. The CMO report comments that mortality figures, however, are unlikely to represent the overall burden of the challenges associated with alcohol. Further analysis of alcohol related indicators at a granular level in relation to coastal communities would be beneficial.

Whilst not liver specific, the CMO report[48] also highlights the significant health service deficit in terms of recorded service standards, cancer indicators and emergency admissions in coastal communities. Although reasons for this are unclear, possible explanations include challenges with the retention of medical workforce and access to services. Challenges to the recruitment and retention of health and social care staff is a common concern expressed by coastal Directors of Public Health and NHS leaders. Analysis by HEE found that, despite coastal communities having an older and more deprived population, they have 14.6% fewer postgraduate medical trainees, 15% fewer consultants and 7.4% fewer nurses per patient compared to the national average.

Inclusion health and vulnerable groups

People who inject drugs

People who inject drugs (PWID) are at higher risk of blood borne viruses and may have a range of additional challenges such as homelessness and time in prison. Homelessness and imprisonment have been associated with increased risk of Hepatitis C.

The latest unlinked anonymous monitoring (UAM) Survey[49] of HIV and viral hepatitis among PWID shows the markers of ever having been infected with Hepatitis B fell from 15% in 2011 to 9.5% in 2019, but remained stable between 2019 and 2020.

The prevalence of antibodies to Hepatitis C, indicating ever having been infected with Hepatitis C, was 60% in 2020. This is statistically higher than the prevalence of

[48] Chief Medical Officer's Annual Report 2021. Health in Coastal Communities
[49] Unlinked Anonymous Monitoring (UAM) Survey of HIV and viral hepatitis among PWID: 2021 report.

43% seen in 2011. This increase in ever infection with Hepatitis C is likely a result of an ageing cohort of PWID who are living longer, together with improved Hepatitis C treatment which has led to greater uptake co-ordinated through the Hepatitis C elimination strategy[50], as well as ongoing incident Hepatitis C infections.

Chronic Hepatitis C infection among those with evidence of ever being infected with Hepatitis C was 29% in 2020, which is a decrease from 58% in 2011. This decline in chronic Hepatitis C infection is likely due to the scale-up of treatment against Hepatitis C among PWID, a part of the Hepatitis C elimination strategy.

Uptake of interventions and services

Uptake of at least one dose of Hepatitis B vaccine among UAM survey participants has plateaued over the decade, if not slightly declined (66% in 2020). Vaccine uptake is known to be significantly lower among people of younger age and recent initiates to injecting.

Similarly, there has been no change in the self-reported uptake of voluntary confidential testing (VCT) for Hepatitis C by survey participants over the last decade. The proportion of survey participants reporting ever being tested for Hepatitis C was 84% in 2011 and 85% in 2020. The proportion reporting being tested for Hepatitis C in the current or previous year increased from 41% in 2011 to 48% in 2020.

Just over a third of the 2020 participants with chronic Hepatitis C were aware of their infection. This low level of awareness was similar to that seen in 2019. In 2020, 63% of those aware of ever having Hepatitis C infection had seen a specialist nurse or doctor (hepatologist) for their Hepatitis C and been offered and accepted treatment. This is an increase from 20% in 2011 and a large increase from 2019 (39%).

Two-thirds of the UAM Survey participants in 2020 reported ever being in prison, which is a decrease from 72% reported a decade ago. The proportion of participants who reported being currently homeless or having been homeless during the last year has increased from 28% in 2011 to 49% in 2020.

There is regional variation in the proportion of adults with substance misuse treatment need who successfully engage in community-based structured treatment

[50] PHE 2020. Hepatitis C in England 2020 Working to eliminate hepatitis C as a major public health threat

following release from prison (Figure 11). This is highest in the North East and North West and lowest in the South West and London.

Figure 11: Proportion of adults with substance misuse treatment need who successfully engage following prison by region against England benchmark[51]

Adults with substance misuse treatment need who successfully engage in community-based structured treatment following release from prison New data 2020/21

Proportion - %

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	↑	6,929	38.1	37.4	38.8
North East region	↑	833	55.5	53.0	58.0
North West region	↑	1,158	44.8	42.9	46.7
East of England region	↑	583	41.7	39.1	44.3
Yorkshire and the Humber region	↑	1,149	40.8	39.0	42.6
East Midlands region	↑	790	40.0	37.9	42.2
South East region	↑	567	37.5	35.1	40.0
West Midlands region	→	840	36.2	34.2	38.2
South West region	↓	486	28.8	26.7	31.0
London region	→	523	22.0	20.3	23.7

Other inclusion health and vulnerable groups

There is a lack of disaggregated data readily available in relation to liver diseases and other inclusion health and vulnerable groups.

Experience related to protected characteristics

Data is not readily available to give a comprehensive breakdown of risk factors, morbidity, and mortality from liver disease against all the protected characteristics defined by the 2010 Equality Act[52]. Table 1 outlines some key observations from available data sources and highlights where data is not readily available.

[51] Office for Health Improvement and Disparities Fingertips. Public Health Profiles

[52] Equality Act 2010: guidance

Table 1: Protected characterises within 2010 Equality Act and liver disease risk factors and burden

Protected Characteristic	Data available	Observations and comments
Age	Data on risk factors, such as alcohol consumption and obesity by age and some measures of health service burden, such as admission by age group	In 2019, 'increasing or higher risk' drinking was highest in the 55 to 64 age group (29.5%), with the lowest rates among those aged under 25 or aged 75 or over[53]. The number of hospital admissions primarily due to alcohol consumption rises with age up until 55-64 and then falls. 40% of patients were aged between 45 and 64[54]. Obesity prevalence in 2019 was lowest in those aged under 25, and then increased by age group up to age 65 to 74. It was lower in those aged over 75 years than in those aged 65 to 74 years. This pattern was seen for both males and females[55]
	Serious liver disease and children (transplant data)	Liver disease in childhood is relatively rare. However, the burden for children, families and services can be large due to the complex nature of disease and possibility of liver transplant.

[53] Health Profile for England: 2021
[54] NHS Digital. Statistics on Alcohol, England 2020.
[55] Health Profile for England: 2021

Sex	Indicators within liver disease profiles available by sex, including • Hospital admission rate due to liver disease and for alcoholic liver disease • Under 75 mortality rates from liver disease and alcoholic liver disease	Hospital admission rates for liver disease and alcohol-related liver disease are higher in males than females and the trend over the past decade shows little evidence of the gap narrowing. The male rate of hospital admissions for liver disease overall is 1.7 times higher than the female rate (for males 157 per 100,000 population in the financial year ending 2021 and for females 95 per 100,000 population). The rate of hospital admissions for alcohol-related liver disease (alcoholic liver disease) is twice as high in males (62 per 100,000 population) than for females (30 per 100,000 population) in England.[56] Premature liver disease deaths across local authority areas are generally much higher in males than females. In 2017 to 2019, Harrow local authority showed the widest gap with a 3.7-fold difference between the rate experienced by males (21.1 per 100,000 population aged under 75) compared to females (5.8 per 100,000 population aged under 75). Richmondshire, South Cambridgeshire, Guildford, West Devon, Ribble Valley, Harborough, and Uttlesford local authorities however showed slightly higher rates in females than males. Premature alcohol related liver disease mortality, based on the 3-year data from 2017 to 2019, is significantly higher in males (11.9 per

[56] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles. Data view – inequalities.

		100,000 population aged under 75) than for females (6.5 per 100,000 aged under 75).
Race	Obesity by ethnicity for adults and children readily available.	The Black African ethnic group had the highest prevalence of obesity in children aged 4 to 5 years (15.9%) and the Black African, Black Caribbean and Bangladeshi ethnic groups had the highest prevalence in children aged 10 to 11 years (around 30%) [57]. In 2019/20 the percentage of adults classified as overweight or obese is highest in the Black ethnic group at 67.5%, followed by the white British ethnic group at 63.7%. All other ethnic groups had percentages below the average for England of 62.8%[58].
	Hepatitis B and ethnicity / country of birth	Reporting of ethnic background for acute hepatitis B cases is poor, in the most recent available report only 56 cases (14.7%) of the total acute or probable acute hepatitis B cases had their ethnicity recorded; a lower proportion than the previous year. Seventy one percent of the cases were white (an increase from 67% in 2017), followed by Black African or Black Caribbean (7.1%) and Indian (5.4%)[59].

[57] Health Profile for England: 2021
[58] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles. Data view – inequalities.
[59] PHE 2020. Acute Hepatitis B (England): annual report for 2018

	Further analysis of inequalities by ethnicity would require additional work to triangulate available ethnicity breakdowns for geographic areas to disease burden.	A national hepatitis B in pregnancy audit in 2013, reported on 2,542 pregnancies in 2,538 women with hepatitis B surface antigen (HBsAg), 45% of women were from London, a third of women were born in Africa, a third in Asia and a third in Europe (6% in the UK). 18% of women had basic and 21% < basic level of English[60].
Religion or belief	No relevant data found	
Disability	Obesity and disability	In 2019/20 the percentage of adults who were overweight or obese was 71.8% in those categorised as disabled, compared to 60.9% in those categorised as not disabled (average for England 62.8%)[61].

[60] Guidance on the hepatitis B antenatal screening and selective neonatal immunisation pathway. National hepatitis B in pregnancy audit
[61] Office for Health Improvement and Disparities Fingertips. Liver Disease Profiles. Data view – inequalities.

	Severe mental illness and excess death from liver disease	Adults with severe mental illness have 541% higher risk of premature mortality due to liver disease than adults without severe mental illness (excess under 75 mortality rate due to liver disease in adults with severe mental illness in 2016 - 18) [62]
Sexual orientation	No relevant data found	
Gender reassignment	No relevant data found	
Pregnancy and maternity	Public health data includes screen positive rates for Hepatitis B in pregnant women, and neonatal Hepatitis B vaccine coverage	Hepatitis B infection transmitted from mother to child is an important cause of persistent Hepatitis B infection, but in most cases it can be prevented. Coverage of antenatal screening is high at over 99%. Overall, 0.4% of pregnant women in England screen positive or are known to be Hepatitis B infected. London's rate is almost double anywhere else in England[63]. The national hepatitis B in pregnancy audit in 2013, found 70% of pregnancies were in women with a prior hepatitis B diagnosis. Women newly screened HBsAg positive were younger, more likely to

[62]Office for Health Improvement and Disparities Fingertips. Severe Mental Illness

[63]Guidance on the hepatitis B antenatal screening and selective neonatal immunisation pathway. Table 1: Screen positive rates for hepatitis B in pregnant women, England, 2018 to 2019

		lack basic level English and more likely to have booked for antenatal care at ≥ 20 weeks gestation than the previously diagnosed group[64]. In 2020/21 the median proportion of children aged 24 months who received all 4 doses of the vaccine, was 83%. The most deprived decile have lower vaccination rates than the least deprived decile.
Marriage and civil partnership	No relevant data found	

[64] Guidance on the hepatitis B antenatal screening and selective neonatal immunisation pathway. National hepatitis B in pregnancy audit

Further information

Data presented above is only a small subset of data available on liver disease and the populations affected. Please see Appendix for further information on sources for reference.

Causes of inequalities

Drivers of inequalities

The pattern of health inequality raised above is driven by a number of factors. These include:

- The prevalence of the underlying major risk factors of obesity, alcohol, Hepatitis B and Hepatitis C. In themselves these risk factors are influenced by socio-economic issues, such as deprivation and by health behaviours including drug and alcohol use.
- Other health behaviours connected with accessing health care, and following prevention or treatment advice
- Health service factors including
  - the level of investment in preventative measures
  - the configuration of services
  - quality of services
  - the timing of diagnosis (patient and health service factors)
  - degree of adherence to clinical guidance
- Wider determinants
  - The clear link between deprivation and risk factors for liver disease, and morbidity and mortality from liver diseases is shown above.

- Also influential, as a wider determinant, will be policy and operational decisions at all levels within government and across NHS and other services around alcohol, food, substance misuse and treatment and support for vulnerable groups.

Role of services - quality, access and take up

This section considers public health data related to services for liver disease and has not undertaken analysis of NHS provider data.

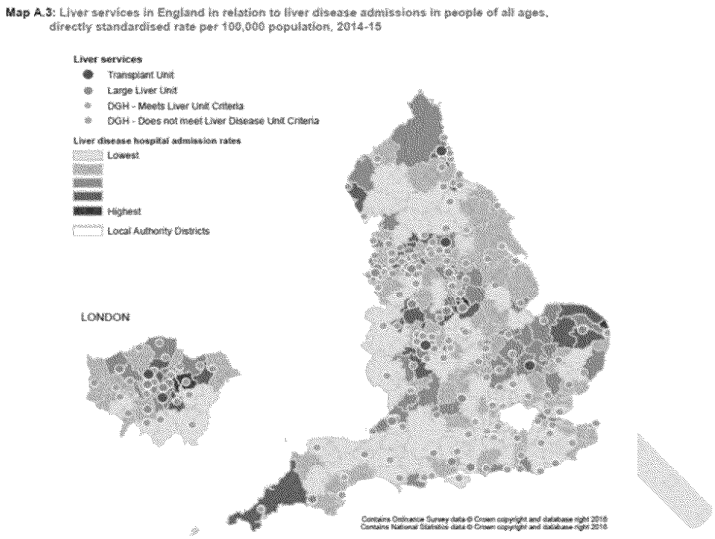
Service configuration

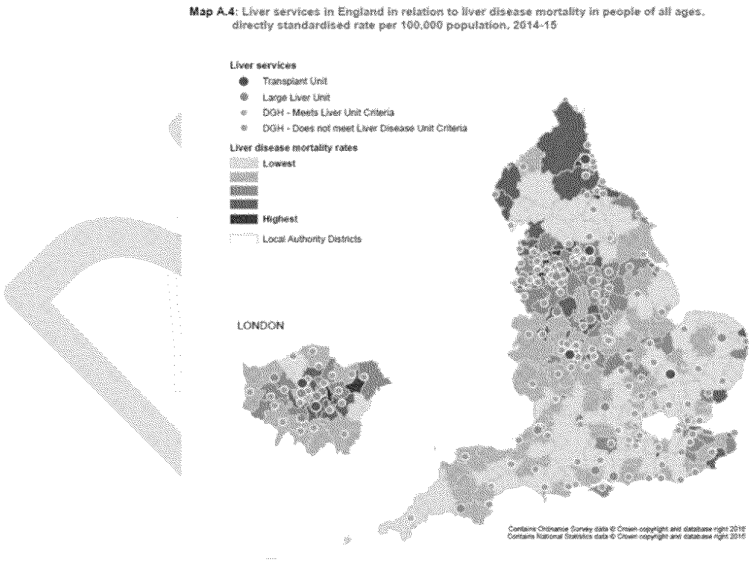
There is geographical variation in healthcare provision, access, and outcomes. Where this is not explained by the underlying burden of risk factors or liver disease this is unwarranted variation.

Distance for individuals to travel to services, along with the match of burden of risk factors and disease to service location and availability, are both important to tackle health inequalities.

Mapping for the 2nd Atlas of variation in risk factors and healthcare for liver disease in England, published in 2017, showed the location of different levels of liver disease services in relation to background levels of liver disease admissions and mortality (Figure 12). This mapping suggested service location was not always aligned with the need for greater provision of liver services in deprived areas with the highest rates of liver disease morbidity and mortality. Updated mapping would be beneficial to look at current patterns.

Figure 12: Liver service locations mapped against liver disease admissions and liver disease mortality rates [65]





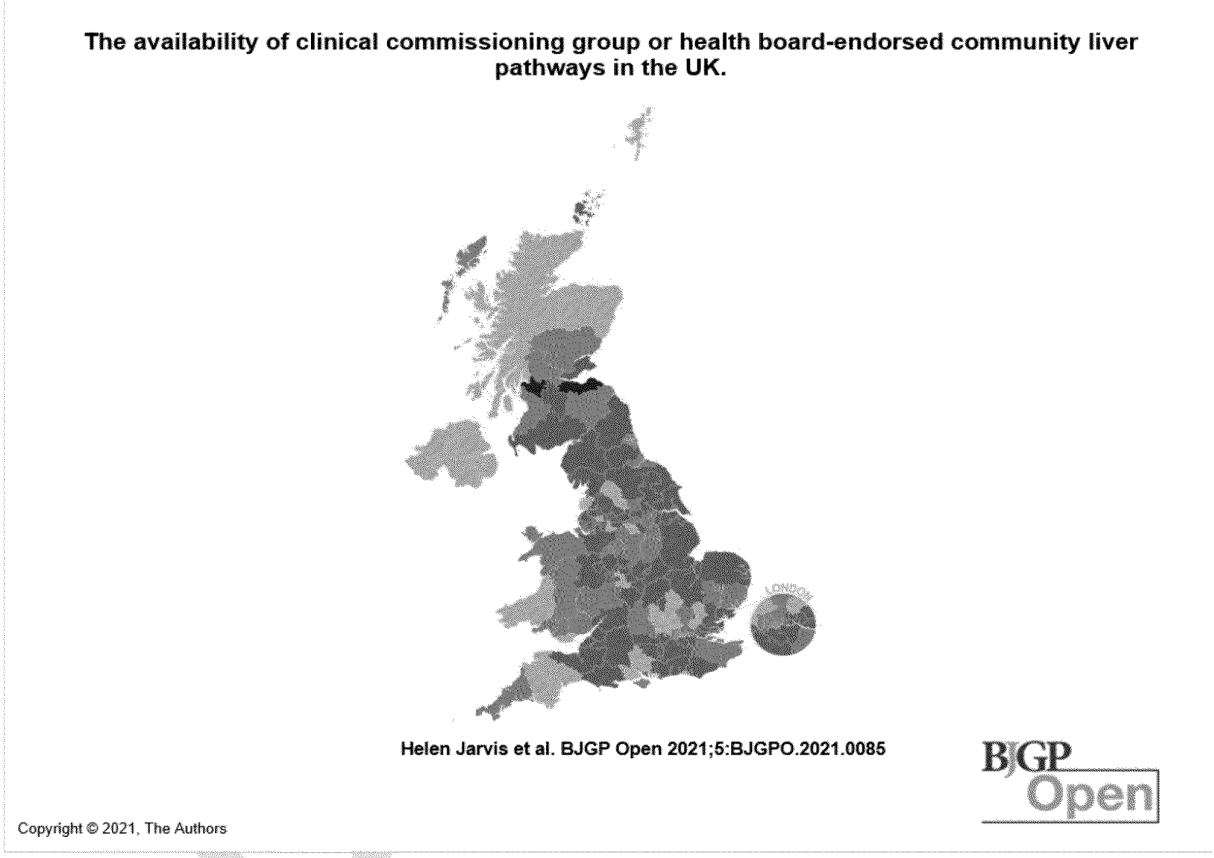
In 2020 the British Liver Trust developed a survey to investigate the status of planning and commissioning for the early detection of and management of liver disease by asking about the availability of community pathways to respond to abnormal liver blood tests and liver disease more generally[66]. The survey had responses covering 99% of the UK. Figure 13 shows the findings. On the map red

[65] PHE 2017. The 2nd Atlas of variation in risk factors and healthcare for liver disease in England

[66] Jarvis H et al (2021). Engagement with community liver disease management across the UK: a cross-sectional survey. BJGP Open

indicates no pathway for either the interpretation of liver blood tests or liver disease more generally; yellow indicates a pathway for the interpretation of liver blood tests only or pathways in development; blue indicates pathways for both; and the two areas in black did not respond to the survey. There was marked regional variation and areas with a pathway in place (blue) were in the minority.

Figure 13: 2020 survey findings on availability of clinical community liver pathways in UK



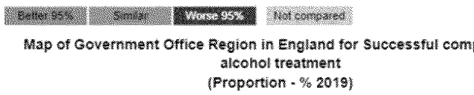
Service quality

Although there will always be some warranted variation in service models, depending on the demographics and prevalence of liver disease in each locality, all patients should receive the same high quality of care, access to expertise, procedures, treatments, and outcomes irrespective of where they live

At the prevention end of the liver disease pathway, there are a range of policies, services and interventions to reduce alcohol related harm as well as offer treatment for dependence. As one example of variation at this end of the pathway, wide

variation is seen in the proportion of people successfully completing alcohol treatment across the country. Successful completion ranges from 17% in Rotherham to 56% in Calderdale. The England average in 2019 was 37.8%. This variation cannot be completely explained by other factors such as burden or deprivation and, therefore, may suggest services are performing differently (Figure 14). It is worth noting that nationally under a fifth of dependant drinkers access alcohol treatment, so inequalities in access in the first place, as well as successful completion, need to be considered[67].

Figure 14: Successful completion of alcohol treatment by region against England benchmark[68]



Map of Government Office Region in England for Successful completion of alcohol treatment
(Proportion - % 2019)

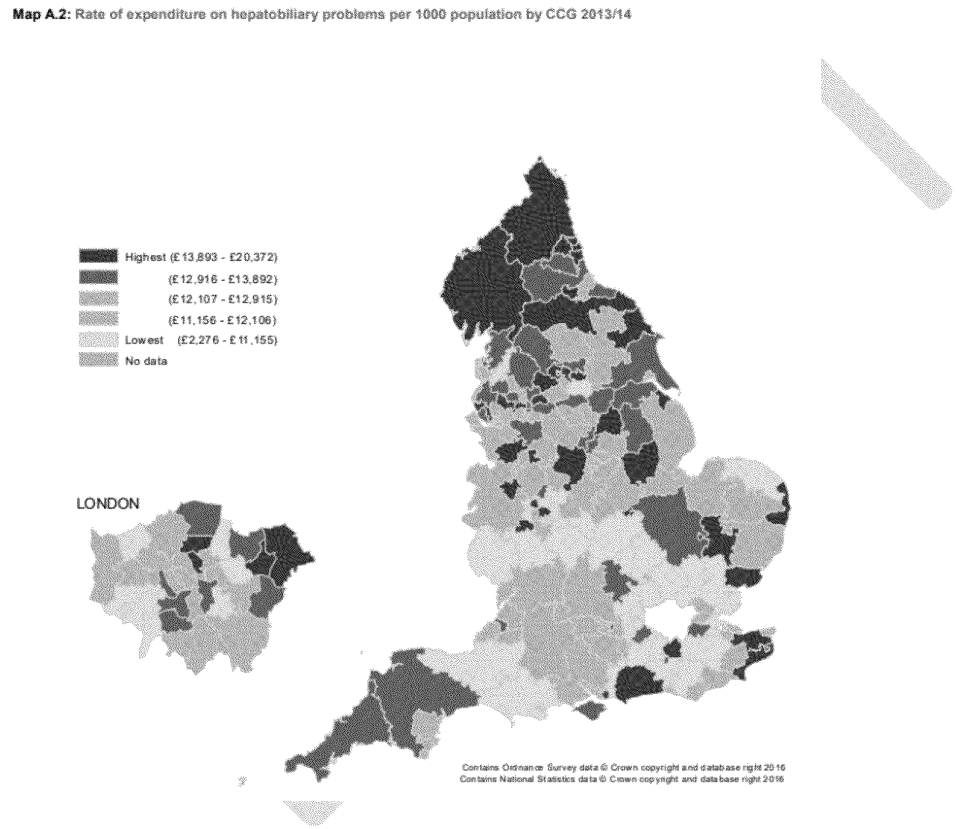
Public health datasets are not designed to collect information on outcomes and other quality metrics for services. The 2017 Atlas of Variation in liver disease commented on a lack of data on the performance of services and patient outcomes, calling for more comprehensive data on treatment and demographics to be routinely collected and published. This would enable patients to ascertain whether they are

[67] Office for Health Improvement and Disparities Alcohol and drug misuse and treatment statistics
[68] Office for Health Improvement and Disparities Fingertips. Public Health Profiles

receiving a good-quality service and enable commissioners to be sure they are obtaining value for money.

In 2017 reported variation in expenditure across CCGs in England for the hepatobiliary programme ranged from £2,276 to £20,372 per 1,000 population (9-fold difference). The variation across CCGs was 3-fold for non-elective admissions and 5-fold for elective care. Figure 15 shows this variation in expenditure across the country. Updated analysis on variation in expenditure would be beneficial.

Figure 15: Variation in expenditure on hepatobiliary conditions by CCG, as presented in 2017 Atlas of Variation[69]



Areas where there is significantly higher or lower spend should reflect on the relationship with relevant drivers for this expenditure such as risk factors, prevalence of disease service provision and/or use and patient outcomes. Key areas to explore at a local level are:

- the level of expenditure

[69] PHE 2017. The 2nd Atlas of variation in risk factors and healthcare for liver disease in England

- reasons for the expenditure
- the ways in which expenditure is used
- the potential for variation
- if variation is apparent, the reasons(s) for the variation observed
- the potential reasons for unwarranted variation

In 2017 considerable variation in levels of whole time equivalent (WTE) staffing was reported. At that time, there were 193.8 WTE hepatologists in England, and the expertise was not uniformly distributed, as almost two-thirds (64%) were either based within specialist regional centres or transplant centres. Excluding transplant centres and specialist regional centres, of the remaining 135 hospitals, only 16 (12%) at that time met the criteria for an adequately staffed district general hospital acute service (two hepatologists and at least two gastroenterologists with an interest in hepatology)[70].

Further mapping of current specialist liver staffing numbers and their location, overlaid with burden of risk factors and mortality and morbidity, would aid in advocacy for a workforce distributed in such a way as to address inequalities.

Patient experience

Understanding patient experience and patient involvement in the planning and monitoring of services is an important aspect of service quality and helping to address inequalities.

The British Liver Trust undertakes a regular patient survey on people's experience of diagnosis and liver services. The patient survey in 2020 had over 2000 respondents from across the UK with a range of liver disease.[71] Late diagnosis was a theme in the findings, with a quarter of people feeling that they were diagnosed very late at a point where there were very few or no treatment options. The survey report, therefore, highlights the need to ensure pathways are in place to facilitate early detection of liver disease, mirroring other data that often diagnosis is at an advanced stage of illness. Another theme was lack of information, with almost 60%

[70] Williams et al. (2017) New metrics for the Lancet Standing Commission on Liver Disease in the UK. Lancet 2017; 389: 2053–80

[71] The British Liver Trust. Patient Survey 2020

of people saying they did not feel that they were given enough information at diagnosis. Better information and signposting for patients is therefore a recommendation from the survey. The average overall satisfaction with care in this survey was 60, where 0 is not at all satisfied and 100 is completely satisfied.

The National Cancer Patient Experience Survey has comparisons of patient experience by tumour type, but liver is combined into the 'Upper Gastro' group. Respondents with Upper Gastro cancer scored statistically significantly lower than the national average on 23 of the 61 questions asked and higher than the national average on 3 questions (Did hospital staff tell you that you could get free prescriptions?; While you were in hospital did hospital staff ask you what name you prefer to be called by?; Since your diagnosis, has anyone discussed with you whether you would like to take part in cancer research?)[72].

Public attention surrounding liver disease is not always positive, due to stigmatisation and some perceptions of the disease being 'self-inflicted'. The truth is that alcohol and obesity-related liver disease are a combination of an underlying genetic susceptibility and environmental factors, just like diabetes or heart disease. It is important to ensure that NHS services tackle stigmatisation and discrimination in the way liver disease and its risk factors are framed. One example is the use of language such as 'lifestyle choices', which oversimplify the challenges certain populations face in protecting their health and accessing health services.

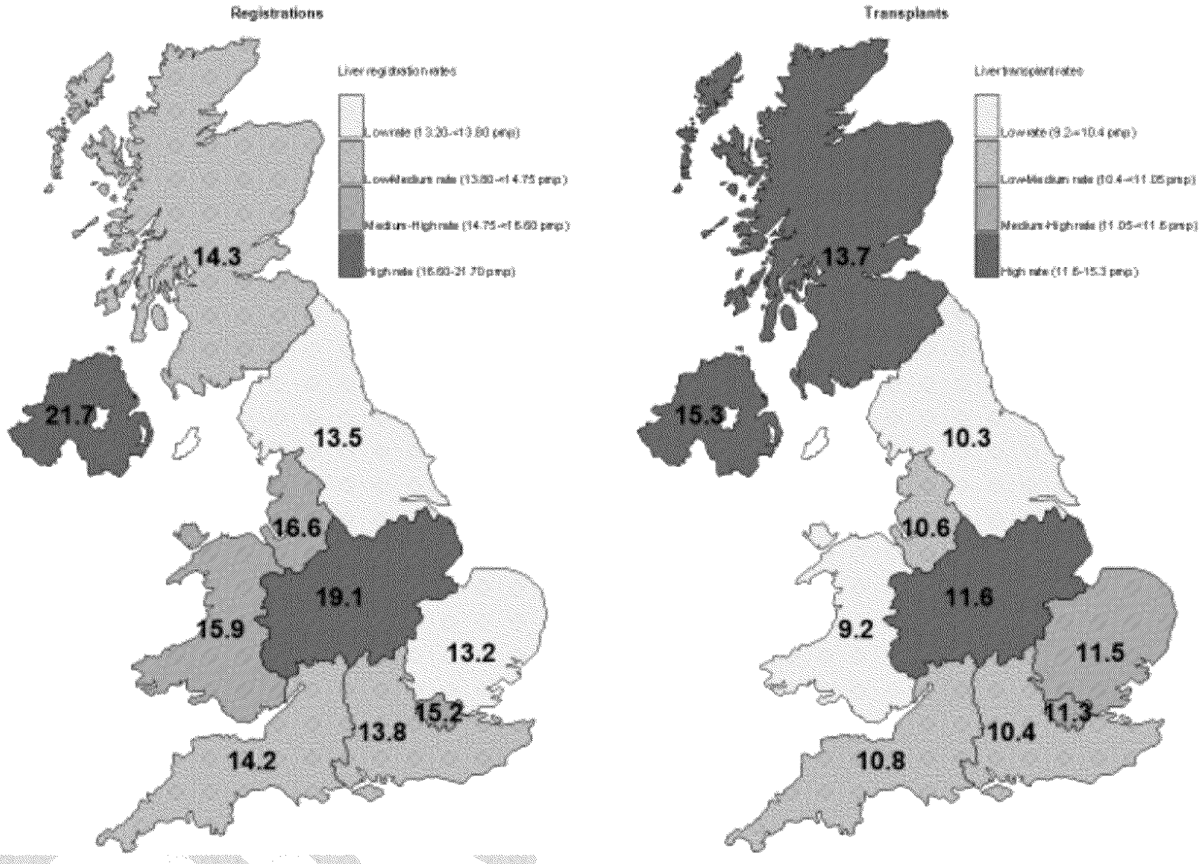
Transplant services and inequality

In 2020/2021 the deceased donor transplant rate ranged from 10.0 to 11.4 per million population (pmp) across English NHS regions and overall was 11.0 pmp[73], without adjustments for potential demographic differences in populations.

Analysis to identify if the variation is more, or less, than a random effect (Figure 16) showed moderate evidence of geographical variation beyond what would be expected at random for registrations but no evidence for transplants. No adjustment was made for area-specific demographic characteristics therefore, these results should be interpreted with caution[74]

[72] NHS. National Cancer Patient Experience Survey 2019. National Results Summary
[73] NHS Blood and Transplant. Organ and Tissue Donation and Transplantation Activity Report 2020/21
[74] NHS Blood and Transplant. Annual report on Liver transplantation 2020/2021

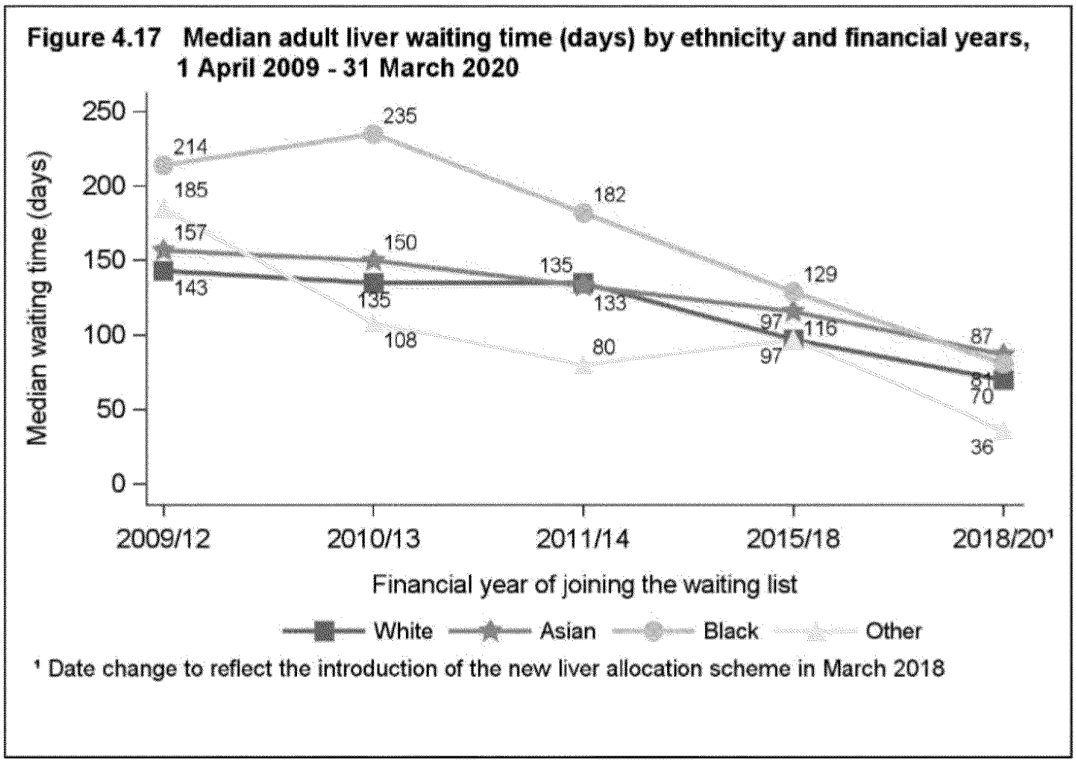
Figure 16: Rates of registration to the liver transplant list and liver transplant rates per million population between 1 April 2020 and 31 March 2021, by recipient country/NHS region of residence



Overall, across all transplant types, there is a continued gap between the need for transplants in Black and Asian communities and the availability of suitable organs[75]. However, looking at liver transplants one year after listing for transplant: 69% of both white and Black, Asian, Mixed Race and Minority Ethnic (BAME) patients have received a transplant, while 6% and 8% have died on the list, respectively. There has been an overall decline in waiting times for all ethnicities; Asian and Black patients now wait a similar time for a transplant compared to White patients (Figure 17).

[75] NHS Blood and Transplant. Organ Donation and Transplantation data for Black, Asian, Mixed Race and Minority Ethnic (BAME) communities Report for 2020/2021

Figure 17: Liver transplant waiting times by ethnicity[76]



[76] NHS Blood and Transplant. Organ Donation and Transplantation data for Black, Asian, Mixed Race and Minority Ethnic (BAME) communities Report for 2020/2021

Potential effects of specialist liver services on health inequalities

Current service specifications and explicit consideration of health inequalities

All available Service Specifications under the remit of the Hepatobiliary and Pancreas CRG [77] were reviewed for references to health inequalities or action to address these. It should be noted service specifications were written several years ago and many changes have occurred since, such as the completion of Equality and Health Inequalities Impact Assessments through the policy development process.

Consideration of health inequalities, in terms of vulnerable populations and action to improve access, was perhaps most explicitly stated in Service Specification No. F04 S f - Networks for Hepatitis C Care in Adults. This service specification explicitly mentioned known populations with higher prevalence, and the association with deprivation. Actions services should make to address known barriers to access, configure services to ensure better equity of access to known marginalised groups and reduce variation in practice were also explicitly mentioned. The other service specifications did not include such detailed consideration of sub populations of note, or detail on potential measures to reach these populations.

In service Specification No. A02/S/a - Hepatobiliary and Pancreas (Adult) it was notable that the growth of liver disease and risk factors were referred in the language of 'lifestyle choices' and not language of inequalities. This service specification did refer to network models to address geographic issues and variation in care.

Service specifications did refer to, or stipulate, measures such as mandatory training on equality and diversity, disability access, translation, or duty to cooperate

[77] All available Service Specifications downloaded from Hepatobiliary and Pancreas CRG website on 6 September 2021

with Equality Impact Assessment (EIA). Equity of access was also mentioned in several service specifications, but not further defined or expanded as to how this could be achieved.

How do specialist liver service impact positively on health inequalities?

Hepatitis C services have shown a strong approach to understanding the population with the highest burden and tailoring services to match their needs. Nationally this has led to great progress towards elimination of Hepatitis C, with a positive impact on health inequalities given the populations affected.

Do specialist liver services impact negatively on health inequalities?

Where the provision of liver services does not match deprived areas or other areas with populations who have the highest rates of liver disease morbidity and mortality, this could impact negatively on health inequalities.

Further analysis is needed to understand if populations have fair access to appropriate expertise in a suitable location and that services are provided with due attention to the challenges various populations may have in accessing services.

Actions to address inequalities and next steps

1.1 Leadership

The CRG can play a key role in showing leadership across the whole care pathway by being fully aware of the health inequalities populations face and ensuring there is sufficient focus on inequalities in service specifications and clinical commissioning policies.

The CRG can work to influence policy and implementation in health promotion, preventative and treatment services, including services for alcohol use and obesity in order to stem the tide of patients arriving in more specialist liver services. This could include working more closely across systems, especially supporting integrated care boards and systems (ICB and ICS) to join up action on health inequalities and advocating for consideration of prevention and early diagnosis of liver disease.

Specific consideration could be given to how the CRG can work with a range of partners to improve the prevention, early identification and treatment of alcohol related liver disease, especially in populations likely to be disproportionately impacted, such as those in deprived areas.

Recommendations and next steps:

1. Develop an action plan to further understand and address health inequalities, which clearly articulates how the CRG will support more localised action on health inequalities under the 'Core20plus5' approach.

2. Identify the key initiatives and groups working on complementary workstreams, such as improving early access to alcohol services, and ensure attendance at each other's meetings, and coordinated work plans where relevant.

3. Work with partners across the NHS, OHID, academic and charity sector to identity the key metrics that would aid in monitoring liver inequalities and

ensure there is better data collection and publication on service quality and demographics.

1.2 Service configuration

There is geographical variation in health risk factors, early identification, treatment, and outcomes. This leads to a need for local tailoring of services and for commissioners, clinicians, and providers to understand their context, against the national picture and peers.

The CRG can respond to this by reviewing current specialist service configuration and promote and support local investigation and action on pathways which will improve access to liver services, as part of support for the 'Core20plus5' approach.

Recommendations and next steps:

1. Commission an updated mapping of the specialist liver workforce and services to compare against the geographic areas and populations facing the most deprivation and burden of liver disease, to identify areas of mismatch and priority for actions to redress.

2. Further consider how the CRG can work with others to ensure equality of access to early identification and treatment, through local pathways, in identified geographic areas and populations facing the higher burden of liver disease.

1.3 Service quality

The CRG can continue to define and set standards for quality services and ensure sufficient monitoring is in place to be assured that quality is consistent across geographic areas and populations.

The NHS Long Term Plan calls for more differentiated support to be offered to individuals to make further progress on prevention, on inequalities reduction, and on responsiveness to the diverse people who use health services. More in-depth consideration is needed of how this can be incorporated alongside the CRGs remit to produce service specifications and policies. This will help ensure provider attention is on the particular sub-populations most affected, and that all services start with a focus on addressing inequalities.

Recommendations and next steps:

1. Produce an inequalities toolkit to accompany the CRG's service specifications, containing further guidance for providers on considering and addressing health inequalities.

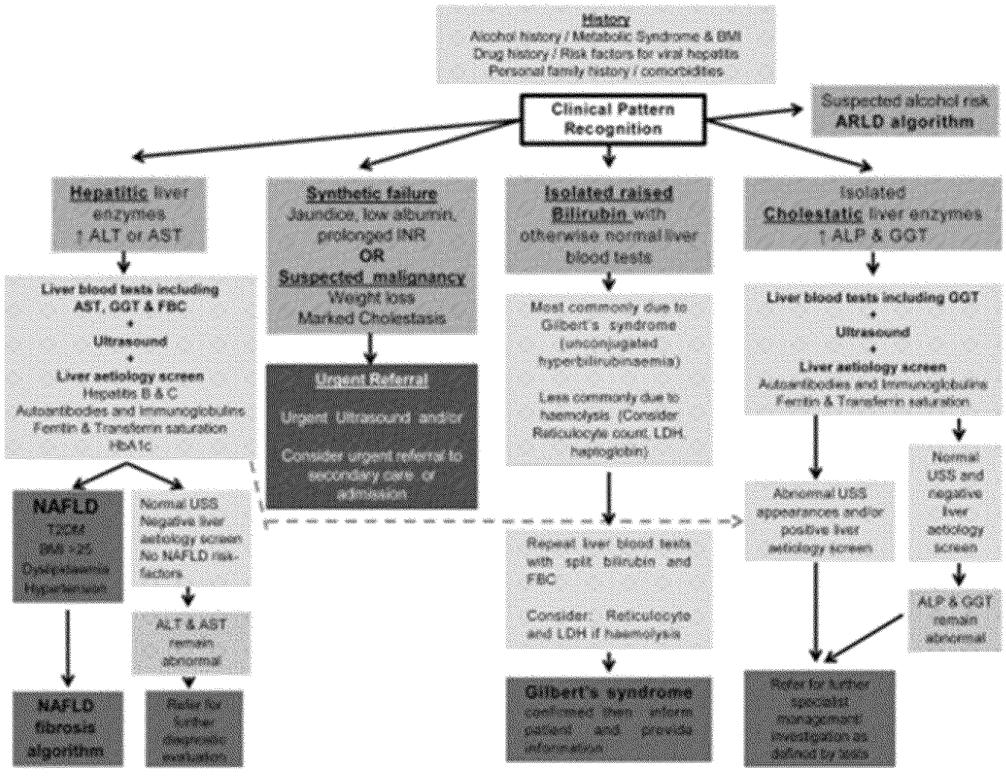
2. Consider what other tools and metrics would best support providers and ICSs to monitor performance of services, including progress on inequalities, and take steps with partners to advocate for their introduction.

Appendix

British Society of Gastroenterology (BSG) Guidelines for the management of abnormal liver blood tests.

Boxes in yellow indicate the initial evaluation of the clinical presentation. Patients with marked derangement of liver blood tests, synthetic failure and/or suspicious clinical symptoms/signs should be considered for urgent referral to secondary care (red box). For the remainder, a clinical history alongside evaluation of the pattern of liver blood test derangement will determine choice of pathway and is shown in the grey boxes.

Response to abnormal liver blood tests.



Philip N Newsome et al. Gut 2018;67:6-19

GUT

Useful data sources

Information source and link	Description	Date / update information
Office for Health Improvement and Disparities Fingertips - Liver Disease Profiles	Interactive data tool with data on liver disease and risk factors at different level of English geography and selected indicators by sex, age, and deprivation.	Rolling programme of updates. November 2021 update covered mortality and vaccination coverage data and January 2022 update covered hospital admission data. Exact dates for updates to the profiles announced on the www.gov.uk statistical release calendar
Office for Health Improvement and Disparities Fingertips - The 2nd Atlas of variation in risk factors and healthcare for liver disease in England	Comprehensive report and interactive tool outlining variations in burden of risk factors, liver disease and variation in services.	Not updated since 2017.
Office for Health Improvement and Disparities Fingertips – Public Health Outcomes Framework	Interactive data tool which includes alcohol-related indicators, obesity-related indicators, and vaccination coverage for Hepatitis B at different level of English geography and selected indicators by sex, age, and deprivation.	Rolling programme of updates. Upcoming updates on statistical release calendar.

NHS Digital statistics on alcohol.	Data on deaths, hospital admissions, drinking behaviour and affordability	2020 report available. Statistics on Alcohol, England 2021 due Jan 2022. Upcoming publication dates stated on website.
PHE Health Profile for England 2021	2021 was the fourth annual profile combining data and knowledge with information from other sources to give a broad picture of the health of people in England	Past years reports available. Future update plans not stated.