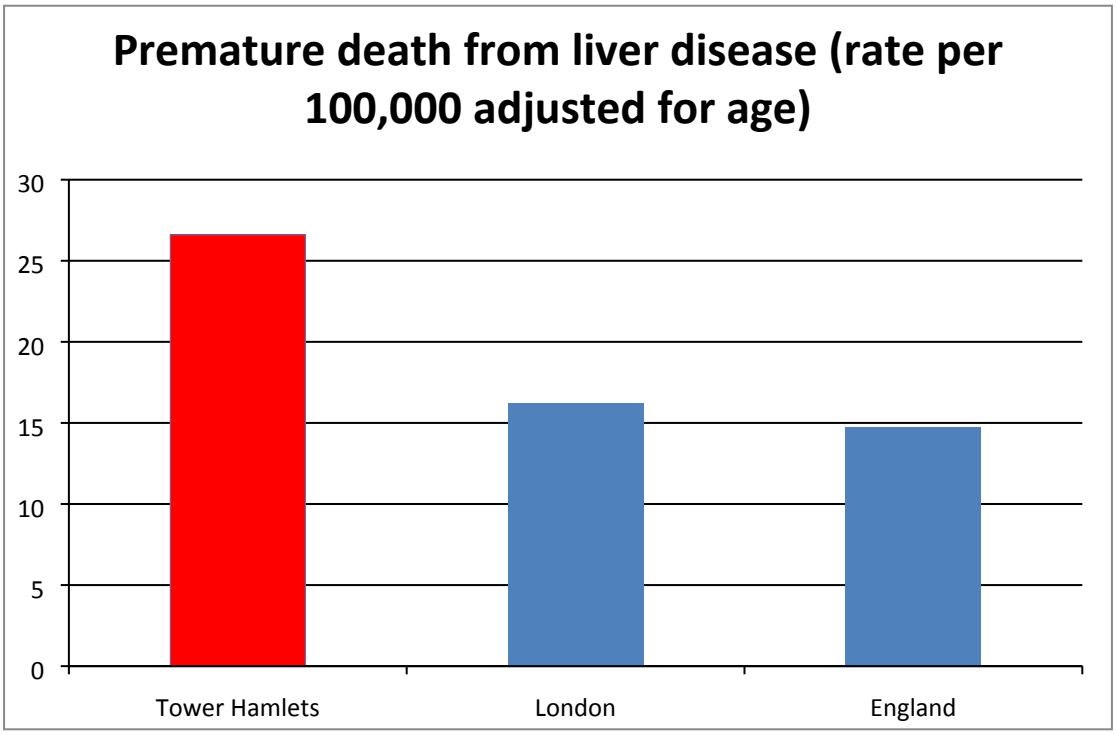
Liver Disease in Tower Hamlets – What are the issues, why does it need to be a priority and what are we doing?

1. Why is liver disease an important public health issue in Tower Hamlets?

The Joint Strategic Needs Assessment 2013/14 has highlighted the high levels of premature death from liver disease compared to elsewhere:



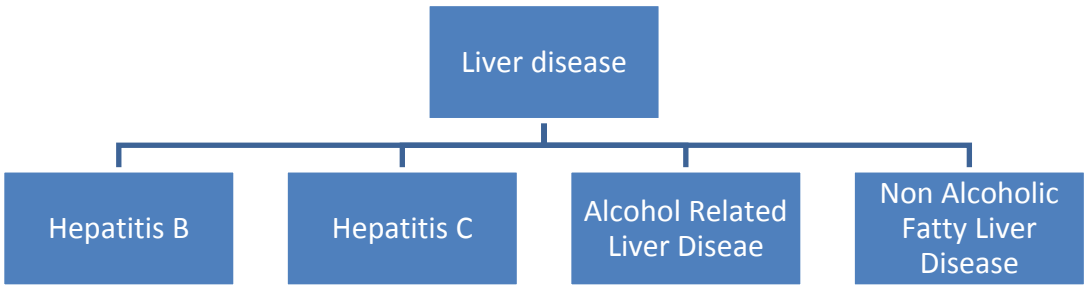
Premature liver disease is an indicator that was added to the national Public Health Outcomes Framework as it has not been previously been an area of national focus. The finding prompted a more in depth needs assessment on liver disease in the borough which brought together a set of worrying statistics:

Indicator	Tower Hamlets
Liver disease mortality (<75yo)	Amongst highest in England
Rate of admission for cirrhosis	Highest in England
Rate of primary liver cancer mortality (<75yo)	Highest in England
Incidence of acute hepatitis B	Fifth highest in England
Hospital admissions chronic hepatitis B	Highest in London
Chronic hepatitis C prevalence rate	Fourth highest in England
Trend in hospital admissions for alcoholic liver	Increasing

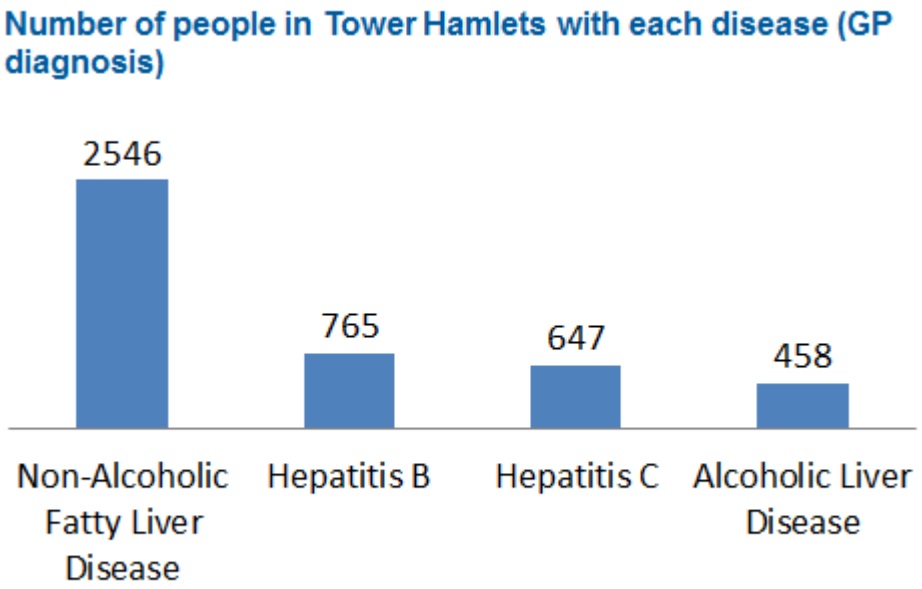
The detailed findings of the needs assessment are set out in Appendix A.

2. Why is liver disease complex, what are the numbers and what should we be doing?

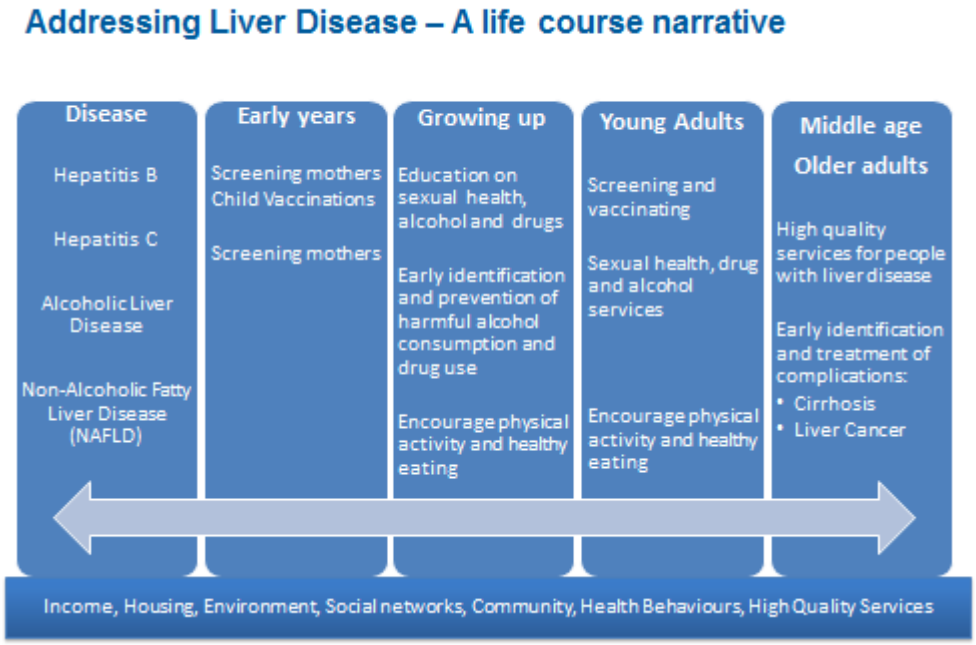
Liver disease is a particularly complex area to assess as there a number of different pathways leading to the condition:



Of these conditions, the numbers of people with Non Alcoholic Fatty Liver Disease (NAFLD) constitutes the highest proportion of those with liver disease:



In thinking through the important interventions to address liver disease, it has been helpful to take a life course approach:



3. What are the causes of liver disease and what are the local issues?

Non alcoholic fatty liver disease

This is caused by fat depositions in the liver which lead to cirrhosis of the liver. Risk factors are obesity and diabetes. In Tower Hamlets, the Bangladeshi population is a high risk group. Prevention and treatment is essentially weight loss and exercise.

Issues identified in service mapping related to lack of guidelines around identification and management of the condition, lack of referral criteria to secondary care and NAFLD not being specific criteria for weight management services.

Hepatitis B

This is caused by viral infection of the liver. The routes of spread are from mother to child (known as vertical transmission), sexual transmission and sharing needles. If untreated, it can lead to cirrhosis or primary liver cancer.

New infections in Tower Hamlets are typically in people who change sexual partners frequently or inject drugs or recently travelled to an area of high prevalence. Long term cases (chronic) seen in Tower Hamlets are typically

aged 25-44, male, and who have acquired the condition in a country of relatively high prevalence (eg Bangladesh). The Royal London sees the highest number of people with chronic Hep B of any London hospital. Tower Hamlets has the fifth highest number of new cases of Hep B in London

Issues identified in service mapping related to the need to vaccinate children born to Hep B mothers, vaccination of high risk groups (primary care, sexual health services, blood born virus team) , offering vaccination in travel clinics (charging may be a barrier) and identifying undiagnosed cases.

Hepatitis C

This is caused by viral infection of the liver. It is primarily passed between adults through sexual transmission and sharing needles. If is untreated it can lead to cirrhosis of primary liver cancer. In Tower Hamlets, cases are mainly male adults and predominantly of white ethnicity. Risk groups are infecting drug users, people who change sexual partners frequently and men who have sex with men. There are 647 diagnosed cases but it is estimated that there there around 1800 case in the borough so it is likely that there are over a thousand people with undiagnosed Hep C. Admission are increasing which may be a result of increasing numbers but also better detection. There is no vaccination.

Issues identified in the service mapping focussed on identifying undiagnosed cases, getting them into treatment pathways, contact tracing around the index case and increasing awareness of the condition (how to prevent and identify if you are at risk)

Alcoholic related liver disease

Alcohol related liver disease has three stages. Drinking large amounts of alcohol leads to build up of fat in the liver. This does not usually cause symptoms but is a warning sign of harmful drinking. Prolonged misuse results in inflammation of the liver which if severe can be life threatening. The final stage is cirrhosis. Stopping at this stage can reduce progress but the damage is typically irreversible.

It is estimated that there are around 9000 high risk drinkers in Tower Hamlets. These are predominantly of white ethnicity. It is also estimated that 68% of migrants drink harmfully. Admissions for alcoholic liver disease are rising and the majority occur in the white population.

Issues identified in the service mapping included an absence of universal alcohol screening in A and E, a need to improve awareness of referral pathways to community alcohol services, and a need for referral criteria into secondary care.

4. What are we doing about it?

Stakeholder event

The issues identified in the needs assessment and review of pathways were discussed at a Liver Disease Stakeholder event on the 11th June involving leads from the Health and Wellbeing Board, Public Health, the CCG, general practice, Barts Health and drugs and alcohol services. This was the first time that stakeholders had come together around this issue and the discussion was wide ranging. The opportunity to do this was highly welcomed and considered well overdue. The write up of the event is available on request.

Liver disease working group

Following the stakeholder event a joint working group between Public Health and the CCG has been established. Given the complexity and range of issues discussed at the stakeholder meeting, it was agreed that it was important to take forward a small number of feasible high priority actions over the next six months to develop the workstream and also to inform updates of the action plans of the Health and Wellbeing Strategy.

Priorities over next 6 months

These are the following:

1. Increase awareness of liver disease through a communication and engagement plan clarifying key messages to the population and engaging with high risk group
2. Review the local immunisation policy for Hep B and consider the case for universal immunisation for Hep B in childhood
3. Review how case finding of Hepatitis can be improved through screening of high risk groups
4. Developing local guidelines in primary care to improve early identification and referral for liver disease
5. Educating primary care staff around liver disease and their role in increasing awareness, early identification and treatment
6. Reducing the cost of liver function tests to screen for liver disease through ‘unbundling LFTs’
7. Ensuring that drugs and alcohol services are linked into liver disease treatment pathways as part of the specification of the new services
8. Review implication for CCG commissioning of the treatment pathway including the impact of new drugs and NICE guidelines

Each of these workstreams are being taken forward by CCG or Public Health leads. In terms of governance, it is expected that they will inform the refresh of the action plan of the Health and Wellbeing Strategy and also report through the governance processes of the CCG.

5. How can the Health and Wellbeing Board be involved on this agenda?

Questions for HWBB

1. Do these priorities sound right?
2. What more would Board member like to know?
3. Would Board members like to be involved eg raising profile in organisation, engaging community?

Proposed next steps

1. Integrated priorities into HWB Strategy action plan refresh
2. Bring update to Board in 9 months

Dr Somen Banerjee
Director of Public Health (interim)
August 2014

Appendix
Liver Disease in Tower Hamlets Needs Assessment: Summary of Findings and Recommendations

Executive Summary

This report summarises the findings of a liver disease needs assessment that was prompted by 2012 PHOF data showing that Tower Hamlets has a very high liver disease mortality rate.

The main causes of liver disease are hepatitis B and C, non-alcoholic fatty liver disease and alcoholic liver disease. Tower Hamlets hospital admissions data from 2007-2012 shows that most liver disease-related admissions were for alcoholic liver disease (273) followed by hepatitis C (108), non-alcoholic liver disease (81 admissions) and hepatitis B (80 admissions). Key findings from the needs assessment are summarised in the table below:

Area	Tower Hamlets Performance
Liver disease mortality in under 75 year olds	**One of highest in England**
Rate of admission for cirrhosis	**Highest in England**
Rate of primary liver cancer mortality in under 75 year olds	**Highest in England**
Incidence of acute hepatitis B	**Fifth highest in England**
Hospital admissions with chronic hepatitis B	**Highest in London**
Chronic hepatitis C prevalence rate	**Fourth highest in England**
Trend in hepatitis C hospital admissions rate over past 5 years	**Increasing**
Trend in hospital admissions for liver disease attributable to alcohol over past 5 years	**Increasing**

Local factors are likely to contribute to these high rates in Tower Hamlets – including high levels of deprivation; a large Bangladeshi community who are more susceptible to NAFLD and will travel to and from areas of higher hepatitis prevalence; high levels of risky drinking in its white population; and an established MSM and commercial sex worker community. Limited information about service provision (in particular activity data) and stakeholder engagement was available for inclusion in this needs assessment.

Key recommendations include increasing hepatitis B vaccination uptake amongst higher risk groups, improved hepatitis B and C screening, increasing awareness about risky drinking, set up of a Liver Disease Working Group to review current pathways and service provision and addressing risk factor associated with liver disease.

1 Introduction

- The Tower Hamlets Liver Disease (THLD) Needs Assessment was undertaken between June 2013 and March 2014 by Tower Hamlets Public Health in response to a finding in the 2012 Public Health Outcomes Framework showing a very high mortality rate of liver disease in Tower Hamlets. This report summarises the findings from the THLD needs assessment and sets out recommendations for next steps.

2 Liver Disease in Tower Hamlets

- Liver disease is a significant problem in Tower Hamlets and nationally. **Tower Hamlets has one of the highest mortality rates from liver disease nationally in people aged under 75, per 100,000 population (Tower Hamlets 26.6 per 100,000, England average 14.7 per 100,000)**.
- The main causes of liver disease are hepatitis B, hepatitis C, non-alcoholic fatty liver disease (NAFLD) and alcoholic liver disease (ALD); this report focuses on these causes. Prolonged damage to the liver due to the liver disease can cause cirrhosis (irreversible scarring of the liver), liver failure or liver cancer.
- **Premature death from chronic liver disease is rising in England, largely as a result of lifestyle issues such as alcohol abuse, drug-taking and obesity with an 88% increase in age-standardised mortality rate from chronic liver disease between 1993 and 2010**. However, there is widespread variation across the country in terms of risk factors, services, expenditure and outcomes for patients and the wider population.
- **Deprivation** is a key factor in the significant variation in premature loss of life due to liver disease between areas.
- **Tower Hamlets also has the highest rate of admission for cirrhosis nationally (207.9) per 100,000 population**.
- **Tower Hamlets has the highest rate of primary liver cancer mortality in under 75 year olds nationally (5.3) per 100,000 population**.
- The data on the causes of liver disease within the Tower Hamlets population is limited.
- Analysis of the 2007-2012 hospital admission data for liver disease of the Tower Hamlets population showed that alcoholic liver disease was most common (273 admissions), followed by hepatitis C (108 admissions), non-alcoholic liver disease (81 admissions) and hepatitis B (80 admissions).
- Local causes that can help explain the high rates of liver disease include
    - **Hepatitis B** is spread by bodily fluids and by vertical transmission
        - Tower Hamlets has a large Bangladeshi community. It is likely that the high levels of **immigration** from and travel

to/from South Asia which has a higher rate of hepatitis B (2-8%) than the UK baseline (0.3%) contributes to this.
        - Additionally, **high birth rates** to Bangladeshi population (45%), potentially at increased risk of vertical transmission of viral hepatitis
    - **Hepatitis C** is spread mainly by bodily fluids.
        - Tower Hamlets has **high rates of sexually transmitted infection** (8th highest rate of STI per 100,000 nationally) and **IV drug misuse**
        - Established commercial **sex worker population**
        - Significant numbers of **men who have sex with men** (MSM).
    - **Non-alcoholic fatty liver disease** is caused by obesity and diabetes.
        - Tower Hamlets has a significant **Bangladeshi community** who are noted to have an **increased morbidity for a given obesity level**. Therefore local obesity findings are likely to be under representative of the scale of the problem in the borough.
        - **High prevalence of diabetes**
    - **Alcoholic liver disease** is caused by dangerous levels of drinking.
        - Tower Hamlets has a significant white migrant community who are known to have increased levels of hazardous drinking compared to the baseline population.
- Activity levels for liver disease services and stakeholder engagement was not available for inclusion in the needs assessment.
- The following sections examine the main types of liver disease.

3 Types of Liver Disease in Tower Hamlets

1.1 Hepatitis B

- **Tower Hamlets has the fifth highest incidence of acute hepatitis B in the country at 2.2 / 100,000**. This compares with a national incidence of 1.13 / 100,000 and London incidence of 2.06 / 100,000. The majority of cases of hepatitis B occur in Asians with only 21% of cases occurring in the white population. This high rate locally is likely due to a high rate of immigration and travel to/from Bangladesh which has a high incidence of hepatitis B.
- There is a high local burden of chronic hepatitis B, with the **Royal London Hospital reporting the highest number of cases of any hospital in London in 2011** (n=1069, though not all will be Tower Hamlets residents). Two-thirds of the chronic cases occur in men aged between 25 and 44, which may be due to the young population in Tower Hamlets: having the lowest median age nationally (29). 95% of new chronic hepatitis B infections occur in migrant populations, having been acquired perinatally in the country of birth.

- Hepatitis B can be transmitted by sexual intercourse. **Tower Hamlets has a high (8th highest in England) and rising incidence of sexually transmitted infections**. Tower Hamlets is also known to have an established sex worker population, which increases the risk of sexually transmitted infection. This problem with sexually transmitted disease may play a role in the high rates of hepatitis B in Tower Hamlets.
- **Tower Hamlets had an estimated 3849 problematic drug users in 2008-2009, and 85% identifying heroin as their first drug.** Poor hygiene with injecting drug use can contribute to the spread of hepatitis B.
- The UK policy is to recommend vaccination of people at high risk of hepatitis B. **NICE guidance includes** raising awareness of the condition, testing for hepatitis B in a variety of settings and **commissioning locally appropriate integrated services**.
- Services available for hepatitis B include:
    - Offering screening for hepatitis B to pregnant mothers
    - Neonatal vaccination for babies of hepatitis B positive mothers.
    - Screening of hepatitis B is performed at GP practices and GUM clinics.
    - Care of hepatitis patients is by the blood borne virus team.

1.2 Hepatitis C

- **Tower Hamlets has the fourth highest diagnosed chronic hepatitis C prevalence rate in the country**. However, it is estimated that this represents no more than 20% of hepatitis C cases in Tower Hamlets, with a resultant 10% referred and therefore only 5% treated.
- For the Tower Hamlets Drug Action Team **it was estimated that the total infected population was 2677, with 1766 cases of mild to moderate liver disease and 84 cases with cirrhosis or end stage liver disease**. This report estimated the estimated annual additional number requiring treatment as 28 with an estimated annual cost of treating these additional cases of £264,980.
    - It is estimated that there is an **undiagnosed population of 10,708 hepatitis C sufferers in Tower Hamlets**.
- **Local hepatitis C hospital admissions have been increasing** over the five year period, increasing from 12.7 to 19.3 per 100,000 between 2007 and 2012.
- This shows that the **majority of cases of hepatitis C occur in white males, but a quarter of cases occur in females and a quarter in the Asian population**. Possible cause of this local variation: hepatitis C is transmitted by contaminated bodily fluids. This is most commonly by sexual transmission or by injecting drug use.
- In a similar fashion to hepatitis B, **the high local STI and drug use in Tower Hamlets are likely to contribute to this high disease burden of hepatitis C** in the borough.

- **NICE guidance includes** raising awareness of the condition, testing for hepatitis C in a variety of settings and **commissioning locally appropriate integrated services**.
- Services available for hepatitis C include
    - Screening at GP practices and GUM clinics.
    - Care of hepatitis patients is by the blood borne virus team.

1.3 Non-Alcoholic Fatty Liver Disease (NAFLD)

- Non-alcoholic fatty liver disease represents a spectrum of liver disease with fatty infiltration in the absence of excessive alcohol. **Obesity and diabetes are significant risk factors** for this condition and can be used as proxy measures for disease. Unlike the infective causes of hepatitis (e.g. hepatitis B and C) it is often harder to detect in the early stages and therefore focus on its prevention is needed.
- Tower Hamlets falls in the **second highest quintile for child obesity in 4-5 year olds in the country**. Local surveys indicate that 3 in 10 adults in the borough are overweight and 3 in 10 are obese.
- Tower Hamlets has a significant Bangladeshi population. People of Bangladeshi ethnicity are more affected by obesity, with worse morbidity for the same obesity level. They are more susceptible to NAFLD particularly in the presence of diabetes.
- In March 2010, there were 11,859 diagnosed cases of diabetes in Tower Hamlets (6.1% of the population). **Diabetes prevalence is higher in Tower Hamlets than the national** (5.4%) and London averages (5.3%). **Prevalence is also increasing at a faster rate in Tower Hamlets than the national average.** Diabetes prevalence in Tower Hamlets is predicted to reach 10.1% by 2030.
- Research from the Royal London Hospital shows **significantly more NAFLD diagnoses in patients with Bangladeshi ethnicity** compared to the overall borough population. The **mean age of Bangladeshi NAFLD patients is significantly lower** than Caucasians (hospital: 43 vs 57 years; TH community: 46 vs 55 years). However **half of admissions due to NAFLD were shown to be due to white females**.
- Services available for NAFLD include:
    - The Weight Management Service.
    - The Diabetes LES suggests tailored treatments for patients, and GPs are financially incentivised to ensure that patients are well managed and have received recommended tests.

1.4 Alcoholic Liver Disease (ALD)

- Alcoholic liver disease is caused by dangerous levels of drinking. **Tower Hamlets has a higher rate of hospital admissions relating to alcohol than the London and England averages** (DSR of hospital admissions attributable to alcohol was 2213 in TH: higher than the London (1911.7) and England averages (1,895)).

- **Admissions to hospital attributable to alcohol per 100,000 population have been increasing** between 2006 and 2011 in males (from 1435 to 1859) and females (from 672 to 916.
- **Hospital admissions for liver disease attributable to alcohol in Tower Hamlets have been increasing over the past five years** from 2007-2012 (from 31.6 to 54.6 per 100,000 population).
- The ethnicity of admissions for liver disease caused by alcohol in Tower Hamlets over the period from 2007 – 2012 shows that the **majority of admissions due to alcoholic liver disease occur in the white population** with only 6% occurring in Asian males and no recorded cases in Asian females.
- Alcohol consumption across Tower Hamlets shows high levels of risky drinking across all socioeconomic groups (even when taking ethnicity into account). There is a large abstinent population in Tower Hamlets (1 in 2 of adults had not had an alcoholic drink in the previous year), so the problem of alcohol misuse is worse than implied by the data. High risk drinking in the population who do drink is common – of those who do drink**, 43% have harmful or hazardous drinking patterns**. **In the white ethnic group 40% are classified harmful drinkers or at risk of harm compared to 20% nationally**. This high level of dangerous drinking is likely to be responsible for the levels of alcoholic liver disease.
- **NICE** recommend a wide range of **interventions aimed at individuals and the whole population**. These include strategy interventions (restricted advertising, education, alcohol pricing) and prevention (advice, screening of people at risk, services for alcohol misuse). The **Government Alcohol strategy highlights** the importance of a local joint health and wellbeing strategy, highlighting **identification and brief advice and alcohol liaison nurses in A&E**.
- **Patients diagnosed with liver disease are screened for alcohol misuse**. If alcohol is the likely cause of liver disease, patients are **referred to the Community Alcohol Team for detox**.

4 Key Recommendations for Addressing Liver Disease in Tower Hamlets

- Targeted work with higher risk populations in Tower Hamlets to increase hepatitis B vaccination uptake
- Improve screening of hepatitis B and C, particularly amongst hard to reach and high risk populations.
- Targeted work with higher risk populations to increase awareness of risky drinking patterns, early diagnosis and early intervention for this group.
- Recommendations for obesity, diabetes, sexual health and drug use will be detailed in the Healthy Lives Strategy
- Set up Liver Disease Working Group to:
    - Review existing pathways

- Ensure optimal provision and uptake of liver disease services in Tower Hamlets
- Identify gaps/areas for further improvement and ways to address this to maximally benefit the local population

Detailed recommendations are attached in the appendix.

Detailed Recommendations for Addressing Liver Disease in Tower Hamlets based on needs assessment findings

Viral Hepatitis (Hepatitis B and C)

Sexual Health

- Review the screening of hepatitis C in sexual health
- Audit proportion of patients accessing GUM services offered hepatitis B testing and vaccination (vaccination recommended for people who change sexual partners frequently (Green Book and NICE PH43))
- Clarify the treatment and testing pathways for hepatitis C in patients attending HIV clinics
- Review uptake of hepatitis B vaccine as part of sexual health NIS against Green book recommendations

Drug use

- Review extent of hepatitis B testing and vaccination for patients accessing drug services and compare against guidance from Green Book and NICE PH43.
- Review percentage of people accessing drug services who are offered and accept hepatitis C testing and compare against guidance in NICE PH43
- Review staff update and induction training to ensure hepatitis C protocols are embedded into drug services.
- Agree and implement strategies to improve hepatitis C testing uptake and access to treatment
- Review uptake of hepatitis C treatment amongst drugs users
- Review effectiveness of local drug treatment services in achieving recovery and identify scope for improvement in local drug treatment services and systems

Vaccination

- Review and set targets for uptake of testing for hepatitis B in pregnant mothers and compare against national guidelines from Department of Health *Screening of pregnant women for hepatitis B and immunisation of babies at risk* (1998).
- Annually audit and set targets for uptake of hepatitis B booster in children born to hepatitis B positive mothers and compare with guidelines in the Green Book and NICE PH43.
- Prepare an options paper considering the benefits of locally adopting a universal hepatitis B childhood vaccination programme.

Migration/Port Health

- Prepare a cost-benefit analysis for offering free travel clinics for hepatitis B vaccination for people travelling to or from areas of high hepatitis B prevalence (vaccination recommended for travellers to

areas of high or intermediate prevalence who place themselves at risk (Green Book)).

Testing and diagnosis

- Audit the testing for hepatitis B in GP new patient sexual health and substance misuse checks and compare with the guidance in NICE PH43.
- Review the evidence for testing for hepatitis B in mid-life patient checks.
- Review the arrangements for contact tracing for patients who test positive hepatitis B or C and communicate these current pathways to primary care and other relevant professionals.
- Follow national guidance on ways to promote and offer testing to people at an increased risk of hepatitis C infection and compare with the guidance in NICE PH43

Treatment

- Review barriers to treatment for hepatitis C patients and how to tackle these

Other

- Review locally available services for hepatitis B and C testing and treatment and develop and commission a fully integrated care pathway involving primary and secondary care (as recommended in NICE PH43 guideline).
- Quantify extent of local discrepancy between number of people who need to be treated and the resources necessary to provide treatment
- Review treatment outcomes of people testing positive for hepatitis C locally to identify barriers to successful treatment outcome and how to address barriers
- Review strategies for prevention and case-identification locally and their success in reducing risk of hepatitis C
- Review degree of contact with patients with viral hepatitis

Non-Alcoholic Fatty Liver Disease

- Recommendations for the prevention of obesity and diabetes will be covered by the Healthy Lives Strategy, which will address the underlying cause of non-alcoholic fatty liver disease.

Alcoholic Liver Disease

- Review provision of Identification and Brief Advice (IBA)
- Review coverage and availability of alcohol liaison nurses in A&E
- Review integrated services available for young people at risk of alcohol misuse (NTA Substance Misuse guidance)
- Explore opportunities for early detection of alcoholic liver disease in the health service
- Review current patterns of acute service provision and ascertain whether alternatives to admission are possible

- Provide psychological interventions for alcohol use disorders (e.g. CBT) as per NICE guidance CG115
- Improve effectiveness and capacity of specialist alcohol treatment
- Ensure targeted interventions for alcohol are directed at vulnerable groups
- Conduct rigorous monitoring and evaluation of alcohol interventions
- Review trends in diagnosis of alcohol misuse from prescribing trends of acamprosate and disulfiram
- Update action plan in drugs and alcohol strategy

Prevention, early diagnosis and effective management

- Develop strategies that focus on risk assessment, prevention, early diagnosis and early treatment to prevent the development of advanced liver disease
- Stakeholder engagement: Thorough mapping of use of available services and pathways currently available
    - Map available services to maximise collaborative working and optimal care outcomes
- Development of clinical network and integrated care pathway for liver disease across primary and secondary care
    - Agree pathways for investigation and management of liver disease at local level
    - Agree mechanisms for interpreting tests
    - Agree pathways for abnormal test results
    - Agree protocols for tests to avoid inappropriate duplication
    - Develop local protocols between primary and secondary care to ensure clear pathways for medical and social needs are in place
- Ensure that patients receive appropriate and early intervention with effective combination therapy, to reduce progression to ESLD (secondary prevention)
- Make available specialised services for patients with ESLD to reduce mortality – ensure access to expert care
- Review current pathway for people presenting to hospital with cirrhosis to identify improvements
- Review configuration of services and management of primary liver cancer to identify improvements and opportunities for improving early diagnosis